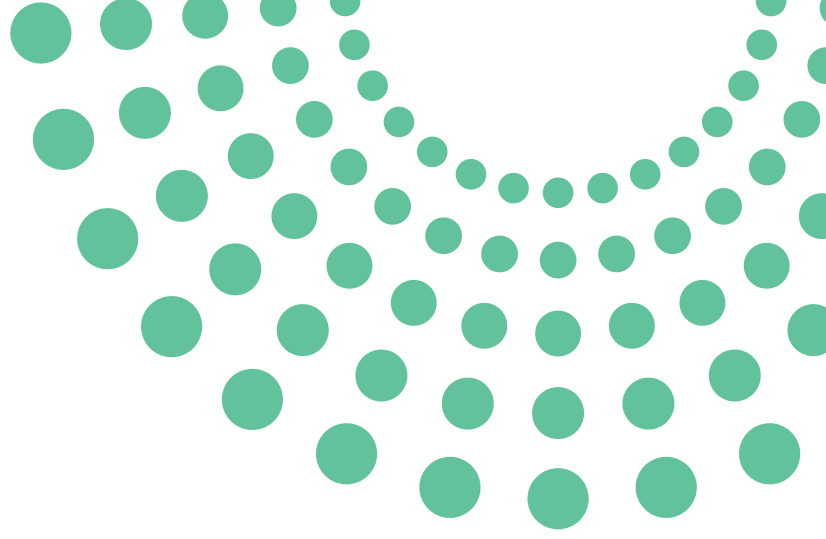


*Piping system for potable water supply*

aquatherm **green**



We are part of the solution!



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## History

- 1973 aquatherm founded by Gerhard Rosenberg
- 1981 development of the first pipe system made of polypropylene
- 1991 subsidiary Radeberg was founded
- 1996 first certification of the quality management system in accordance with ISO 9001
- 1997 foundation of the sales company in Italy
- 1999 development of fusiotherm® fibre composite pipe
- 2001 aquatherm operates in more than 50 export markets
- 2002 market launch of the aquatherm blue pipe
- 2005 market launch of the aquatherm red pipe and aquatherm black system
- 2010 system expansion of the pipe size to max. ø 630 mm
- 2010 Christof, Dirk and Maik Rosenberg assume company management
- 2012 first certification of the environment management system in accordance with ISO 14001
- 2012 market launch of the material fusiolen® PP-RP
- 2013 first certification of the energy management system in accordance with ISO 50001
- 2017 opening of the new pipe extrusion plant
- 2018 opening of the new injection moulding facility
- 2018 foundation of the sales company in England
- 2019 expansion of the industrial prefabrication operation
- 2021 participation in the distribution company aquatherm iberica s.l.
- 2022 opening of the aquatherm Campus
- 2023 aquatherm celebrates it's 50th anniversary
- 2024 Jan Kriedel takes over the management with Maik Rosenberg





## Revolution since 1973

It all began with a vision. On 17 August 1973, Gerhard Rosenberg founded aquatherm GmbH - based in the garage and basement of his private home. The ambitious goal? To revolutionise the market as a pipe manufacturer. This vision gave rise to aquatherm, the world's leading manufacturer of plastic piping systems made of polypropylene for plant construction and building services. The numerous product lines provide superior solutions in potable water applications, heating systems, fire sprinkler systems, air conditioning and refrigeration technology, as well as in surface heating and cooling systems.

Due to their special material properties, the aquatherm pipe systems convince by their diverse application possibilities. The aquatherm pipe systems can be used in all areas of new installation, repair and renovation.

aquatherm employs around 550 people in Germany, Italy and England. Production takes place exclusively at the German sites in Atten-dorn (headquarters) and Ennest. However, to guarantee the worldwide availability of our aquatherm pipes at any time and to offer local, personal service, aquatherm works closely together with long-term partners and suppliers in about 70 countries around the globe.

The family business is now managed by Maik Rosenberg, son of aquatherm founder Gerhard Rosenberg, and Jan Kriedel.



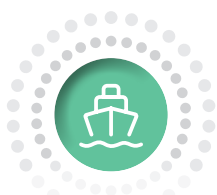
## Future-proof in all fields of application with individual solutions

aquatherm has the solution for your challenge  
- benefit from the versatile application possibilities of aquatherm green systems.

Here you get an exemplary overview of the fields of application where you can trust in aquatherm green. Yesterday. Today. Tomorrow.



Potable water



Maritime applications



Swimming pool technology

## Fields of applications

In addition to drinking water, its areas of application also include maritime applications and swimming pool technology.

|                    | refrigeration | connection<br>heating and cooling | heating system<br>construction | maritime<br>applications | swimming pool<br>technology | sports floor heating<br>and cooling | potable water |
|--------------------|---------------|-----------------------------------|--------------------------------|--------------------------|-----------------------------|-------------------------------------|---------------|
|                    |               |                                   |                                |                          |                             |                                     |               |
| aquatherm<br>green |               |                                   |                                |                          |                             |                                     |               |
| aquatherm<br>blue  |               |                                   |                                |                          |                             |                                     |               |





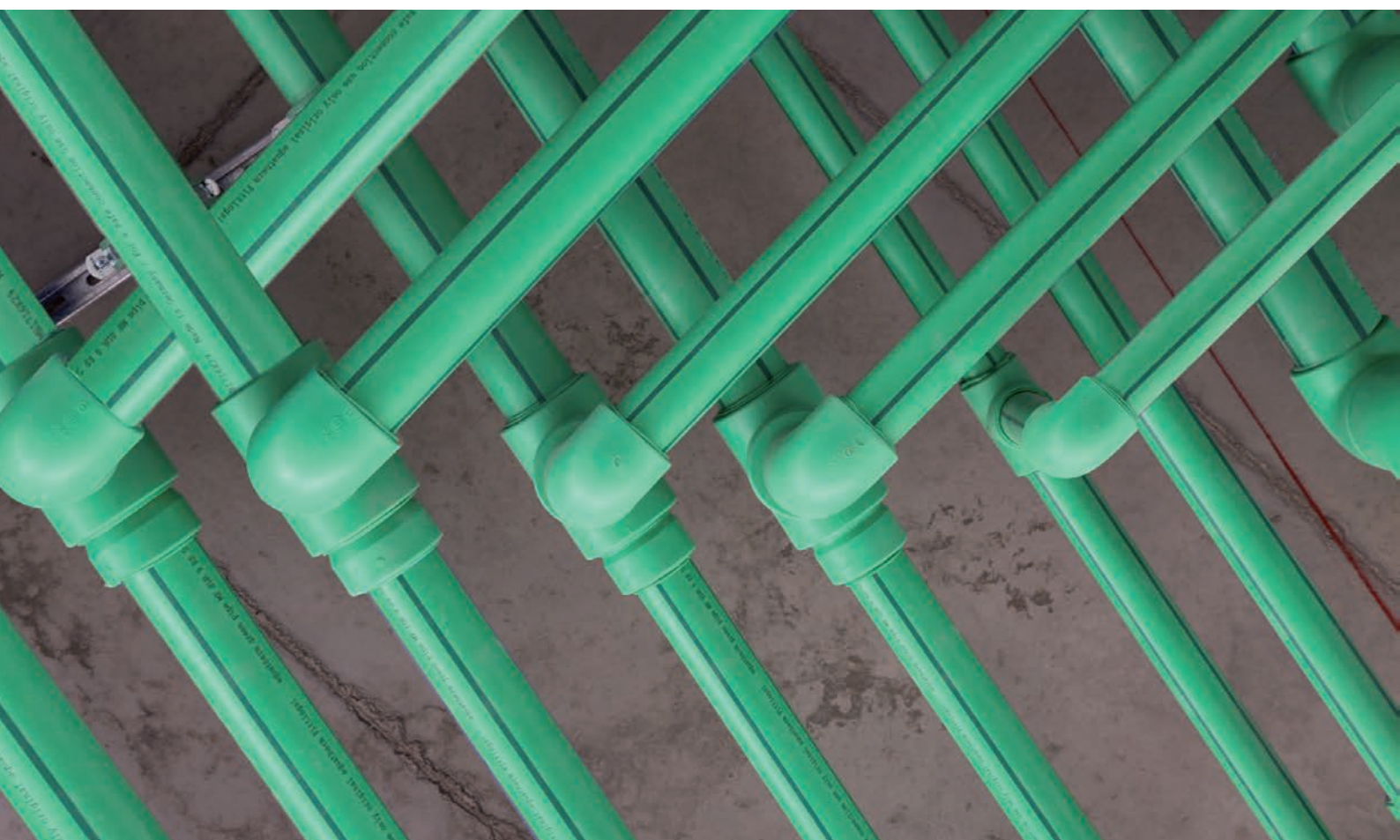
## Polypropylene pipe systems

The history of the aquatherm pipe systems began in 1973 when Gerhard Rosenberg founded a company for hot water underfloor heating systems. Initially, the owner's garage and basement served as the company's headquarters and production facility. A lot has happened since then.

In the past 50 years, aquatherm has proven to be the world's leading manufacturer of plastic pipe systems made of polypropylene for plant engineering and building services.

The numerous product lines provide superior solutions in potable water applications, heating systems, fire sprinkler systems, air conditioning and refrigeration technology, as well as in surface heating and cooling systems. The product range comprises almost 17,000 articles in six product lines.

Due to their special material properties, the aquatherm pipe systems convince by their diverse application possibilities. The aquatherm pipe systems can be used in all areas of new installation, repair and renovation.





## Characteristics

aquatherm polypropylene pipe systems stop corrosion damages. All materials are corrosion-resistant and have reduced flow noise compared to metallic pipes. aquatherm pipes are opaque, therefore there is no risk of algae formation.

## Installation

aquatherm pipes and fittings are connected by heat fusion, which creates a homogeneous, cohesive unit with no leak paths. Heat fusion connections are stronger than the pipe itself, providing lasting safety at these critical points of a piping system. A properly executed aquatherm fusion creates a permanent leak-proof connection. An aquatherm pipe with an outside diameter of 20 mm can be heat fused in only 5 seconds.

aquatherm pipe connections can be hydraulic pressure tested or put into operation directly after their fusion. There are no waiting times.

## Quality

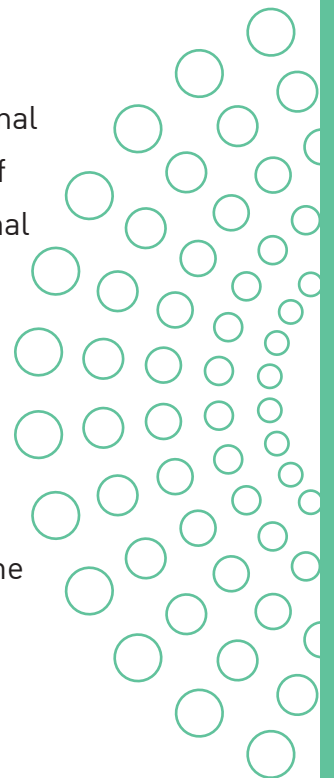
Quality is very important to aquatherm. This is not only reflected in the national and international certification marks, but also in the high satisfaction level of aquatherm customers, installers and engineers. You can find our international certificates here: [Certificates](#)

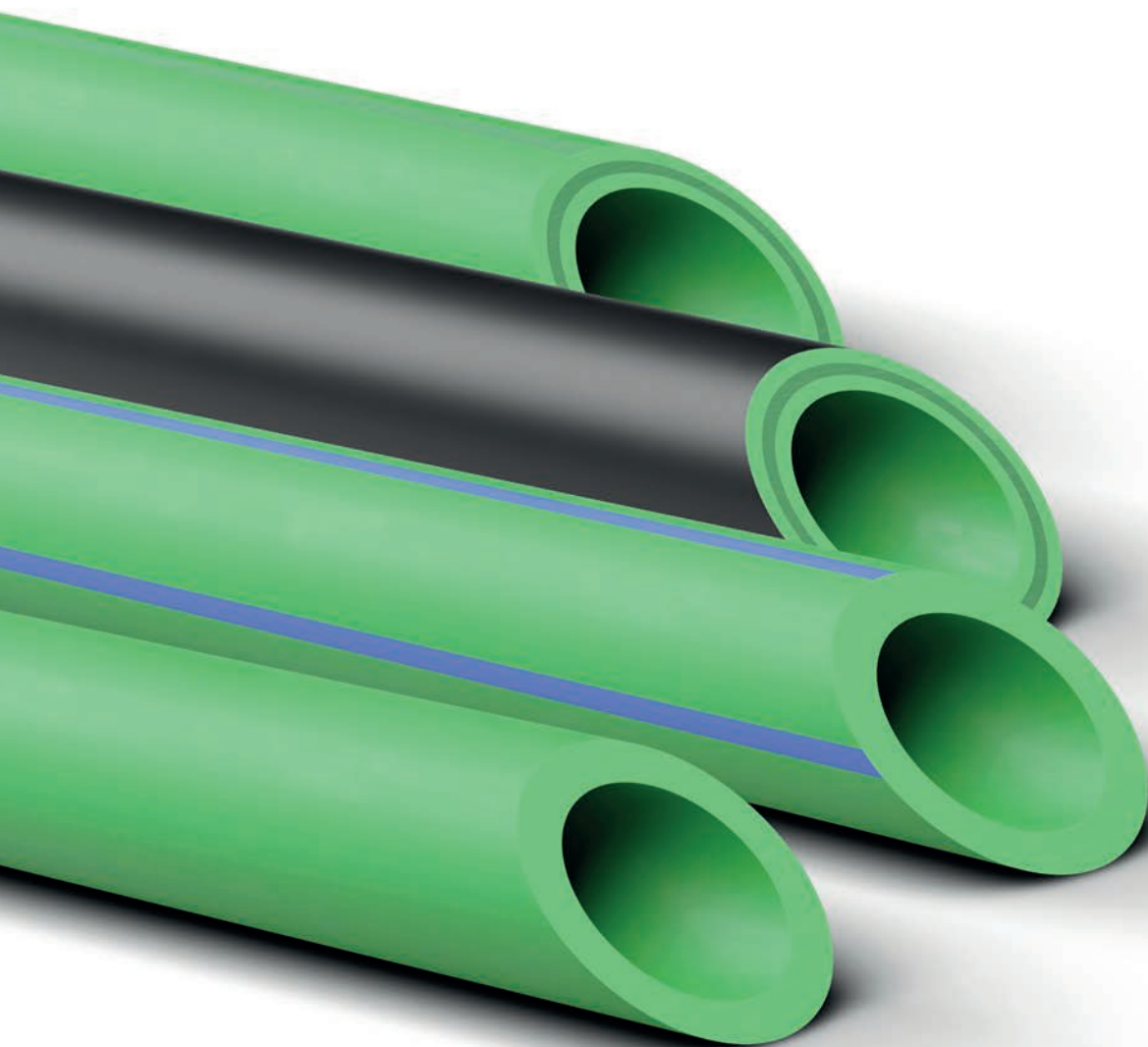
## Warranty

Due to the high product quality, aquatherm offers a 10-year warranty on all pipes and fittings instead of the 2 years applicable under German law. The extended warranty period is covered by a comprehensive insurance policy from a leading insurance company in our industry. For details, see the Warranty section of this catalogue.

## Price advantage

aquatherm offers you high quality, durable piping systems at an optimal price/performance ratio.





## AQUATHERM GREEN

Piping sector and has proven its technical suitability worldwide for decades. Thanks to its outstanding properties, this innovative all-rounder made from corrosion-resistant polypropylene really comes into its own in drinking water applications.

It is completely free of heavy metals and toxic chemicals and is therefore ideally suited for potable water applications. aquatherm green can also be used for swimming pools, agriculture and shipbuilding. The system is joined using reliable heat fusion, which eliminates the hazards associated with welding and creates virtually leak-free connections.

The system includes pipes in SDR 6, SDR 7.4, SDR 9, and SDR 11. More than 450 fittings and connection elements, as well as valves and ball valves, complete the system.

Products are available in sizes from 20 mm to 450 mm external diameter.



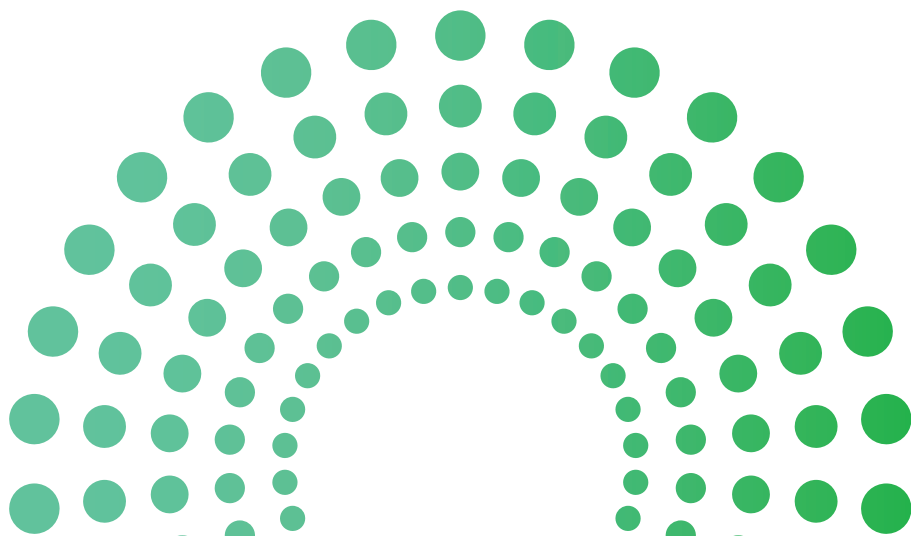
aquatherm green  
**Product types**



## AQUATHERM GREEN – Overview

We offer aquatherm green in different pipe constructions.

|                                                                                                      | SDR 6                                                                             | SDR 7,4                                                                             | SDR 9                                                                                 | SDR 11                                                                              |
|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>aquatherm green S</b>                                                                             |  |    |                                                                                       |  |
| S = single / single layer                                                                            | ø: 20–110 mm                                                                      | ø: 20–63 mm                                                                         |                                                                                       | ø: 20–315 mm                                                                        |
| <b>aquatherm green MF</b>                                                                            |                                                                                   |    |                                                                                       |                                                                                     |
| MF = multi-layer and fibre-reinforced composite pipe                                                 |                                                                                   | ø: 20–25 mm                                                                         |                                                                                       |                                                                                     |
| <b>aquatherm green MF UV</b>                                                                         |                                                                                   |  |                                                                                       |                                                                                     |
| MF UV = multi-layer and fibre-reinforced composite pipe, UV-resistant                                |                                                                                   | ø: 20–25 mm                                                                         |                                                                                       |                                                                                     |
| <b>aquatherm green MF RP</b>                                                                         |                                                                                   |                                                                                     |  |                                                                                     |
| MF RP = multi-layer and fibre-reinforced composite pipe, raised pressure resistant                   |                                                                                   |                                                                                     | ø: 32–315 mm                                                                          |                                                                                     |
| <b>aquatherm green MF RP UV</b>                                                                      |                                                                                   |                                                                                     |  |                                                                                     |
| MF RP UV = multi-layer and fibre-reinforced composite pipe, UV-resistant, raised pressure resistance |                                                                                   |                                                                                     | ø: 32–315 mm                                                                          |                                                                                     |





## AQUATHERM GREEN S

Single-layer pipes are particularly suitable for use in cold water installations (medium temperature up to 45°C).



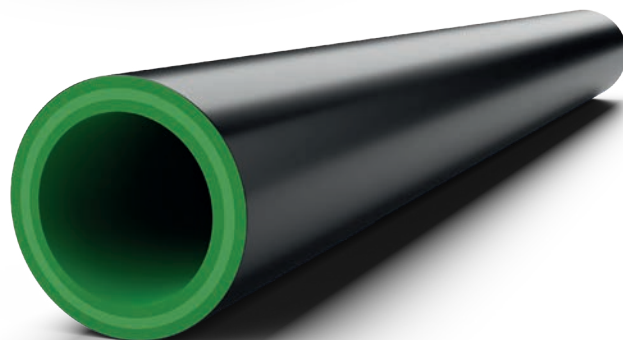
## AQUATHERM GREEN MF RP

aquatherm green MF RP is a multilayer and fibre-reinforced composite pipe and has an increased compressive strength.



## AQUATHERM GREEN UV

Pipes made of fusiolen® are normally not exposed to the effects of UV rays when installed. To bridge the transport and installation time, aquatherm polypropylene pipes and fittings are packed UV-protected. The maximum storage time outdoors is 6 months. For outdoor pipe installation, aquatherm offers polypropylene multilayer pipes with a UV-layer of polyethylene. This prevents the occurrence of damaging influences by sun rays.



## UV-ADHESIVE TAPE

As an alternative to our polypropylene pipes with UV protection layer, wrapping with UV-resistant adhesive tape is possible, if moulded parts or short pipe sections are to be protected. For this purpose, the adhesive tape recommended by aquatherm (art. no. 9700010871) should be selected, which shows good resist-

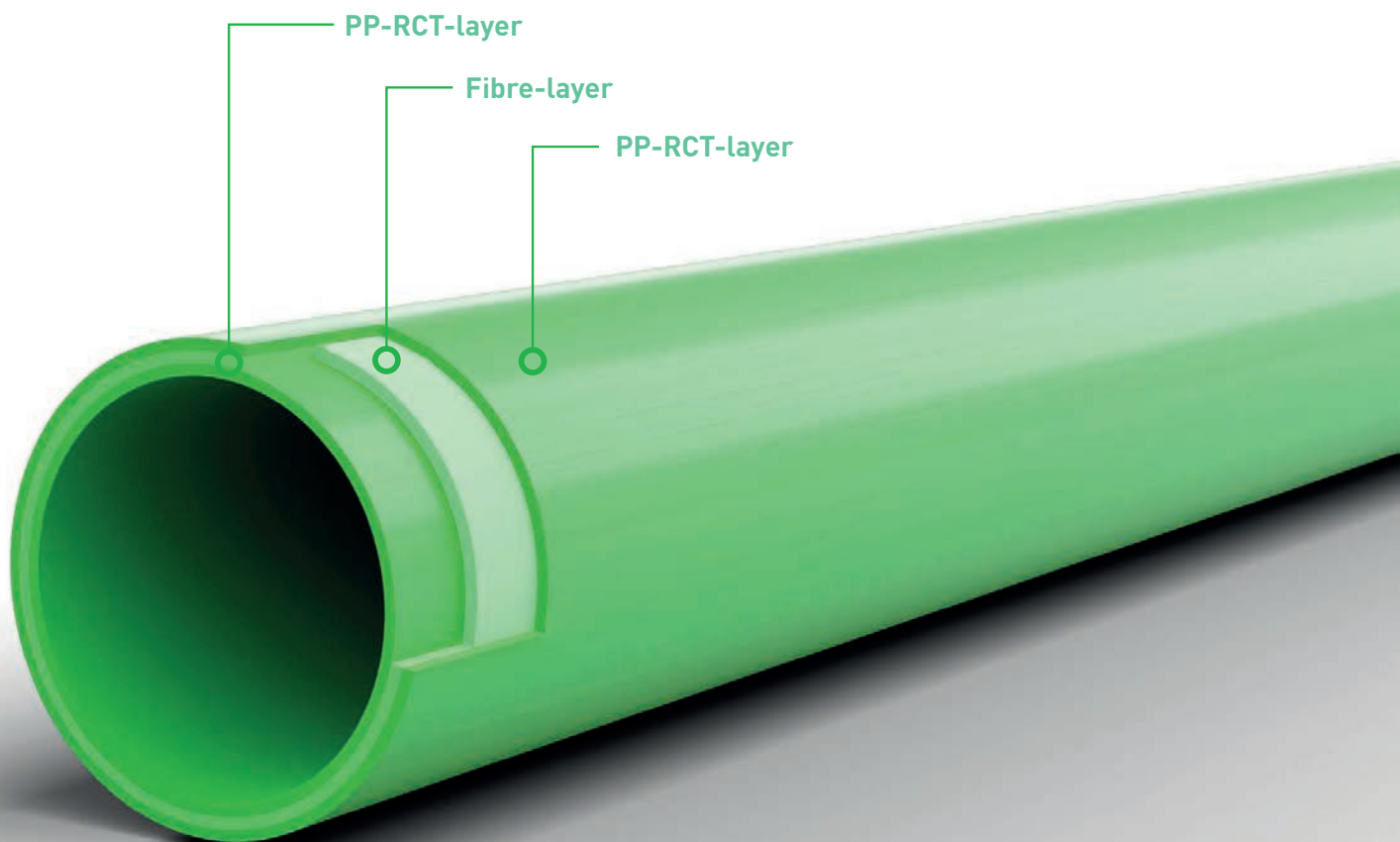
ance to abrasion, moisture, oils, light acids and alkalis as well as weather influences outdoors. The tape should always be applied to a dry, clean and grease-free surface. The winding should be done with a slight pull and at least 50 % overlap.

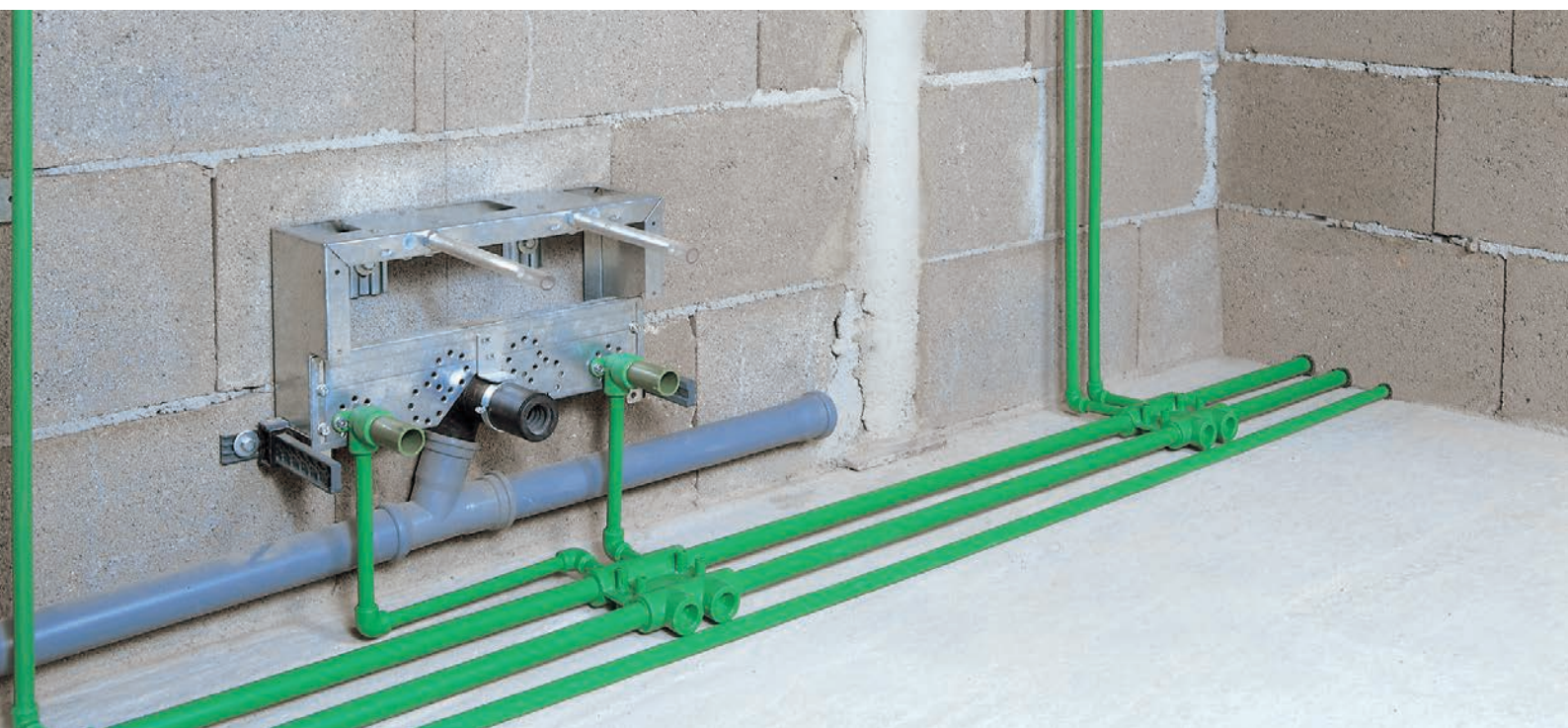


## AQUATHERM GREEN MF

aquatherm green MF is a multi-layer fibre-composite pipe. The pipe is made in a multi-layer extrusion process. The manufacturing process developed by aquatherm enables the integration of glass fibres within the material polypropylene in the middle layer of the pipe. This reinforces the pipe and restricts expansion and contraction.

- The linear expansion is reduced by at least 75 % compared with standard PP pipes.
- The flow rate is increased by 20 % at the same pressure conditions due to smaller wall thicknesses.
- High stability
- The coefficient of linear expansion is nearly identical to that of metal pipes so that compared with usual plastic pipes the support intervals.
- Lower weight
- High impact rate
- Simply cut and weld







## Permissible working pressure - potable water

(Fluid transported: water according to DIN 2000)

| Years of service                    | aqt green pipe<br>SDR 11 S | aqt green pipe<br>SDR 7,4 S | aqt green pipe<br>SDR 6 S | aqt green pipe<br>SDR 7,4 MF | aqt green pipe<br>SDR 9 MF RP |
|-------------------------------------|----------------------------|-----------------------------|---------------------------|------------------------------|-------------------------------|
| at temperature up to 20 °C (68 °F)  |                            |                             |                           |                              |                               |
| 1                                   | 15,0 bar                   | 23,8 bar                    | 30,0 bar                  | 28,6 bar                     | 25,0 bar                      |
| 5                                   | 14,1 bar                   | 22,3 bar                    | 28,1 bar                  | 26,8 bar                     | 24,2 bar                      |
| 10                                  | 13,7 bar                   | 21,7 bar                    | 27,3 bar                  | 26,1 bar                     | 23,9 bar                      |
| 25                                  | 13,3 bar                   | 21,1 bar                    | 26,5 bar                  | 25,3 bar                     | 23,5 bar                      |
| 50                                  | 12,9 bar                   | 20,4 bar                    | 25,7 bar                  | 24,5 bar                     | 23,1 bar                      |
| at temperature up to 30 °C (86 °F)  |                            |                             |                           |                              |                               |
| 1                                   | 12,8 bar                   | 20,2 bar                    | 25,5 bar                  | 24,3 bar                     | 21,7 bar                      |
| 5                                   | 12,0 bar                   | 19,0 bar                    | 23,9 bar                  | 22,8 bar                     | 21,0 bar                      |
| 10                                  | 11,6 bar                   | 18,3 bar                    | 23,1 bar                  | 22,0 bar                     | 20,6 bar                      |
| 25                                  | 11,2 bar                   | 17,7 bar                    | 22,3 bar                  | 21,3 bar                     | 20,2 bar                      |
| 50                                  | 10,9 bar                   | 17,3 bar                    | 21,8 bar                  | 20,7 bar                     | 19,9 bar                      |
| at temperature up to 40 °C (104 °F) |                            |                             |                           |                              |                               |
| 1                                   | -                          | 17,1 bar                    | 21,5 bar                  | 20,5 bar                     | 18,7 bar                      |
| 5                                   | -                          | 16,0 bar                    | 20,2 bar                  | 19,2 bar                     | 18,0 bar                      |
| 10                                  | -                          | 15,6 bar                    | 19,6 bar                  | 18,7 bar                     | 17,7 bar                      |
| 25                                  | -                          | 15,0 bar                    | 18,8 bar                  | 18,0 bar                     | 17,3 bar                      |
| 50                                  | -                          | 14,5 bar                    | 18,3 bar                  | 17,5 bar                     | 17,1 bar                      |
| at temperature up to 50 °C (122 °F) |                            |                             |                           |                              |                               |
| 1                                   | -                          | 14,5 bar                    | 18,3 bar                  | 17,5 bar                     | 15,9 bar                      |
| 5                                   | -                          | 13,5 bar                    | 17,0 bar                  | 16,2 bar                     | 15,3 bar                      |
| 10                                  | -                          | 13,1 bar                    | 16,5 bar                  | 15,7 bar                     | 15,1 bar                      |
| 25                                  | -                          | 12,6 bar                    | 15,9 bar                  | 15,2 bar                     | 14,7 bar                      |
| 50                                  | -                          | 12,2 bar                    | 15,4 bar                  | 14,7 bar                     | 14,5 bar                      |
| at temperature up to 60 °C (140 °F) |                            |                             |                           |                              |                               |
| 1                                   | -                          | 12,2 bar                    | 15,4 bar                  | 14,7 bar                     | 13,5 bar                      |
| 5                                   | -                          | 11,4 bar                    | 14,3 bar                  | 13,7 bar                     | 13,0 bar                      |
| 10                                  | -                          | 11,0 bar                    | 13,8 bar                  | 13,2 bar                     | 12,7 bar                      |
| 25                                  | -                          | 10,5 bar                    | 13,3 bar                  | 12,6 bar                     | 12,4 bar                      |
| 50                                  | -                          | 10,1 bar                    | 12,7 bar                  | 12,1 bar                     | 12,2 bar                      |
| at temperature up to 65 °C (149 °F) |                            |                             |                           |                              |                               |
| 1                                   | -                          | 11,6 bar                    | 14,6 bar                  | 13,9 bar                     | 12,4 bar                      |
| 5                                   | -                          | 10,8 bar                    | 13,6 bar                  | 12,9 bar                     | 11,9 bar                      |
| 10                                  | -                          | 10,4 bar                    | 13,1 bar                  | 12,5 bar                     | 11,7 bar                      |
| 25                                  | -                          | 10,0 bar                    | 12,6 bar                  | 12,0 bar                     | 11,4 bar                      |
| 50                                  | -                          | 8,8 bar                     | 11,1 bar                  | 10,6 bar                     | 11,2 bar                      |
| at temperature up to 70 °C (158 °F) |                            |                             |                           |                              |                               |
| 1                                   | -                          | 10,3 bar                    | 13,0 bar                  | 12,4 bar                     | 11,4 bar                      |
| 5                                   | -                          | 9,5 bar                     | 11,9 bar                  | 11,4 bar                     | 10,9 bar                      |
| 10                                  | -                          | 9,3 bar                     | 11,7 bar                  | 11,1 bar                     | 10,7 bar                      |
| 25                                  | -                          | 8,0 bar                     | 10,1 bar                  | 9,6 bar                      | 10,4 bar                      |
| 30                                  | -                          | 7,0 bar                     | 8,8 bar                   | 9,3 bar                      | 10,3 bar                      |
| 50                                  | -                          | 6,7 bar                     | 8,5 bar                   | 8,1 bar                      | 10,2 bar                      |

cold potable water

warm potable water

The determination of the allowable pressures resulted from the specific conditions to which pipe system components in the potable water domestic installation are exposed to. Limiting factors such as increased flow rates, the use of disinfectants, increased content of oxygen, etc. were considered by the use of the appropriate safety factors. For fittings of butt-welded pipe segments a reduction factor of 0.75 (reduction of the table values by 25 %) is effective.



aquatherm green  
**Characteristics and  
special features**



## Material fusiolen®

aquatherm green is made of corrosion-resistant material. This has a positive effect on the service life of the piping, for example in an potable water system.

Due to the exceptionally welding properties, the pipe and fitting merge into a homogeneous, cohesive unit. This is what has made the material fusiolen® famous worldwide.



### The advantages of aquatherm pipes and fusiolen® polypropylene

- Corrosion resistant
- Resistant against many chemicals
- High environmental compatibility
- Heat and sound insulating characteristics
- Very good welding properties
- High heat-stabilised
- Designed for high thermal stability
- Lighter in weight than steel and copper
- Easy processing



## Our material fusiolen® Polypropylene

Decades of experience in the manufacture and use of PP-R/PP-RCT piping systems and the simultaneous striving for continuous further development have led to numerous improvements in aquatherm system technology.

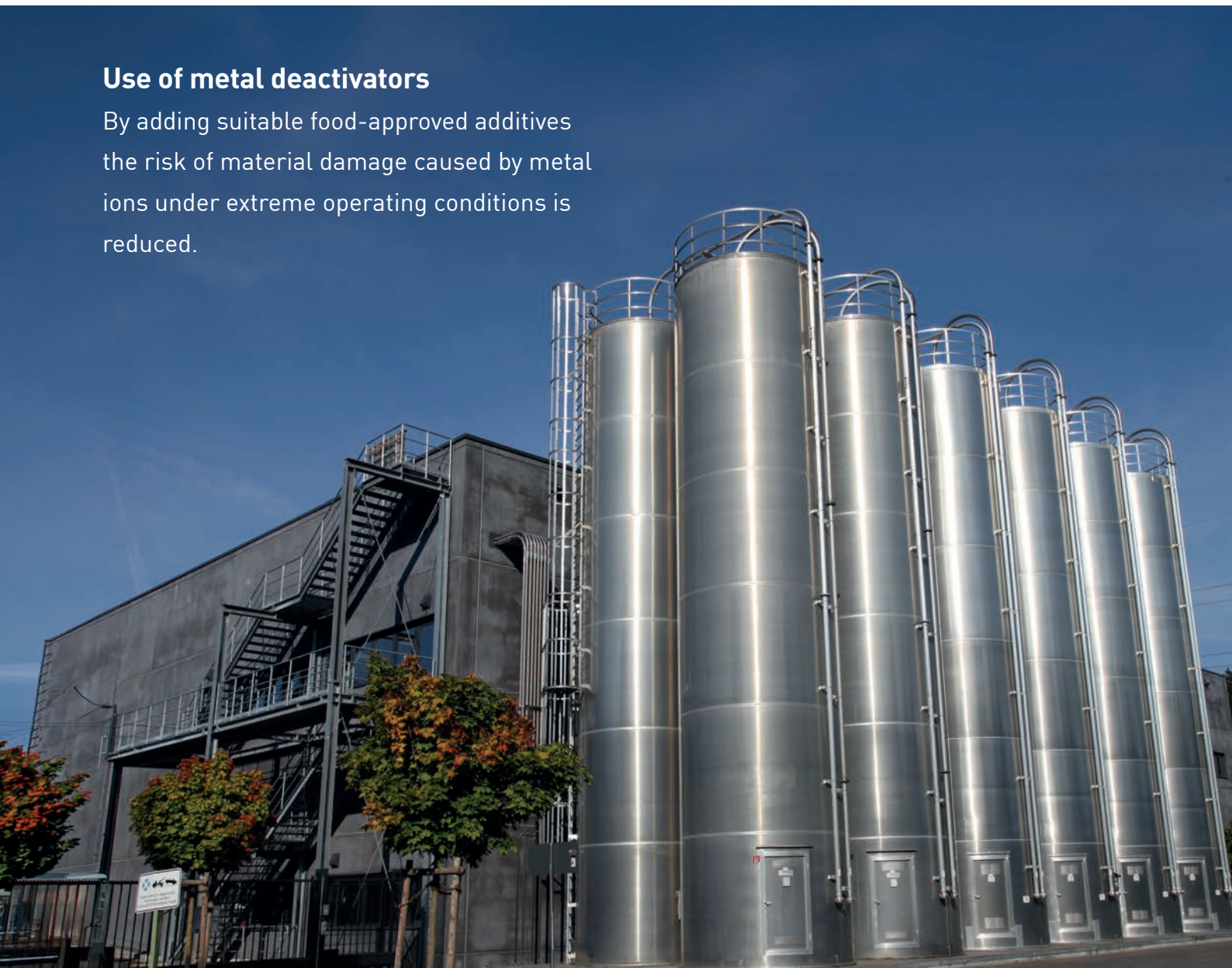
Newly opened markets place ever increasing demands on the pipe material. Versatile applications require the greatest possible independence of the processed materials. Raw materials with novel properties that could not be achieved until then are required.

For this reason, aquatherm has been developing and producing its own innovative polypropylene materials for several years, which meet the global challenges in sanitary and heating technology, air conditioning and refrigeration technology, industrial applications and agriculture, shipbuilding and fire protection.

Successful results of this research are fusiolen® PP-R, fusiolen® PP-RCT and fusiolen® PP-R FS.

## Use of metal deactivators

By adding suitable food-approved additives the risk of material damage caused by metal ions under extreme operating conditions is reduced.





## Higher long-term heat stabilisation

The long-term heat stabilisation was increased in order to be able to counteract possible influences of the peak temperatures occurring during operation.

## Material properties

Potable water is one of the most controlled commodity goods. The supply system should influence the water on its way up to the taps as less as possible. The choice of the right potable water pipe system and its material is of decisive importance.

aquatherm green pipe systems are suitable for all different qualities of potable water. The hygienically impeccable potable water pipe system made from fusiolen® is physiologically and microbiologically harmless. The technical suitability of the aquatherm pipe systems has been evident worldwide for decades. The extrapolated service life of aquatherm polypropylene pipes is more than 50 years.

Peak temperatures of 100 °C arising from short disruptions are unproblematic. Permanent temperatures from 70 °C up to 90 °C reduce the service life of the pipe (see table “Permissible Working Pressure”).



### Permissible working pressure

When using aquatherm PP-R/PP-RCT pipes, the pressure and temperature conditions specified in the table “Permissible Working Pressure” apply. The operating conditions for both pipes and pipe connections are defined with regard to pressure and temperature in the table below. These values are based on potable water installations and a theoretical service life of 50 years.





## Involvement in the DGNB

aquatherm is a member of the German Sustainable Building Council (DGNB e.V.). The DGNB is a non-profit organisation that develops certification systems and assessment criteria for buildings and neighbourhoods, with the aim of raising public awareness. Through its membership, aquatherm contributes to the professional exchange of ideas on criteria and solutions for future-oriented construction.

## Polypropylene stands out

The European Plastic Pipe Association TEPPFA analysed the environmental impact of plastic pipe systems as part of its EPD project. The result: plastic pipe systems leave a smaller ecological footprint than pipe systems made of other materials.

Polypropylene pipe requires up to 60% less energy to manufacture than metal piping and weighs up to 85% less. Furthermore, polypropylene is fully recyclable (Source: Cradle-to-Grave Study – Competing Piping Systems).

## Innovative fibre-reinforced pipes

As early as 1999, we developed the first fibre-reinforced composite pipe, thereby laying the foundations for a new and innovative generation of plastic piping systems. Today, our fibre-reinforced composite pipes are used in a wide range of applications within heating, cooling and drinking water systems.

## Technical data sheet

| Technical properties              | fusiolen®<br>PP-R                     | fusiolen® PP-R/<br>PP-RCT fibrepipe    |
|-----------------------------------|---------------------------------------|----------------------------------------|
| Melt-flow index 190 °C/5 kg       | 0,5 g/10 min.                         | 0,5 g/10 min.                          |
| Melt-flow index 230 °C/2,16 kg    | 0,3 g/10 min.                         | 0,3 g/10 min.                          |
| Modulus of elasticity             | 800 N/mm <sup>2</sup>                 | 1200 N/mm <sup>2</sup>                 |
| Yield stress                      | 25 N/mm <sup>2</sup>                  | 30 N/mm <sup>2</sup>                   |
| Density                           | 0,9 g/cm <sup>3</sup>                 | 1,0 g/cm <sup>3</sup>                  |
| Tensile strength                  | 25 MPa                                | 35 MPa                                 |
| Inflammation temperature          | 430–450 °C                            | 490–500 °C                             |
| Thermal expansion coefficient     | 1,5 *10 <sup>-4</sup> K <sup>-1</sup> | 0.35 *10 <sup>-4</sup> K <sup>-1</sup> |
| Coefficient of thermal conduction | 0,15 W/mK (measured against the pipe) | 0,15 W/mK (measured against the pipe)  |
| Coefficient of friction in pipes  | 0,007                                 | 0,007                                  |
| Bending radius                    | 6 x d                                 |                                        |
| Water absorption                  | < 0,02 %                              | < 0,02 %                               |
| Electrical properties             | fusiolen®<br>PP-R                     | fusiolen® PP-R/<br>PP-RCT fibrepipe    |
| Relative permittivity             | 2,3 (in case of 1 MHz)                | 2,3 (in case of 1 MHz)                 |
| Puncture voltage                  | 500 kV/cm                             | 500 kV/cm                              |
| Specific resistance               | > 10 <sup>17</sup> Ω cm               | > 10 <sup>17</sup> Ω cm                |
| Surface resistance                | 10 <sup>14</sup> Ω                    | 10 <sup>14</sup> Ω                     |
| Dissipation coefficient           | 0,0002 (in case of 50 Hertz)          | 0,0002 (in case of 50 Hertz)           |



## aquatherm Environmental Product Declaration

### **Environmental Product Declarations: The key to a sustainable construction industry**

Climate change is one of the greatest challenges of our time. The main problem is CO<sub>2</sub> emissions: they enter the atmosphere and intensify the greenhouse effect, causing the Earth's temperature to rise. Many organisations and companies have recognised that action is needed.

The concept of sustainability has also taken hold in the construction industry; after all, this sector is responsible for 36 % of global energy consumption and 39 % of energy- and process-related CO<sub>2</sub> emissions. But how can one determine how sustainable a product is? Environmental Product Declarations provide the answer.

### **What is an Environmental Product Declaration?**

An Environmental Product Declaration (EPD) describes the environmental impact of a product or service on the environment. It records the consumption of resources and emissions over the entire life cycle of the product - from the extraction of raw materials to disposal - and quantifies and evaluates them.

Therefore, an Environmental Product Declaration offers the possibility to compare different products with each other.

In the Environmental Product Declaration, the characteristics of a product are identified neutrally using internationally recognised standards. A precise methodology according to ISO 14025 and EN 15804 is followed, and all values are checked by independent third parties regarding their completeness, plausibility, and conformity with standards.

However, the EPD is not a certificate, i.e. there are requirements placed on the quality and format of the data, but not on the quality of the product. For the building sector, it forms an important basis for the ecological assessment of buildings.





## What are Product Category Rules?

To be able to evaluate functionally similar products in the same way and in the context of an Environmental Product Declaration, Product Category Rules (PCRs) are used. These are a set of specific rules, requirements or guidelines according to which products are classified into groups. Product Category Rules exist, for example, for thermal insulation materials, windows and doors, or building piping systems.

## What is a Life Cycle Assessment?

The aim of a Life Cycle Assessment (LCA) is not only to provide environmentally relevant data on specific products, but also to estimate potential environmental issues which then can assist in making a decision for or against a particular product. The basis of the Life Cycle Assessment is the life cycle of a product. It consists of different phases: Raw material extraction, material production, use, waste treatment and final disposal. All environmental inputs and outputs are listed. In other words, everything that flows into and out of the product is measured. These can be raw materials or resources, different types of energy, water or emissions into the air, soil or water.





## What does the product life cycle include?

A life cycle assessment considers either the entire life cycle of a product or parts of it.

Therefore, there are three different approaches to assessing the product life cycle:



- 1) Cradle to grave
- 2) Cradle to gate
- 3) Cradle to cradle



## What are the environmental impact indicators?

Life Cycle Assessments provide information on the potential environmental impact of a product (or service). EN 15804+A2 defines 13 core Environmental Impact Indicators that must be reported in an Environmental Product Declaration, along with six additional optional indicators.

Core indicators according to EN 15804+A2:

| Core indicator | Unit                               |
|----------------|------------------------------------|
| GWP-total      | kg CO <sub>2</sub> -Äq.            |
| GWP-fossil     | kg CO <sub>2</sub> -Äq.            |
| GWP-biogenic   | kg CO <sub>2</sub> -Äq.            |
| GWP-luluc      | kg CO <sub>2</sub> -Äq.            |
| ODP            | kg CFC11-Äq.                       |
| AP             | mol H <sup>+</sup> -Äq.            |
| EP-freshwater  | kg PO <sub>4</sub> -Äq.            |
| EP-marine      | kg N-Äq.                           |
| EP-terrestrial | mol N-Äq.                          |
| POCP           | kg NMVOC-Äq.                       |
| ADPE           | kg Sb-Äq.                          |
| ADPF           | MJ                                 |
| WDP            | m <sup>3</sup> World-Äq. withdrawn |

Additional impact categories according to EN 15804+A2-optional:

| Indicator | Unit             |
|-----------|------------------|
| PM        | cases of illness |
| IR        | kBq U235-Äq.     |
| ETP-fw    | CTUe             |
| HTP-c     | CTUh             |
| HTP-nc    | CTUh             |
| SQP       | -                |

## How reliable is an Environmental Product Declaration?

Neutral and in accordance with internationally recognised standards: This is how the characteristics of a product are recorded in an Environmental Product Declaration.

The exact methodology follows ISO 14025 and EN 15804, and all values are verified by independent third parties. The Environmental Product Declaration is valid for a period of five years. If there are changes in the manufacture of the product during this period, leading to major deviations from the previous values, a review must be carried out.

### Legend

GWP = Global warming potential  
 ODP = Stratospheric ozone depletion potential  
 AP = Acidification potential of soil and water  
 EP = Eutrophication potential  
 POCP = Potential for formation of tropospheric ozone  
 ADPE = Potential for depletion of abiotic resources - non-fossil resources (ADP - substances)  
 ADPF = Potential for depletion of abiotic resources - fossil fuels (ADP - fossil fuels)  
 WDP = Water depletion potential (users)

### Legend

PM = Potential incidence of disease due to particulate matter emissions.  
 IR = Potential effect from human exposure to U235  
 ETP-fw = Potential toxicity comparison unit for ecosystem  
 HTP-c = Potential toxicity comparison unit for humans (carcinogenic effect)  
 HTP-nc = Potential toxicity comparison unit for humans (non-carcinogenic effect)  
 SQP = Potential soil quality index



## What advantages does the Environmental Product Declaration offer me?

Environmental Product Declarations enable companies, for example, to participate in public tenders or investors to have their building's sustainability systems, such as BREEAM, LEED or DGNB, in place. In addition, an Environmental Product Declaration forms the basis for the development and optimisation of sustainable products.

### aquatherm Environmental Product Declaration

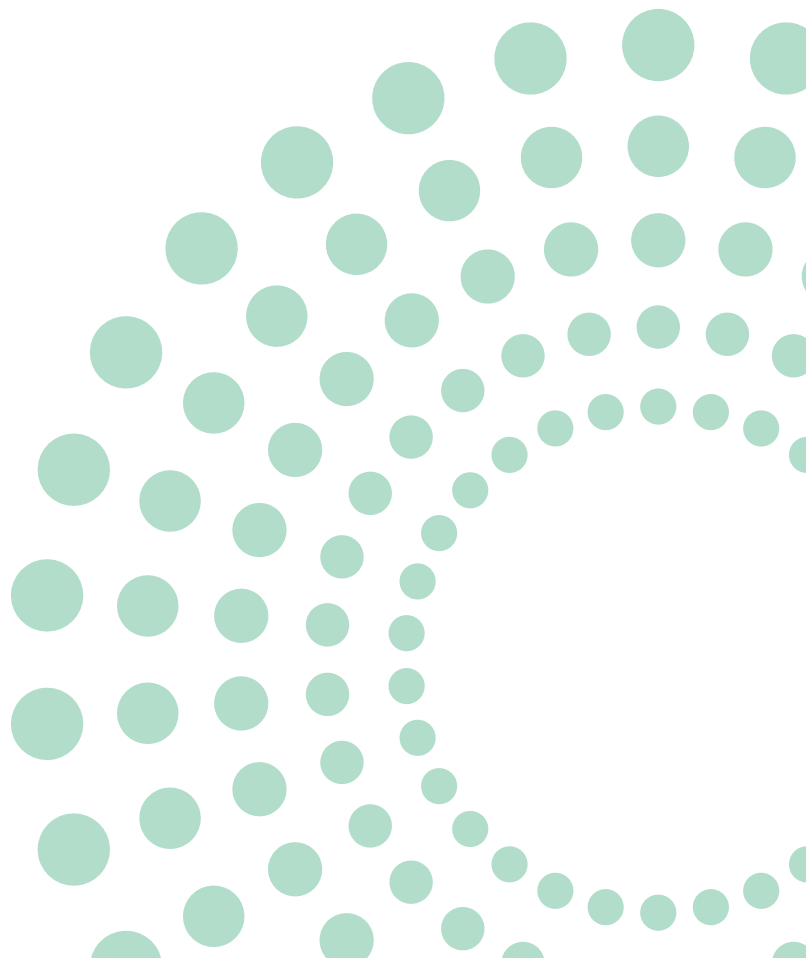
Environmental Product Declarations are important - for the construction industry, for us, and our customers. That is why we have had our products evaluated according to the „cradle to gate“ concept.

Our Environmental Product Declarations



are available for the following product group:

- aquatherm green/blue S/MF
- aquatherm red S/MF
- aquatherm black system
- aquatherm green/blue S/MF (OT)
- aquatherm green/blue S/MF (UV)
- aquatherm green/blue S/MF (ENERGY)





## Fire protection

The aquatherm polypropylene pipe systems comply with the requirements of the fire classification B2 DIN 4102 (normal inflammable) DIN EN 13501 Klasse E. Compared to natural products like wood, cork or wool, aquatherm PP-R pipes do not produce any gas toxicity. In case of fire, there is no risk of dioxin emissions.

To avoid fire and smoke transmission, aquatherm advises the use of fire retardant seals. The fire resistance period is the minimum period in minutes.

The extent of the preventive measures depends on the type of installation. The determination of fire areas and fire classification has to be made in accordance with the law of the country. Information is given by the Planning Department and Building Control Office or the Fire Protection Representative.

Basically, fire walls and ceilings with pipe passages have to be installed to the same fire resistance classification. All fire protection systems with a corresponding classification are suitable for aquatherm polypropylene pipes.

### The following companies offer suitable fire protection solutions:

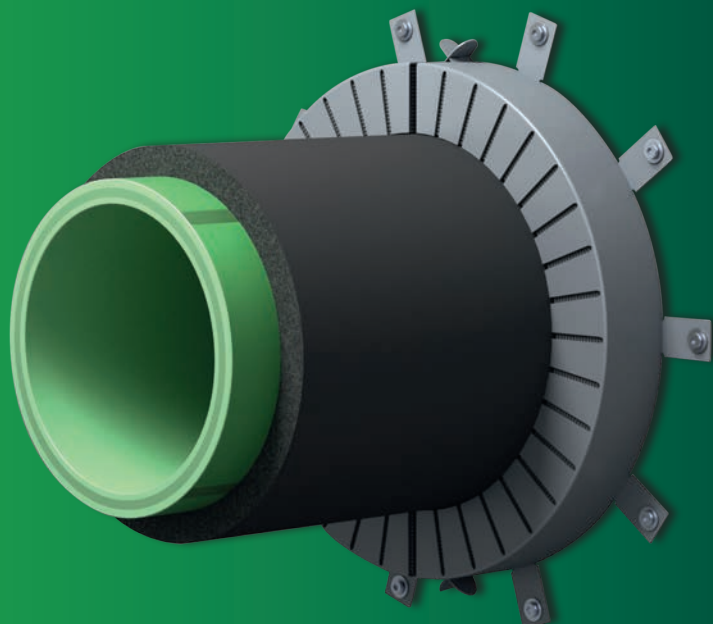
#### Fire protection pipe shell Conlit 150 U:

DEUTSCHE ROCKWOOL  
GmbH & Co. KG  
Rockwool Straße 37-41  
45966 Gladbeck  
Tel: +49 2043 408 0  
[www.rockwool.de](http://www.rockwool.de)

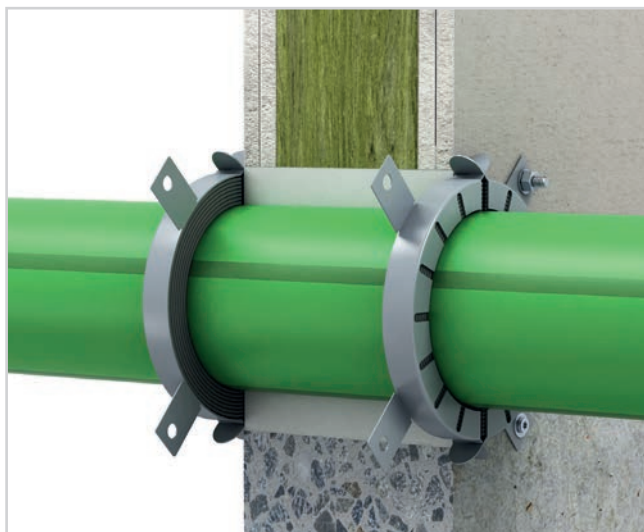
Hilti Deutschland AG  
Hiltistrasse 2 · 86916 Kaufering  
Tel: +49 800 888 · [www.hilti.de](http://www.hilti.de)

#### Fire protection sleeve AWM II:

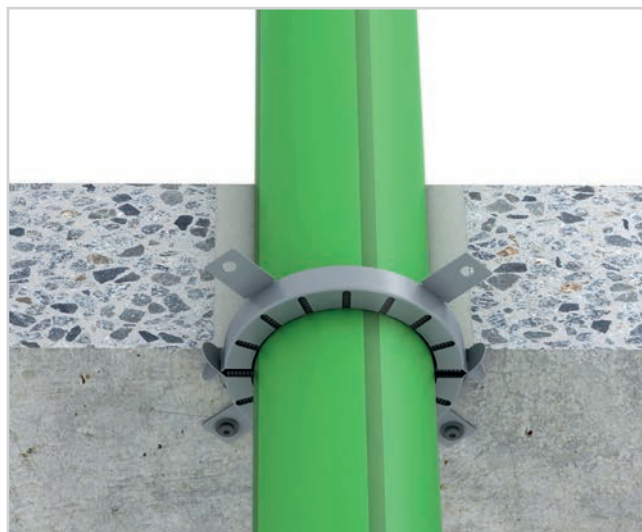
Flamro Brandschutz  
Vertriebs GmbH  
Am Sportplatz 2  
56291 Leiningen  
Tel. +49 6746 9410-0  
Mail: [info@flamro.com](mailto:info@flamro.com)  
[www.flamro.de](http://www.flamro.de)



Roku System AWM II in the wall



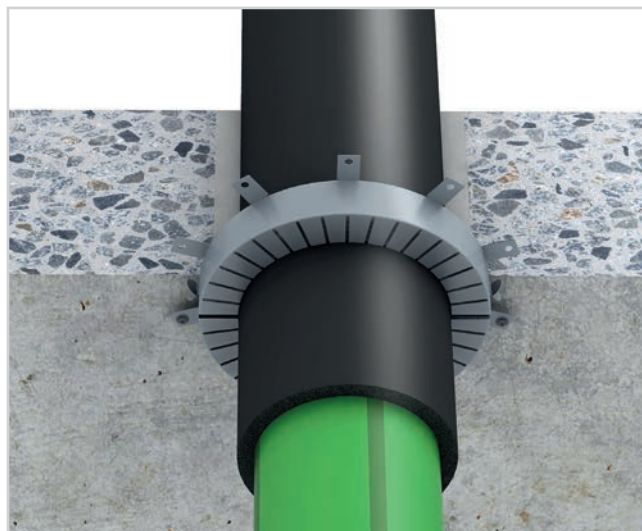
Roku System AWM II in the ceiling



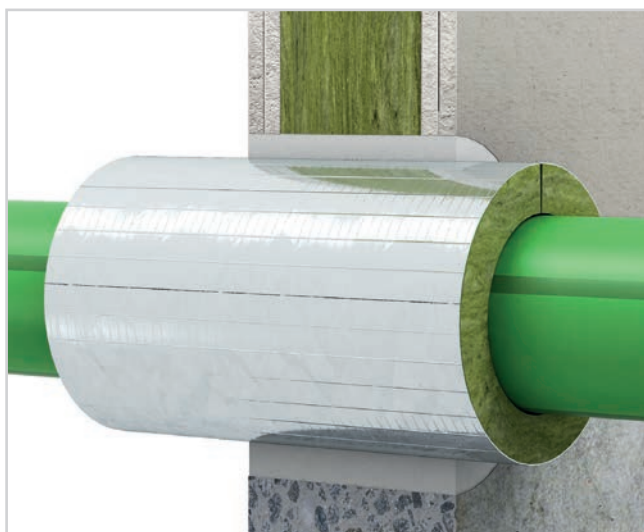
Roku System AWM II with synthesis rubber in the wall



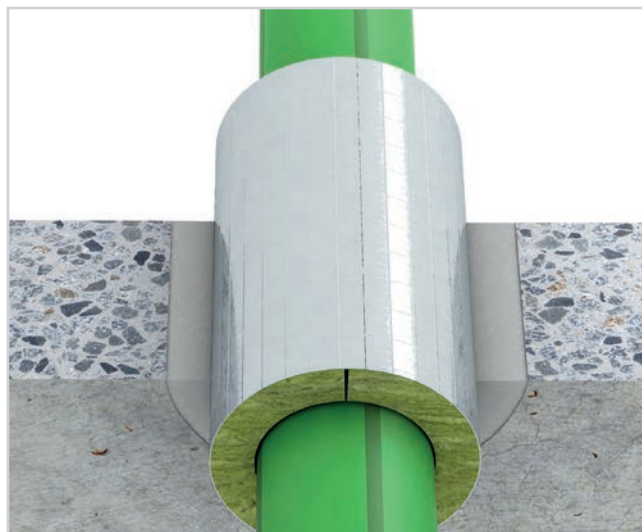
Roku System AWM II with synthesis rubber in the ceiling



Rockwool Conlit 150 U in the wall



Rockwool Conlit 150 U in the ceiling





## Excerpt from the Rockwool planning and installation aid

R 30- bis R 120-pipe penetrations for the aquatherm installation systems with non-combustible media, such as drinking water, heating and cooling.

Product name/  
Material:

**agt. green PP-R**

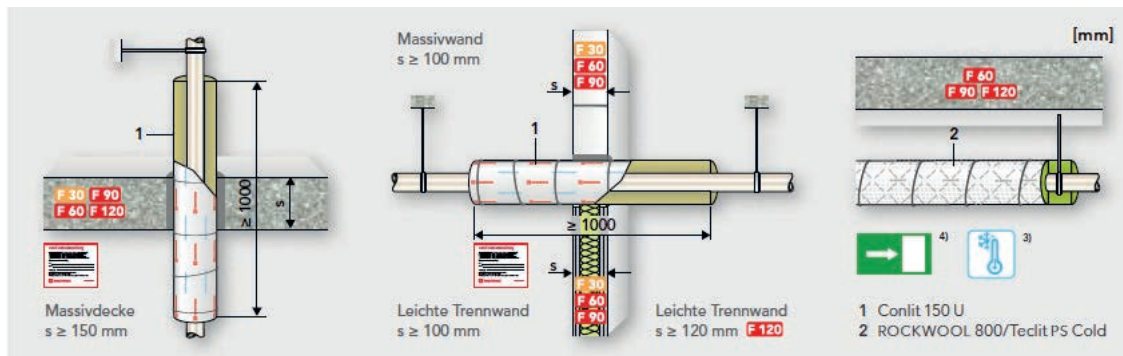
SDR 6 S,

SDR 7,4 S,

SDR 7,4 MF,

SDR 7,4 MF UV,

SDR 11 S



**agt. green PP-RCT**

SDR 9 MF RP,

SDR 9 MF RP UV

| System | Pipe<br>dimension<br><br>Outer<br>diameter<br>Da [mm] | Conlit 150 U                         |                                         |                                       |                                         | ROCKWOOL 800<br>Teclit PS Cold <sup>3)</sup> |                                      |                                       |
|--------|-------------------------------------------------------|--------------------------------------|-----------------------------------------|---------------------------------------|-----------------------------------------|----------------------------------------------|--------------------------------------|---------------------------------------|
|        |                                                       | EnEV 50 % <sup>1)</sup><br>di/d [mm] | Core<br>drilling<br>D <sub>K</sub> [mm] | EnEV 100 % <sup>1)</sup><br>di/d [mm] | Core<br>drilling<br>D <sub>K</sub> [mm] | BSU <sup>4)</sup><br>d <sub>i</sub> /d (mm)  | EnEV 50 % <sup>1)</sup><br>di/d [mm] | EnEV 100 % <sup>1)</sup><br>di/d [mm] |

**agt. blue PP-R**

SDR 7,4 MF,

SDR 7,4 MF OT,

SDR 7,4 MF UV

SDR 11 S

pipes without OT  
or UV layer

**aquatherm green**

**aquatherm blue**

**aquatherm red**

**aquatherm black**

**agt. blue PP-RCT**

SDR 9 MF RP,

SDR 9 MF RP OT,

SDR 9 MF RP UV,

SDR 11 MF RP,

SDR 11 MF RP OT,

SDR 11 MF RP UV

pipes without OT  
or UV layer

**aquatherm green  
UV**

**aquatherm blue  
OT + UV**

**agt. red PP-R (B1)**

SDR 7,4, MF HI

### Notes/special installation conditions

- 1) When used in combination with pipe firestop systems according to abP P P-3726/4140-MPA BS, the required minimum insulation thickness must be observed; in addition, requirements for thermal protection according to GEG are met.
- 3) For the correct sizing of insulation thickness for pipes with cold media, please refer to the instructions in our installation manual Teclit Cold Insulation - Pipelines.
- 4) In areas of escape routes, fire load encapsulation can be applied with ROCKWOOL 800 or Teclit PS Cold (insulation thickness ≥ 30 mm).

All boundary conditions of the specified general building inspection certificates (abP) or general type approvals (aBG) must be taken into account.

**agt. black  
grid connection pipe**



## Fire load

The values required for determining the fire load within a fire section are calculated from the total of all flammable materials located within this area. The calculation for establishing the combustion heat  $V$  [kWh/m] for a fire section in the event of an outbreak is dependent on dimensions and materials. The basis used for the calculation of pipe systems made of polypropylene is the lower calorific value  $H_u = 12.2$  kWh/kg (as per DIN V 18230 T1) in conjunction with the mass of material  $m_{\text{pipe}}$  [kg/m]. The integrated layers of fibres in the aquatherm fibre composite pipes are also considered.

Depending on the calculation procedure, the fire load is worked out with reference to the burn-up factor. This value is designated as  $m_{\text{factor}}$  and is taken as 0.8 for polypropylene.

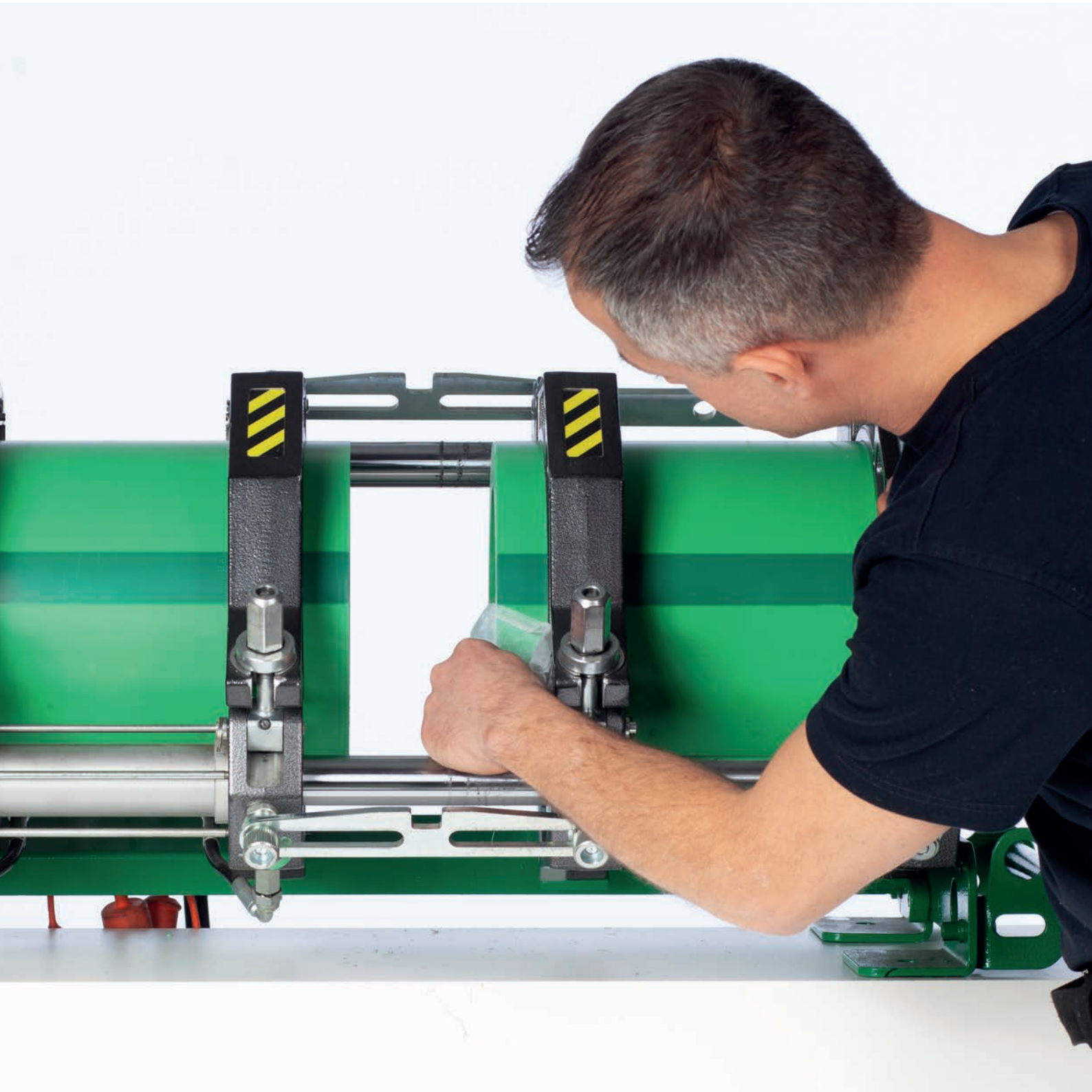
## Combustion values $V$ [kWh/m] for aquatherm green piping systems

| Dimension mm | aquatherm green<br>SDR 11 S | aquatherm green<br>SDR 7,4 S | aquatherm green<br>SDR 6 S | aquatherm green<br>SDR 9 MF RP | aquatherm green<br>SDR 7,4 MF |
|--------------|-----------------------------|------------------------------|----------------------------|--------------------------------|-------------------------------|
| 20           | 1,32                        | 1,82                         | 2,12                       | -                              | 1,76                          |
| 25           | 2,01                        | 2,83                         | 3,27                       | -                              | 2,74                          |
| 32           | 3,18                        | 4,54                         | 5,33                       | 3,12                           | 4,39                          |
| 40           | 5,05                        | 7,05                         | 8,24                       | 5,69                           | -                             |
| 50           | 7,82                        | 10,99                        | 12,77                      | 8,80                           | -                             |
| 63           | 12,35                       | 17,28                        | 20,26                      | 14,03                          | -                             |
| 75           | 17,21                       | 24,58                        | 28,68                      | 19,71                          | -                             |
| 90           | 24,92                       | 35,21                        | 41,22                      | 28,41                          | -                             |
| 110          | 36,89                       | 52,68                        | 61,45                      | 42,17                          | -                             |
| 125          | 47,91                       | -                            | -                          | 54,38                          | -                             |
| 160          | 78,28                       | -                            | -                          | 88,90                          | -                             |
| 200          | 121,89                      | -                            | -                          | 139,00                         | -                             |
| 250          | 189,59                      | -                            | -                          | 216,18                         | -                             |
| 315          | 313,54                      | -                            | -                          | 343,66                         | -                             |
| 355          | 381,86                      | -                            | -                          | 436,33                         | -                             |
| 400          | 505,08                      | -                            | -                          | -                              | -                             |
| 450          | 639,28                      | -                            | -                          | -                              | -                             |
| 500          | -                           | -                            | -                          | -                              | -                             |
| 630          | -                           | -                            | -                          | -                              | -                             |



## Processing

There are many possibilities for connecting aquatherm green piping systems. Whether welding or plugging, aquatherm's fusion techniques allow you to quickly create permanently tight connections.





## Welding techniques

Due to their exceptionally good welding properties, the pipe and fitting fuse to form a homogeneous, materially bonded unit. For this purpose, the pipe and fitting are briefly heated with the aid of tools provided for this purpose and then simply joined together; that's it! Double material thickness at the joint - this means double safety at the otherwise critical point of a piping system.

### Socket welding

A safe and fast connection in the socket welding process is possible with our manual welder for pipes with dimensions of 20 to 63 mm.

[▶ View video](#)

### Socket welding with welding machine

With pipe dimensions from 50 to 125 mm, our aquatherm welding machines ensure a safe and durable connection.

[▶ View video](#)

### Butt welding

Large pipe dimensions from 160 to 630 mm are welded with special butt welding machines.

[▶ View video](#)

### Electric welding jig

The aquatherm electrical welding jig facilitates the fusion of pipes with diameters of 63 to 125 mm.

[▶ View video](#)

### Electric socket welding

Electric socket welding (heating coil welding) is suitable in hard-to-reach areas for pipes with dimensions of 20 to 250 mm. In this welding process, special sleeves with integrated heating wires are electrically heated and fused to the pipe.

[▶ View video](#)

### Weld-in saddle OT

Branches in aquatherm blue OT can be easily produced with welding calipers, even subsequently. The use of shrink-wrapping calipers also reduces the amount of material and time.

[▶ View video](#)

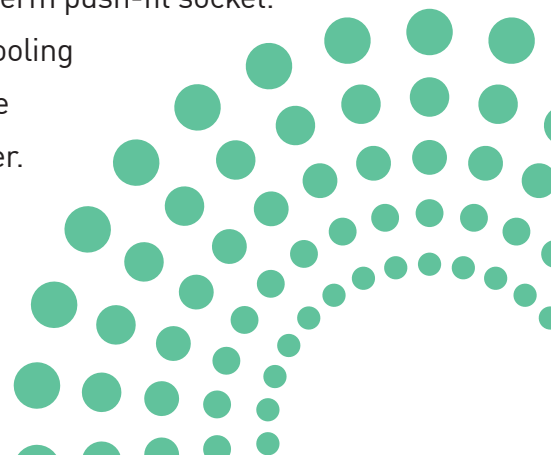
### Socket welding OT

A secure and quick connection for the oxygen-tight aquatherm blue pipe OT pipes in the dimensions 20 to 125 mm is possible using the socket welding method.

[▶ View video](#)

### Push-fit fittings

Highest safety in just a few minutes: this is what the new aquatherm push-fit fittings offer. Compared to the electro socket welding process, pipe connections can be made up to 40 % faster using the aquatherm push-fit socket. In addition, the tooling requirements are significantly lower.

[▶ View video](#)



## Chemical and thermal disinfection of aquatherm potable water systems made of polypropylene

### a) Chemical disinfection of the system

In contrast to the disinfection of potable water, the disinfection of a system is a discontinuous measure and covers the potable water system from the area of contamination to the tapping point at the consumer. In general, disinfection should only be applied temporarily in the event of proven contamination. For discontinuous disinfection, aquatherm pipes and the corresponding fittings may be exposed up to twice a year to a free chlorine concentration of 50 mg/l for no more than 12 hours. Alternatively, 150 mg/l hydrogen peroxide ( $\text{H}_2\text{O}_2$ ) may be used for up to 24 hours. A temperature of 30 °C must not be exceeded during the disinfection process. The use of disinfection processes, especially with chlorinated water, can have a direct impact on the service life of the potable water system. Under no circumstances should chlorine dioxide be used.

### b) Chemical disinfection of potable water

In the case of continuous disinfection with chlorinated potable water, a free chlorine content of up to 0.3 mg/l may be used (in accordance with the 2001 potable water ordinance). The maximum temperature of 70 °C should not be exceeded. Unless required by local regulations, residual disinfection is not necessary where there is no evidence of bacterial water contamination. Under no circumstances should chlorine dioxide be used.

### Recommendation of the World Health Organization – Guidelines for potable water quality, fourth edition

For effective disinfection, there should be a residual concentration of free chlorine of  $\geq 0.5$  mg/l after at least 30 min contact time at  $\text{pH} < 8.0$ . A chlorine residual should be maintained throughout the distribution system. At the point of delivery, the minimum residual concentration of free chlorine should be 0.2 mg/l.

### c) Thermal disinfection of the system

In general, a thermal disinfection according to DVGW W551 is possible. In case of the thermal disinfection for the prevention of legionella bacteria according to DVGW worksheet W 551, the water temperature will be adjusted in such a way that it amounts to 70 °C for at least 3 minutes at all points of the potable water system. The maximum admissible limits of use regarding the service temperature and pressure are to be observed.



## Integration of other systems or components with aquatherm piping for pressure pipe applications

When integrating aquatherm piping systems with other systems or components not made of polypropylene (e.g. valves, pumps, other piping, check valves, strainers, etc), care must be taken to ensure the operating parameters for polypropylene won't damage the other materials or vice versa. Be aware that even if the aquatherm pipe is compatible with the fluid being transported, other materials in the system may not be.

All parts of the system must be verified as compatible with the medium being carried before installing them. And, while the aquatherm pipe does not require treatment to protect it from corrosion, metals (ferrous and non-ferrous) in the system may be susceptible to corrosion. Do not mix the aquatherm pipe with other piping systems in conditions that will cause the other system or components to fail.



## Domestic hot water recirculation (DHWR)

A hot water circulation system includes all components that are in contact with the circulating water, including the flow and return supply. When there is copper piping used in conjunction with PP-R/PP-RCT in a DHWR system, care should be taken to ensure the operating conditions will not cause degradation or erosion/corrosion of the copper. aquatherm recommends following the Copper Development Association guidelines (CDA Publication A4015-14/16: The Copper Tube Handbook – [www.copper.org](http://www.copper.org)) for sizing, temperature and flow velocity in copper tubing. This will also help ensure that the copper levels in the water do not approach the regulatory action levels recommended by independent institutions (e.g. U.S. Environmental Protection Agency (EPA), World Health Organization (WHO), Federal Ministry of Justice and Consumer Protection of Germany). Sustained high levels of copper in DHWR piping can damage components within the system, even PP-R.

**Damage caused by copper in the water resulting from erosion/corrosion or other degradation of copper components in the DHWR system will void the aquatherm warranty.**

Accordingly, and as mandated by various regulations and codes in DHWR systems, it is considered good design and operational practice to ensure that the maximum HW-temperature within any part of the system / loop does not exceed 60 °C (140 °F). Some regulations and codes further restrict the temperature at any fixture to a maximum of 50 °C (120 °F). There are some exceptions to this such as the process of thermal disinfection in health care facilities where temperatures of 70 °C (160 °F) or higher can be applied for short periods of time throughout the pipe system. Importantly, the maximum temperature used must not exceed the rating of the pipe for the operating pressure. (See aquatherm green pipe catalogue – table: permissible working pressure potable water – Fluid transported: water according to DIN 2000)

According to some regulations and codes, flow rates in a DHWR system should not exceed 0.5 m/s (1.5 ft/sec) anywhere in the system, except in some special cases where velocities up to 1 m/s (3 ft/sec) are needed to achieve proper flow temperature. The CDA Publication A4015-14/16 – The Copper Tube Handbook – limits the velocity in DHWR system to similar rates.



Permissible working pressure



When re-piping an existing DHWR-system originally installed in copper tubing, ensure all possible copper is replaced. If some copper remains as part of the system, strictly follow the rules and guidelines of the Copper Development Association (CDA Publication A4015-14/16: The Copper Tube Handbook) regarding flow rates and water conditions.

Small amounts of copper or brass in valves and other equipment will generally not cause an issue. However, if the copper degrades, it may also affect O-rings, gaskets, PP-R, and other components, thereby shortening their service life. When adding PP-R/PP-RCT to an existing copper system in a DHWR-application, the level of copper in the water should be tested. These levels should not exceed 0.1 mg/L (ppm). Higher levels of total copper indicate that the copper pipe is corroding/eroding due to system and/or water conditions.

To hydraulically balance a DHWR-system and ensure the required flow rate for each area of the building, it is necessary to install hydraulic-balancing-valves in every circulating loop throughout the complete system. This also maintains the flow velocity in the smaller return piping at or below the manufacturer's or CDA's recommendations.

In addition to sizing the piping and pumps to the correct flow velocity, care must also be taken to avoid water hammer and excessive surge pressures. Pump systems operating with on/off cycling, or pumps oversized for the piping, can create high pressure and fatigue the piping material. The pump total dynamic head (TDH) must also be matched to the flow requirements, piping layout, and operating conditions to avoid cavitation for all components throughout the system.



Cavitation can lead to excessive system noise and more importantly, can result in the erosion and degradation of the pipe surface and other components. Properly sized variable-speed (VFD) constant pressure pumping systems and pressure-sustaining valves can alleviate these issues. The pumps should be sized to operate at maximum efficiency with the lowest energy usage for the required flow rate.

The issues described here are only of concern in DHWR-systems. For domestic cold water (DCW) and mechanical (heating and cooling) systems, no additional requirements or actions are necessary. In some situations, the DHWR

system is also used to provide hot water to the mechanical heating system. Additional consideration and care must be given for this type of combined system, as the mechanical components may not be compatible with the more aggressive water conditions and flow velocity limitations of DHWR systems, and these components may be not suitable for potable water contact.





## Certificates

Numerous international certificates testify to the high quality standard of the green pipes.

### Some examples:

DVGW, SKZ, HIG (Germany)

AENOR (Spain)

ÖVGW (Spain)

WRAS (UK)

SAI-Global (Australia)

CSTB, CARSO (France)

SII (Israel)

TIN (Poland)

SITAC, KIWA, SWEDCERT (Sweden)

IIP (Italy)

BNQ (Canada)

BRANZ (New Zealand)

CERTIF (Portugal)

EMI (Hungary)

u.v.m.

### Material

The hygienic suitability of the material used for the aquatherm green pipe system is independently verified through test certificates from the Hygienic Institute in Gelsenkirchen. The suitability for potable water pipes in the field of cold and hot water is confirmed by continuous tests.

### Processing

The joining method requires no additives such as fluxes or solder. The connection is made by socket fusion.

### Potable water – our most precious commodity good:

The increasing use of PP in food packaging confirms the hygienic properties of the material. This makes aquatherm green pipes the optimal solution for our most precious commodity - potable water.

### Hygienic suitability

According to DIN 1988 T2, all installation parts coming directly in contact with potable water are commodity goods according to the Law for Food and Commodity Goods. Plastic pipes have to comply with the KTW-recommendations of the Federal Public Health Department.

The exact allocation of certificate to product can be found in the currently valid approval certificate on this website. → [aquatherm.de](https://www.aquatherm.de)



## Comparison of the Water content per metre (L)

| Dimension mm | aquatherm green<br>SDR 6 S | aquatherm green<br>SDR 7,4 MF | aquatherm green<br>SDR 9 MF RP | aquatherm green<br>SDR 11 S |
|--------------|----------------------------|-------------------------------|--------------------------------|-----------------------------|
| ø 20         | 0,137                      | 0,163                         | -                              | 0,206                       |
| ø 25         | 0,216                      | 0,254                         | -                              | 0,327                       |
| ø 32         | 0,353                      | 0,423                         | 0,483                          | 0,539                       |
| ø 40         | 0,555                      | 0,660                         | 0,754                          | 0,834                       |
| ø 50         | 0,876                      | 1,029                         | 1,182                          | 1,307                       |
| ø 63         | 1,385                      | 1,647                         | 1,869                          | 2,074                       |
| ø 75         | 1,963                      | 2,323                         | 2,659                          | 2,959                       |
| ø 90         | 2,826                      | 3,358                         | 3,825                          | 4,252                       |
| ø 110        | 4,229                      | 4,999                         | 5,725                          | 6,359                       |
| ø 125        | -                          | -                             | 7,386                          | 8,199                       |
| ø 160        | -                          | -                             | 12,109                         | 13,430                      |
| ø 200        | -                          | -                             | 18,908                         | 21,010                      |
| ø 250        | -                          | -                             | 29,605                         | 32,861                      |
| ø 315        | -                          | -                             | 46,966                         | 52,172                      |
| ø 355        | -                          | -                             | 59,625                         | 66,325                      |
| ø 400        | -                          | -                             | -                              | 84,290                      |
| ø 450        | -                          | -                             | -                              | 106,477                     |
| ø 500        | -                          | -                             | -                              | -                           |



aquatherm green  
**Fields of application**



## Fields of application

aquatherm has the solution for your challenge - benefit from the versatile application possibilities of our products. The range of applications for aquatherm products is extensive. Here you get an overview of the fields of application in which you can rely on our products. Yesterday. Today. Tomorrow.





## Potable water

### Impeccable potable water quality -

#### Why you can rely on aquatherm green products.

There are no stricter quality controls for any foodstuff than for potable water. Rightly so, because we come into contact with it more than with any other food.

aquatherm green offers you a corrosion-resistant, plasticiser-free, odourless and tasteless piping system that ensures hygienically perfect water quality.

The fast and reliable connection technology also helps reduce installation costs. aquatherm also provides solutions for drinking water distribution, chemical and thermal disinfection, underground potable water systems and, in the case of renovations, mixed installations.





## Maritime application

The global shipbuilding market has been growing for many years and is simultaneously undergoing a transformation due to evolving regulatory requirements. With our weight-saving piping systems, which can help reduce fuel consumption, we support you in tackling emerging challenges.

The odourless and tasteless aquatherm green pipework system is particularly suitable for drinking water applications, as it is completely free from heavy metals and toxic chemicals. Corrosion resistance is particularly important in maritime applications, given the salty environment. Especially in comparison to metal systems, aquatherm green considerably extends the service life of the drinking water system. In addition, aquatherm green can be used in technical water systems. Due to its excellent thermal insulation properties, it requires significantly less insulation than metal pipes to prevent heat or cold loss and condensation when the temperature falls below the dew point. This is a major advantage for technical piping in shipbuilding, for example in turbine washing systems.



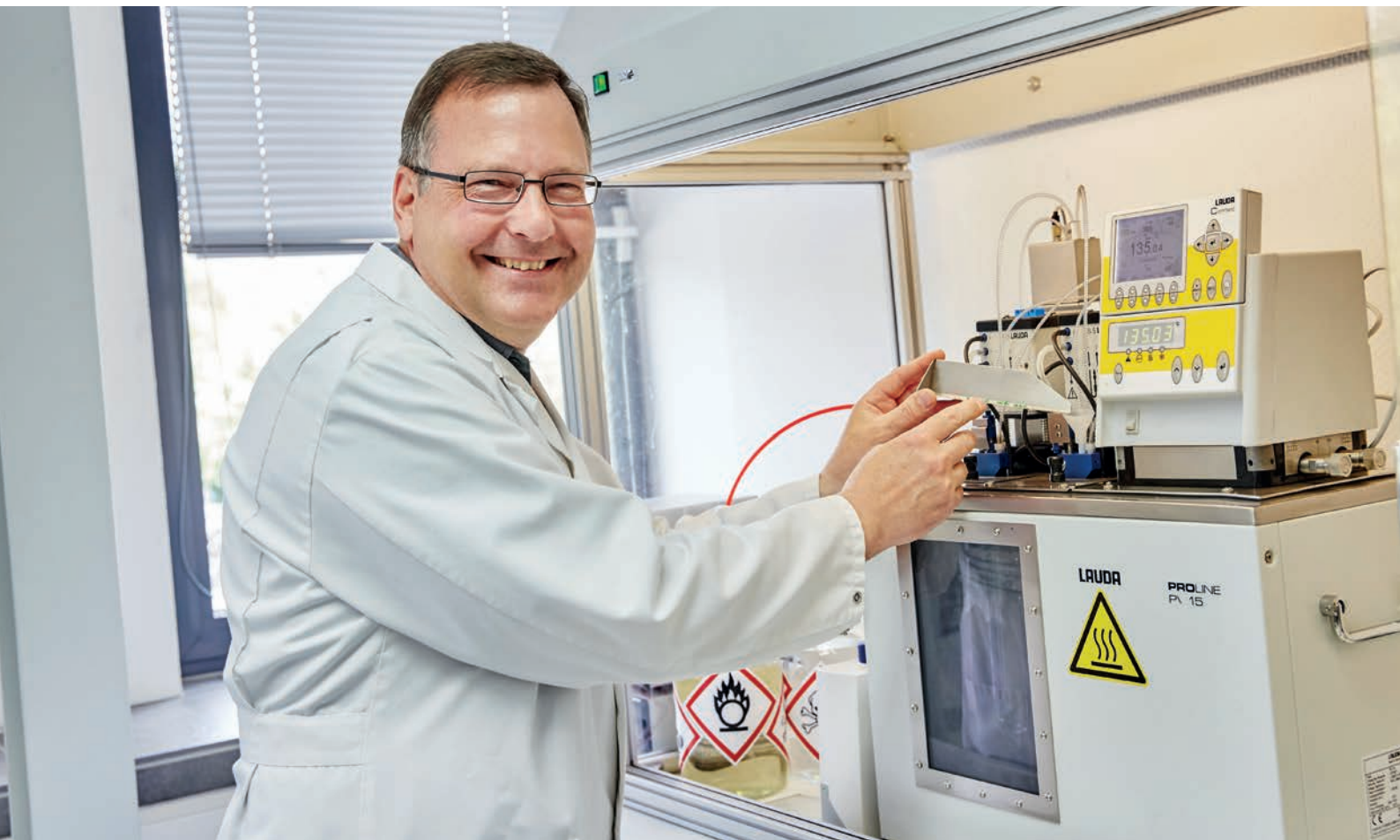


aquatherm green  
**Quality assurance**

## Quality „100 % Made in Germany“

To produce safe and innovative piping systems - that is the lived promise of aquatherm. This already starts with the raw material: We develop and refine our polypropylene granulate under the fusiolen® brand. This way we can always perfectly adjust the properties of our products to the requirements of the different fields of application. No matter whether its pipes or fittings: „100 % Made in Germany“ applies to all of them. We produce exclusively and with the latest manufacturing technology at our German sites in Attendorn (headquarters), Ennest and Radeberg.

Only tested products then start their journey to our customers worldwide. In addition to the permanent in-house quality assurance, which includes the monitoring of testing equipment, process, production and incoming goods inspections as well as the final inspection, external monitoring is carried out by e.g. the Süddeutsche Kunststoffzentrum (SKZ), NSF (National Sanitation Foundation, USA), IIP (Istituto Italiano di Plastici, Italy), CSTB (Centre Scientifique et Technique du Bâtiment, France), TGM (Technologisches Gewerbemuseum, Austria) and the Hygieneinstitut des Ruhrgebiets. Numerous national and international neutral authorities and institutions confirm the high aquatherm quality standard.





Numerous national and international quality seals and approval certificates, along with the satisfaction of our customers, consistently confirm the high quality of our products.

Since 1996, aquatherm has met the requirements of the DIN ISO 9001 quality management system. This achievement further strengthens our competitive position and demonstrates our commitment to meeting the high standards and responsibilities we have towards our customers and partners.

See for yourself!

## Compliance with the system standard

Various national and international independent authorities and institutions confirm aquatherm's quality standard. You can see our certificates on our website.

The product certificates are provided for reference purposes only. The certificates have been issued in accordance with the laws, regulations and product standards applicable in the respective country. The certificates can therefore not be used outside the respective jurisdiction. They do not constitute any express or implied warranties by aquatherm GmbH or its affiliates.

You can find the overview of our international certificates here:

 [Certificate](#)



Management  
System  
ISO 9001:2015  
ISO 14001:2015  
ISO 50001:2018

www.tuv.com  
ID 0091005348





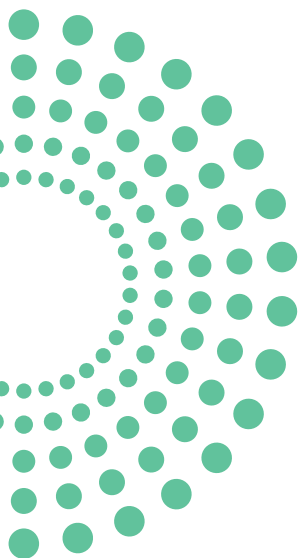
aquatherm green  
**Planning services**



## What planning services does aquatherm offer?

„Time is money“ - a wisdom that proves true every day, especially in the construction industry. The sanitary, heating, and air-conditioning installations of any building project are always a time challenge, not only for architects and planners. The implementation on site often presents the executing site managers and installers with inconsiderable problems. If you choose aquatherm, you have a strong partner at your side who supports you before, during and after the completion of your project.

 Digital planning tools on our website





## Optimise the efficiency of your entire project workflow

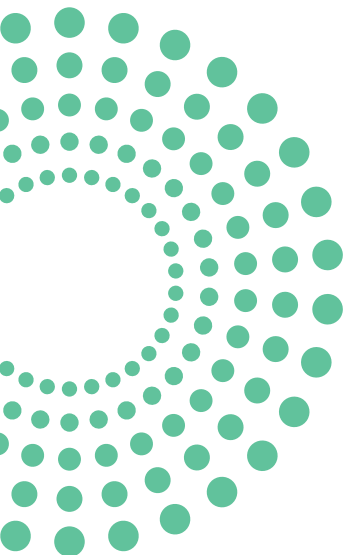
[📞 Contact - Our experts for your request](#)

Our team has many years of experience in the field of building services and is very familiar with the aquatherm product portfolio. Regular training ensures that our project planning is always up to date and that all legal regulations are implemented. This saves you the planning work and gives you significantly more time to concentrate on your core business.



### Pressure loss

For hydraulic pipeline calculations for the mathematical determination in pipe fittings, pressure loss coefficients are required. These result from friction, deflection and detachment losses. Losses often account for an inconsiderable proportion of the total pipe system. The following table shows the calculated pressure loss coefficients or resistance coefficients for aquatherm fittings.

[📄 PDF Planning and design](#)



aquatherm green  
**References**

## Geothermal

### Project

Gippsland Recreation  
and Aquatic Centre (GRAC)

### Location

Traralgon, Australia

### Completion

2021

### Application

Geothermal

### The challenge

For the new aquatic centre, a piping system was sought that was not only suitable for geothermal energy, but was also corrosion-resistant, flexible and had good insulation properties.

### The solution

Due to its special material properties, aquatherm green pipe in sizes 110 mm and 250 mm was selected and installed with technical support from aquatherm.



Photo: Gippsland Regional Aquatic Centre



Photo: Gippsland Regional Aquatic Centre



## Potable water

### Project

Riu Plaza de España

### Location

Madrid, Spain

### Completion

2019

### Application

Potable water

Refrigeration

Sprinkler

### The challenge

Fast and easy installation, safe and durable in operation: These were the piping system requirements that were desired in the rehabilitation of a historic tower in the areas of potable water, air conditioning piping and sprinklers.

### The solution

Thanks to their special material properties, three products from aquatherm were selected to ensure smooth installation and trouble-free operation in Riu Plaza de España.



Photo: Riu Hotels & Resorts



## Potable water

### Project

Research vessels

„Snow Dragon 1“ and „Snow Dragon 2“

### Location

Shanghai, China

### Completion

2020

### Application

Potable water

Grey water

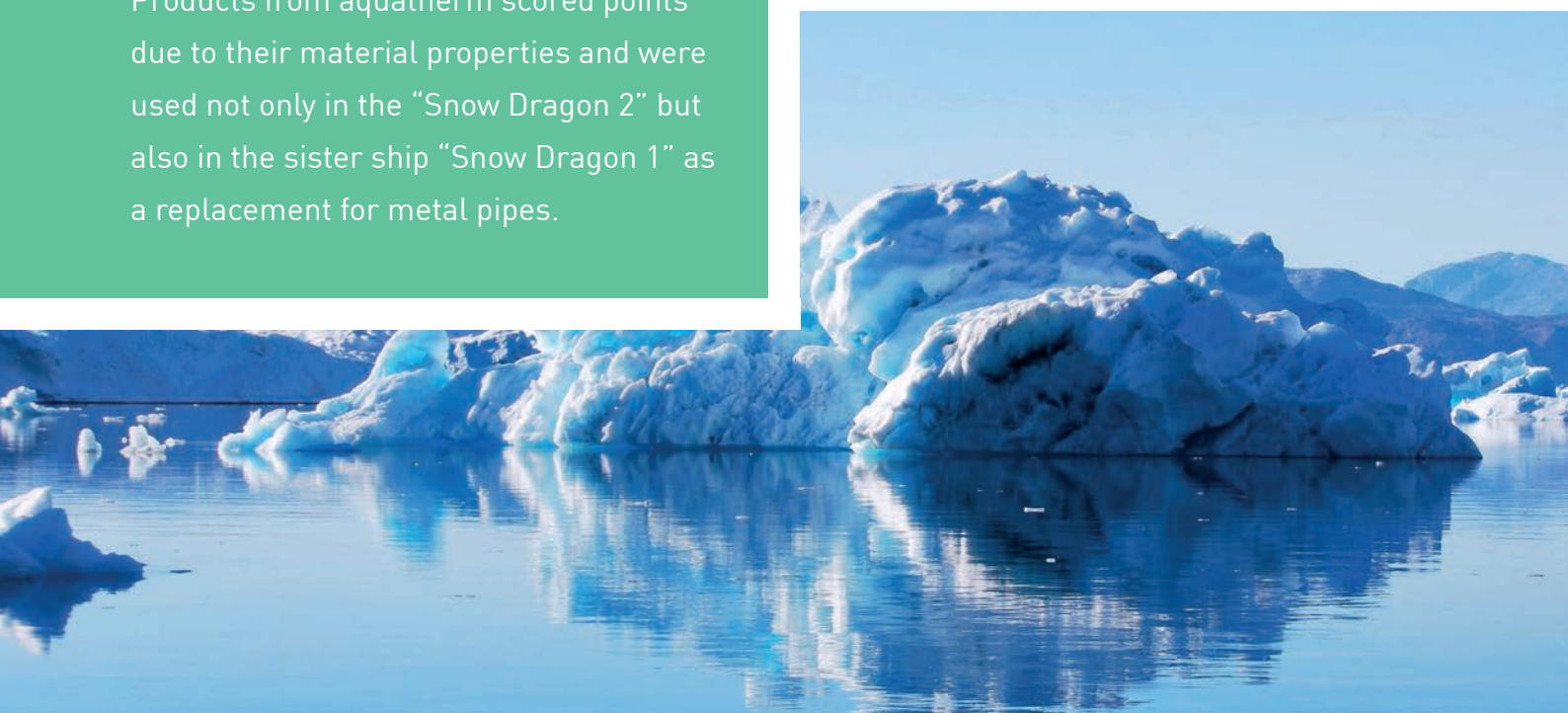
Black water

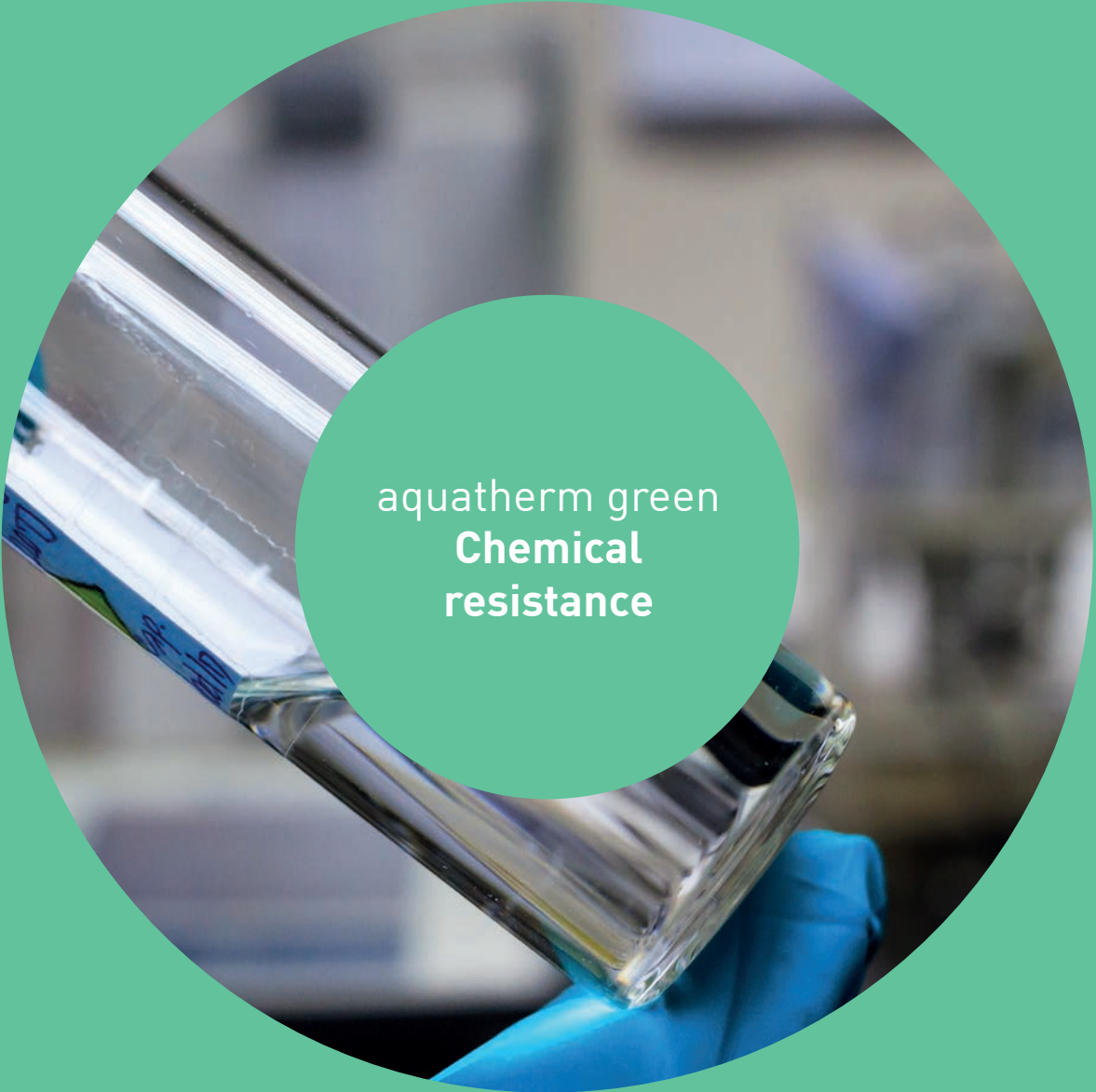
### The challenge

For the new construction of the “Snow Dragon 2,” a corrosion-resistant piping system was sought for the areas of drinking water, grey water and black water.

### The solution

Products from aquatherm scored points due to their material properties and were used not only in the “Snow Dragon 2” but also in the sister ship “Snow Dragon 1” as a replacement for metal pipes.





aquatherm green  
**Chemical  
resistance**

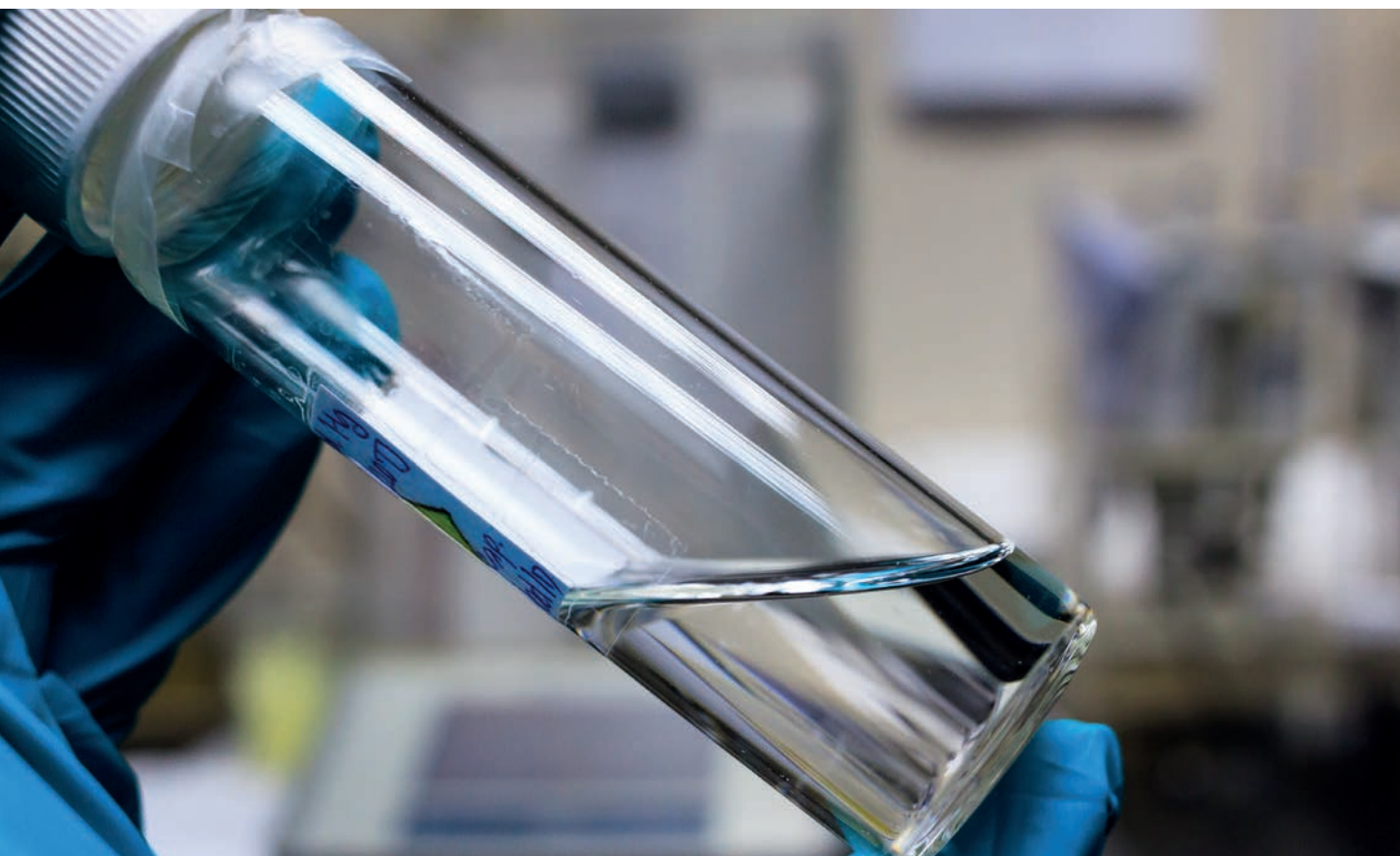


## Resistance

Our corrosion-resistant material polypropylene is resistant to many acids and alkalis. However, each individual case must always be examined with special care. Chemical resistance must always be considered in conjunction with other factors such as operating temperature, operating pressure or external stresses. Detailed information is available from our competent team of experts, who will be happy to deal with individual enquiries.

 Table Chemical resistance

 Enquiry chemical resistance"





aquatherm green  
**Warranty**



# Explanatory comments on the aquatherm GmbH warranty

## 1. Foreword

Thank you very much for making the decision to use a product from aquatherm GmbH, Germany (herein referred to as "aquatherm"). With over 50 years of experience in the international plastic pipes market, and our trendsetting innovations, we have the expertise needed to offer you engineered piping solutions made in Germany.

The trust placed in the quality of our products has motivated us to offer all pipes and molded, fabricated, machined, and/or assembled parts with a 10-year warranty instead of the standard 2-year warranty required by German law. This extended time covered by warranty is backed by a comprehensive insurance policy from a leading insurance company for our line of business. The warranty period will begin with the date of delivery by aquatherm GmbH, but only comes valid with the successful pressure test, which must be carried out and documented in accordance with the aquatherm specification.

## 2. Scope of warranty

The aquatherm warranty protects you from financial loss proven to be caused by material defects, manufacturing defects and/or aquatherm's consulting/engineering services. The warranty coverage shall apply for the following product groups:

- aquatherm green (aquatherm green, aquatherm green pipe)
- aquatherm blue (aquatherm blue pipe)
- aquatherm red (aquatherm red pipe)
- aquatherm black (aquatherm black system)
- aquatherm lilac
- aquatherm orange (aquatherm orange system)
- aquatherm grey (aquatherm grey pipe, aquatherm SHT-system)
- assemblies fabricated by aquatherm from these product groups

### 2.1 What is covered by the aquatherm warranty?

The aquatherm warranty covers three aspects of damages: property damage, financial loss and personal injury.

#### 2.1.1 What is property damage?

The damage to or destruction of a tangible item as a result of a defective product (e.g. classic water damages as a result of a leak). As a result of this, the suitability of the tangible item to fulfill its actual purpose is impaired. The term property damage is used if tangible items are damaged or destroyed. Considerable costs can be incurred as a result of property damage, such as renovation costs, repair costs or replacement costs.

#### 2.1.2 What is meant by financial loss?

Financial loss may either be out-of-pocket loss or loss of business. Out-of-pocket financial loss is for example the costs of removing products and installing replacements after damage. Loss of business is the financial disadvantage suffered by an injured party as a result of a damaging event (e.g. lost income as a result of renovations following property damage).

#### 2.1.3 What is meant by personal injury?

If a person suffers physical injury, this is known as personal injury. For the purposes of this document, the coverage of personal injury means the direct medical costs incurred as a result of the injury.

## 3. What is not covered?

Costs related to the damages incurred such as a result of:

- Non-compliance with the operating parameters defined and specified by aquatherm as found in aquatherm's technical documents. In cases of doubt, contact your local aquatherm manufacturer's rep. Exceptions must be provided for, in writing, by a member of aquatherm's engineering team.
- Non-compliance with the installation guidelines as set out in the aquatherm Catalogue, with emphasis to the required installation of aquatherm propriety clipping or other compatible with aquatherm piping.
- Non-compliance with respective National Plumbing Standards and Regulations.
- Joints which were not made in accordance with the aquatherm guidelines, including but not limited to: improper fusion technique, use of contaminated materials or tools, use of faulty or unsuitable tools, use of damaged materials or tools, or any connection made by an installer without sound knowledge of the aquatherm connection techniques and their processes.
- Improperly assembled connections to other pipeline systems and/or components (threads, flanges, stubs, mechanical joints not intended for use with aquatherm PP piping etc.).
- All sealing elements used in the product lines manufactured by aquatherm.
- Tools and accessories sold by aquatherm GmbH are covered for the warranty period by law under the statutory warranty provisions.
- Systems with defective pipeline sections or fittings that were not subjected to the aquatherm pressure test or alternative testing approved by aquatherm prior to start-up.
- Damage to our products caused by incorrect handling after the material has left aquatherm's possession.
- Damage caused or exacerbated by copper in the water resulting from erosion/corrosion or other degradation of copper components in a domestic hot water recirculating system.
- Time delay, caused by incorrect planning, delivery problems and/or incorrect orders.
- Damage caused by entrained air, cavitation and pressure fluctuations.

**Note:** This list only includes the most prominent examples. Other circumstances, which compromise the integrity of the products, may also jeopardize the coverage.



#### 4. How is the amount of compensation under the aquatherm warranty determined?

In the event of a material failure, samples of the damaged/faulty product are collected by the national aquatherm partner to forward them to aquatherm GmbH for examination and analysis. Working in collaboration with the injured party, aquatherm will identify the cause of the damage, and call in external bodies (test institutes, laboratories, assessors, etc.) as needed. If the damage has been caused by a material and/or manufacturing defect or by aquatherm's consulting/engineering services, the underwriter shall quantify the compensation claim for damages. All expenditures associated with the damages for this claim must be verified/recorded in detail and in a verifiable format as a required measure.

#### 5. How much is the maximum coverage?

For the first 5 years of the warranty period, property damage, personal injury and financial loss is covered for the sum of €20 million per insurance claim. Total coverage for all claims made in a year is a maximum of €40 million. For years 6-10 of the warranty period, these coverage amounts are €8.5 and €17 million respectively. Sublimit for losses on designed projects (Professional Indemnity) €2 million and €6 million for all losses in the annual aggregate.

#### 6. Why is the coverage stated in Euro?

The insured manufacturer, aquatherm, as well as the insurer, are both based in the EU, so that their agreements are issued in Euros (€). Since exchange rates fluctuate, the exchange rate current on the date of compensation shall apply.

#### 7. What is the channel of communication for notifying claims under warranty and making inquiries about them?

Warranty claims have to be made to aquatherm via the national aquatherm GmbH partners. Information about the progress of the claim will only be released by the aquatherm partner or aquatherm GmbH.

#### 8. Legal note

If a discrepancy or conflict arises between this document and the underlying insurance policy, the latter shall in all cases prevail.

#### 9. Information about avoiding damage

##### I) **Manufacture under certified quality level**

As a trusted manufacturer, aquatherm works to a certified quality standard (ISO 9001); constant internal quality controls are part of the daily routine. In addition to this, all employees are integrated into a quality assurance program. As a result of this, products failing to comply with our high standards are quickly identified and removed from our product range.

##### II) **Preventing damage caused by incorrect handling**

Our products must be handled conscientiously and carefully when they are delivered from our production plants. Experience shows that most damage is caused in transit, storage and/or when working on site. At this point we would draw close attention to the fact that correct handling contributes to maintaining the product quality.

##### III) **Work is to be carried out by qualified installers**

Installation defects are easy to avoid. Our training courses teach the correct techniques in detail for working with our products. In doing so, particular importance is attached to work being carried out attentively and with care. The work of installers trained by us or our aquatherm partners is much more reliable and carried out much more efficiently.

**For a safe connection, we recommend using only aquatherm PP products in a piping system. Mixing with other PP piping systems should be avoided.**

February 2026  
aquatherm GmbH,  
Biggen 5, 57439 Attendorn, Germany

A circular inset image showing a busy port and transport scene. In the background, a large cargo ship is docked at a pier, with several tall blue gantry cranes positioned along the dock. The sky is filled with dramatic, colorful clouds in shades of orange, pink, and purple, suggesting a sunset or sunrise. In the foreground, a white semi-truck is driving on a road, and a yellow and blue locomotive is pulling a train. The road and train tracks are blurred, indicating motion.

aquatherm green  
**Transport & storage**



## Careful storage

aquatherm polypropylene pipes may be stored outdoors at any temperature. However, a stable, solid base is important to prevent deformation during transport and storage.

At temperatures below 0 °C, the pipes may be damaged by strong impacts. The material must therefore be handled with care at low temperatures.

Despite their high resistance, aquatherm pipes should always be treated carefully. UV radiation can impair the properties of polypropylene and other high-polymer plastics. Therefore, unprotected, permanent outdoor storage of aquatherm piping systems must be avoided. Outdoor storage is only permitted in the undamaged original packaging and for a maximum period of 6 months from the date of delivery.





aquatherm green  
**Article list**



## Pipe diameter

The diameter of the PP pipe determines its location and intended use. In order to be able to install a pipeline from the connection to the outlet, the pipe diameter of the individual pipes and fittings must be compatible with each other.

### aquatherm green

| Diameter in mm | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 | 125 | 160 | 200 | 250 | 315 | 355 | 400 | 450 | 500 | 630 |
|----------------|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| SDR 6 S        | ○  | ○  | ○  | ○  | ○  | ○  | ○  | ○  | ○   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   |
| SDR 7,4 S      | ○  | ○  | ○  | ○  | ○  | ○  | -  | -  | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   |
| SDR 7,4 MF     | ○  | ○  | ○  | ○  | ○  | ○  | ○  | ○  | ○   | ○   | ○   | ○   | ○   | -   | -   | -   | -   | -   | -   |
| SDR 7,4 MF UV  | ○  | ○  | ○  | ○  | ○  | ○  | ○  | ○  | ○   | ○   | ○   | ○   | ○   | -   | -   | -   | -   | -   | -   |
| SDR 9 MF RP    | -  | -  | ○  | ○  | ○  | ○  | ○  | ○  | ○   | ○   | ○   | ○   | ○   | ○   | -   | -   | -   | -   | -   |
| SDR 9 MF RP UV | -  | -  | ○  | ○  | ○  | ○  | ○  | ○  | ○   | ○   | ○   | ○   | ○   | ○   | -   | -   | -   | -   | -   |
| SDR 11 S       | ○  | ○  | ○  | ○  | ○  | ○  | ○  | ○  | ○   | ○   | ○   | ○   | ○   | ○   | -   | -   | -   | -   | -   |

### aquatherm blue

| Diameter in mm    | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 | 125 | 160 | 200 | 250 | 315 | 355 | 400 | 450 | 500 | 630 |
|-------------------|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| SDR 7,4 MF        | ○  | ○  | -  | -  | -  | -  | -  | -  | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   |
| SDR 7,4 MF UV     | ○  | ○  | -  | -  | -  | -  | -  | -  | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   |
| SDR 7,4 MF OT     | ○  | ○  | -  | -  | -  | -  | -  | -  | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   |
| SDR 9 MF RP       | -  | -  | ○  | -  | -  | -  | -  | -  | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   |
| SDR 9 MF RP UV    | -  | -  | ○  | -  | -  | -  | -  | -  | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   |
| SDR 9 MF RP OT    | -  | -  | ○  | -  | -  | -  | -  | -  | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   |
| SDR 11 S          | ○  | ○  | -  | -  | -  | -  | -  | -  | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   |
| SDR 11 MF RP      | -  | -  | -  | ○  | ○  | ○  | ○  | ○  | ○   | ○   | ○   | ○   | ○   | ○   | ○   | ○   | ○   | -   | -   |
| SDR 11 MF RP UV   | -  | -  | -  | ○  | ○  | ○  | ○  | ○  | ○   | ○   | ○   | ○   | ○   | ○   | ○   | ○   | ○   | -   | -   |
| SDR 11 MF RP OT   | -  | -  | -  | ○  | ○  | ○  | ○  | ○  | ○   | ○   | ○   | ○   | ○   | -   | -   | -   | -   | -   | -   |
| SDR 17,6 MF RP    | -  | -  | -  | -  | -  | -  | -  | -  | -   | ○   | ○   | ○   | ○   | ○   | ○   | ○   | ○   | ○   | ○   |
| SDR 17,6 MF RP UV | -  | -  | -  | -  | -  | -  | -  | -  | -   | ○   | ○   | ○   | ○   | ○   | ○   | ○   | ○   | ○   | ○   |

### aquatherm energy green & blue

| Diameter in mm | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 | 125 | 160 | 200 | 250 | 315 | 355 | 400 | 450 | 500 | 630 |
|----------------|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| SDR 9 MF RP    | -  | -  | ○  | ○  | ○  | ○  | ○  | ○  | ○   | ○   | ○   | ○   | ○   | ○   | -   | -   | -   | -   | -   |
| SDR 9 MF RP    | -  | -  | ○  | -  | -  | -  | -  | -  | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   |
| SDR 9 MFRP OT  | -  | -  | ○  | -  | -  | -  | -  | -  | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   |
| SDR 11 MF RP   | -  | -  | -  | ○  | ○  | ○  | ○  | ○  | ○   | ○   | ○   | ○   | ○   | ○   | ○   | ○   | ○   | -   | -   |
| SDR 11 MFRP OT | -  | -  | -  | ○  | ○  | ○  | ○  | ○  | ○   | ○   | ○   | ○   | ○   | -   | -   | -   | -   | -   | -   |
| SDR 17,6 MF RP | -  | -  | -  | -  | -  | -  | -  | -  | -   | ○   | ○   | ○   | ○   | ○   | ○   | ○   | ○   | -   | -   |

#### Abbreviations pipe structure:

|    |                               |    |                     |
|----|-------------------------------|----|---------------------|
| S  | single-layer                  | UV | UV-resistant        |
| M  | multi-layer                   | OT | oxygen-tight        |
| MF | multi-layer, fibre-reinforced | TI | thermally insulated |
| RP | raised pressure resistance    | HI | hardly inflammable  |

#### Abbreviations material:

|        |                                                                |
|--------|----------------------------------------------------------------|
| PP     | polypropylene                                                  |
| PP-R   | polypropylene random copolymer                                 |
| PP-RCT | polypropylene random copolymer with raised pressure resistance |
| PE-RT  | polyethylene with raised temperature resistance                |

**Lengths** units in mm unless otherwise specified

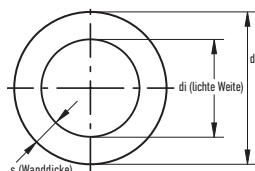
**Weight** weight data in kg/m

**Radius** all data in inches

**Volume** water content in litre/metre

**SDR** standard dimension ratio

**PU** packing unit

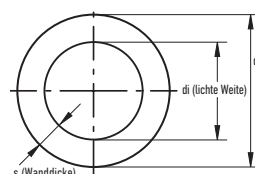
**aquatherm green SDR 6 / 7,4 S**

S = single-layer socket welding)

Material: fusiolen® PP-R  
 Pipe series: SDR 6 / S 2,5 & SDR 7,4 / S 3,2  
 Standards: DIN 8077, DIN 8078,  
 DIN EN ISO 15874, ASTM F 2389, CSA B 137.11  
 Colour: green  
 Packing unit: 4 m straight lengths

| Article no.    | d   | s    | di   | l/m   | kg/m  | DN | PU [m] |
|----------------|-----|------|------|-------|-------|----|--------|
| socket welding |     |      |      |       |       |    |        |
| SDR 6          |     |      |      |       |       |    |        |
| 1011020006     | 20  | 3,4  | 13,2 | 0,137 | 0,174 | 12 | 100    |
| 1011025008     | 25  | 4,2  | 16,6 | 0,216 | 0,268 | 15 | 100    |
| 1011032010     | 32  | 5,4  | 21,2 | 0,353 | 0,437 | 20 | 40     |
| 1011040012     | 40  | 6,7  | 26,6 | 0,555 | 0,675 | 25 | 40     |
| 1011050014     | 50  | 8,3  | 33,4 | 0,876 | 1,047 | 32 | 20     |
| 1011063016     | 63  | 10,5 | 42,0 | 1,385 | 1,662 | 40 | 20     |
| 1011075018     | 75  | 12,5 | 50,0 | 1,963 | 2,351 | 50 | 20     |
| 1011090020     | 90  | 15,0 | 60,0 | 2,826 | 3,379 | 60 | 12     |
| 1011110022     | 110 | 18,3 | 73,4 | 4,229 | 5,040 | 65 | 8      |
| 1011020306 *   | 20  | 3,4  | 13,2 | 0,137 | 0,174 | 12 | 100    |
| 1011025308 *   | 25  | 4,2  | 16,6 | 0,216 | 0,268 | 15 | 100    |
| SDR 7,4        |     |      |      |       |       |    |        |
| 1012020006     | 20  | 2,8  | 14,4 | 0,163 | 0,149 | 15 | 100    |
| 1012025008     | 25  | 3,5  | 18,0 | 0,254 | 0,232 | 20 | 100    |
| 1012032010     | 32  | 4,4  | 23,2 | 0,423 | 0,372 | 25 | 40     |
| 1012040012     | 40  | 5,5  | 29,0 | 0,660 | 0,578 | 32 | 40     |
| 1012050014     | 50  | 6,9  | 36,2 | 1,029 | 0,901 | 40 | 20     |
| 1012063016     | 63  | 8,6  | 45,8 | 1,647 | 1,416 | 50 | 20     |
| 1012020306 *   | 20  | 2,8  | 14,4 | 0,163 | 0,149 | 15 | 100    |

\*Packing unit: in coils

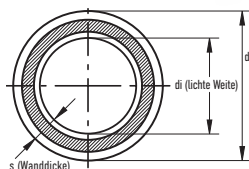
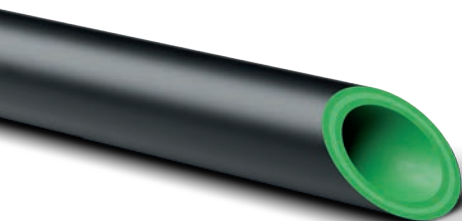
**aquatherm green SDR 7,4 MF**

MF = multi-layer, fibre-reinforced

Material: fusiolen® PP-R  
 Pipe series: SDR 7,4 / S 3,2  
 Standards: SKZ HR 3.28, ASTM F 2389, CSA B 137.11, ISO 21003, SKZ A314/616  
 Colour: green with 4 dark green stripes  
 Packing unit: 4 m straight lengths

| Article no.    | d   | s    | di    | l/m    | kg/m   | DN  | PU [m] |
|----------------|-----|------|-------|--------|--------|-----|--------|
| socket welding |     |      |       |        |        |     |        |
| 1012020506     | 20  | 2,8  | 14,4  | 0,163  | 0,157  | 15  | 100    |
| 1012025508     | 25  | 3,5  | 18,0  | 0,254  | 0,244  | 20  | 100    |
| 1012032510     | 32  | 4,4  | 23,0  | 0,423  | 0,391  | 25  | 40     |
| 1012040512     | 40  | 5,5  | 28,8  | 0,660  | 0,608  | 32  | 40     |
| 1012050514     | 50  | 6,9  | 36,2  | 1,029  | 0,948  | 40  | 20     |
| 1012063516     | 63  | 8,6  | 45,6  | 1,647  | 1,490  | 50  | 20     |
| 1012075518     | 75  | 10,3 | 54,4  | 2,323  | 2,120  | -   | 20     |
| 1012090520     | 90  | 12,3 | 65,4  | 3,358  | 3,037  | 65  | 12     |
| 1012110522     | 110 | 15,1 | 79,8  | 4,999  | 4,546  | 80  | 8      |
| 1012125524     | 125 | 17,1 | 90,8  | 6,472  | 5,850  | -   | 4      |
| butt welding   |     |      |       |        |        |     |        |
| 1012160526     | 160 | 21,9 | 116,2 | 10,599 | 9,559  | 125 | 5,8    |
| 1012200528     | 200 | 27,4 | 145,2 | 16,558 | 14,944 | 150 | 5,8    |
| 1012250530     | 250 | 34,2 | 181,6 | 25,901 | 23,312 | 175 | 5,8    |

Mechanically stabilised through a fibre mix integrated in the middle layer of the fusiolen® PP-R.



### aquatherm green SDR 7,4 MF UV

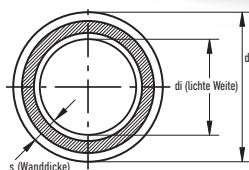
MF = multi-layer, fibre-reinforced

UV = UV-resistant

Material: fusiolen® PP-R  
Pipe series: SDR 7,4 / S 3,2  
Standards: SKZ HR 3.28, ASTM F 2389,  
CSA B 137.11, ISO 21003, SKZ A314/616  
Colour: inner layer: green / outer layer: black  
Packing unit: 4 m straight lengths

| Article no.    | d   | s    | di    | L/m    | kg/m   | DN  | PU [m] |
|----------------|-----|------|-------|--------|--------|-----|--------|
| socket welding |     |      |       |        |        |     |        |
| 1212020006     | 20  | 2,8  | 14,4  | 0,163  | 0,210  | 15  | 100    |
| 1212025008     | 25  | 3,5  | 18,0  | 0,254  | 0,314  | 20  | 100    |
| 1212032010     | 32  | 4,4  | 23,0  | 0,423  | 0,485  | 25  | 40     |
| 1212040012     | 40  | 5,5  | 28,8  | 0,660  | 0,728  | 32  | 40     |
| 1212050014     | 50  | 6,9  | 36,2  | 1,029  | 1,101  | 40  | 20     |
| 1212063016     | 63  | 8,6  | 45,6  | 1,647  | 1,686  | 50  | 20     |
| 1212075018     | 75  | 10,3 | 54,4  | 2,323  | 2,347  | -   | 20     |
| 1212090020     | 90  | 12,3 | 65,4  | 3,358  | 3,378  | 65  | 12     |
| 1212110022     | 110 | 15,1 | 79,8  | 4,999  | 5,054  | 80  | 8      |
| 1212125024     | 125 | 17,1 | 90,8  | 6,472  | 6,494  | -   | 4      |
| butt welding   |     |      |       |        |        |     |        |
| 1212160026     | 160 | 21,9 | 116,2 | 10,599 | 9,859  | 100 | 5,8    |
| 1212200028     | 200 | 27,4 | 145,2 | 16,550 | 15,273 | 150 | 5,8    |
| 1212250030     | 250 | 34,2 | 181,6 | 25,888 | 23,630 | 175 | 5,8    |

Resistant against UV-rays. Mechanically stabilised through a faser mix integrated in the middle layer of the fusiolen® PP-R.



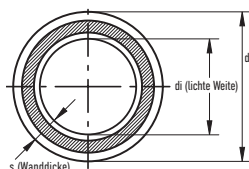
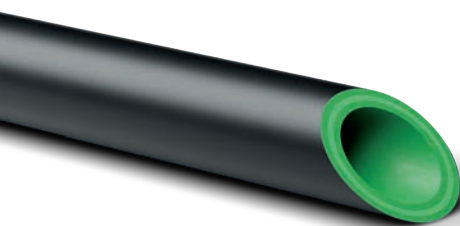
### aquatherm green SDR 9 MF RP

MF = multi-layer, fibre-reinforced

RP = raised pressure resistance

Material: fusiolen® PP-RCT  
Pipe series: SDR 9 / S 4  
Standards: SKZ HR 3.28, ASTM F 2389,  
ISO 21003, SKZ A632/A644  
Colour: green with 4 dark green stripes  
Packing unit: Ø 32 – 125 mm 4 m straight lengths  
160 – 315 mm 5,8 m straight lengths

| Article no.    | d   | s    | di    | L/m    | kg/m   | DN  | PU [m] |
|----------------|-----|------|-------|--------|--------|-----|--------|
| socket welding |     |      |       |        |        |     |        |
| 1013032010     | 32  | 3,6  | 24,8  | 0,483  | 0,328  | 25  | 40     |
| 1013040012     | 40  | 4,5  | 31,0  | 0,754  | 0,511  | 32  | 40     |
| 1013050014     | 50  | 5,6  | 38,8  | 1,182  | 0,791  | 40  | 20     |
| 1013063016     | 63  | 7,1  | 48,8  | 1,869  | 1,261  | 50  | 20     |
| 1013075018     | 75  | 8,4  | 58,2  | 2,659  | 1,771  | -   | 20     |
| 1013090020     | 90  | 10,1 | 69,8  | 3,825  | 2,553  | 65  | 12     |
| 1013110022     | 110 | 12,3 | 85,4  | 5,725  | 3,789  | 80  | 8      |
| 1013125024     | 125 | 14,0 | 97,0  | 7,386  | 4,886  | 100 | 4      |
| butt welding   |     |      |       |        |        |     |        |
| 1013160026     | 160 | 17,9 | 124,2 | 12,109 | 7,987  | 125 | 5,8    |
| 1013200028     | 200 | 22,4 | 155,2 | 18,908 | 12,488 | 150 | 5,8    |
| 1013250030     | 250 | 27,9 | 194,2 | 29,605 | 19,422 | 200 | 5,8    |
| 1013315032     | 315 | 35,2 | 244,6 | 46,966 | 30,876 | 250 | 5,8    |

**aquatherm green SDR 9 MF RP UV**

MF = multi-layer, fibre-reinforced

RP = raised pressure resistance

UV = UV-resistant

Material:

Pipe series:

Standards:

Colour:

Packing unit:

fusiolen® PP-RCT

SDR 9 / S 4

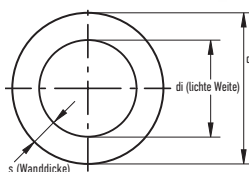
SKZ HR 3.28, ASTM F 2389,

ISO 21003, SKZ A632/A644

inner layer: green, outer layer: black

4 m straight lengths

| Article no.    | d   | s    | di    | l/m    | kg/m   | DN  | PU [m] |
|----------------|-----|------|-------|--------|--------|-----|--------|
| socket welding |     |      |       |        |        |     |        |
| 1213032010     | 32  | 3,6  | 24,8  | 0,483  | 0,422  | 25  | 40     |
| 1213040012     | 40  | 4,5  | 31,0  | 0,754  | 0,630  | 32  | 40     |
| 1213050014     | 50  | 5,6  | 38,8  | 1,182  | 0,944  | 40  | 20     |
| 1213063016     | 63  | 7,1  | 48,8  | 1,869  | 1,457  | 50  | 20     |
| 1213075018     | 75  | 8,4  | 58,2  | 2,659  | 1,998  | -   | 20     |
| 1213090020     | 90  | 10,1 | 69,8  | 3,825  | 2,894  | 65  | 12     |
| 1213110022     | 110 | 12,3 | 85,4  | 5,725  | 4,397  | 80  | 8      |
| 1213125024     | 125 | 14,0 | 97,0  | 7,386  | 5,530  | 100 | 4      |
| butt welding   |     |      |       |        |        |     |        |
| 1213160026     | 160 | 17,9 | 124,2 | 12,109 | 8,287  | 125 | 5,8    |
| 1213200028     | 200 | 22,4 | 155,2 | 18,908 | 12,818 | 150 | 5,8    |

**aquatherm green SDR 11 S**

S = single-layer

Material:

Pipe series:

Standards:

Colour:

Packing unit:

fusiolen® PP-R

SDR 11 / S 5

DIN 8077 / 78, DIN EN ISO 15874,

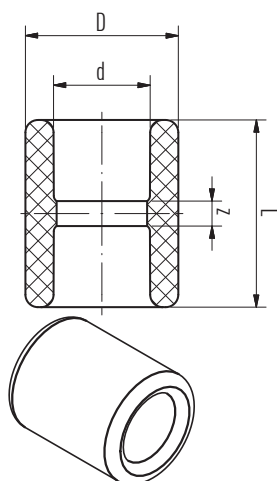
ASTM F 2389, CSA B 137.11

green with 4 blue stripes

4 m straight lengths

| Article no.    | d   | s    | di    | l/m    | kg/m   | DN  | PU [m] |
|----------------|-----|------|-------|--------|--------|-----|--------|
| socket welding |     |      |       |        |        |     |        |
| 1014020006     | 20  | 1,9  | 16,2  | 0,206  | 0,108  | 15  | 100    |
| 1014025008     | 25  | 2,3  | 20,4  | 0,327  | 0,165  | 20  | 100    |
| 1014032010     | 32  | 2,9  | 26,2  | 0,539  | 0,261  | 25  | 40     |
| 1014040012     | 40  | 3,7  | 32,6  | 0,834  | 0,414  | 32  | 40     |
| 1014050014     | 50  | 4,6  | 40,8  | 1,307  | 0,641  | 40  | 20     |
| 1014063016     | 63  | 5,8  | 51,4  | 2,074  | 1,012  | 50  | 20     |
| 1014075018     | 75  | 6,8  | 61,4  | 2,959  | 1,411  | 65  | 20     |
| 1014090020     | 90  | 8,2  | 73,6  | 4,252  | 2,043  | 80  | 12     |
| 1014110022     | 110 | 10,0 | 90,0  | 6,359  | 3,026  | -   | 8      |
| 1014125024     | 125 | 11,4 | 102,2 | 8,199  | 3,924  | 100 | 4      |
| 1014020306 *   | 20  | 1,9  | 16,2  | 0,206  | 0,108  | 15  | 100    |
| 1014025308 *   | 25  | 2,3  | 20,4  | 0,327  | 0,165  | 20  | 100    |
| butt welding   |     |      |       |        |        |     |        |
| 1014160026     | 160 | 14,6 | 130,8 | 13,430 | 6,415  | 125 | 5,8    |
| 1014200028     | 200 | 18,2 | 163,6 | 21,010 | 9,992  | 150 | 5,8    |
| 1014250030     | 250 | 22,7 | 204,6 | 32,861 | 15,548 | 200 | 5,8    |
| 1014315032     | 315 | 28,6 | 257,8 | 52,172 | 24,664 | 250 | 5,8    |

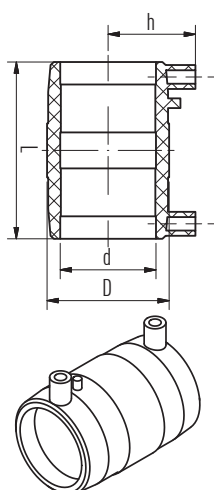
\*in coils

**Socket**

SDR 6 / 7,4 / 9 / 11 / 17,6

Material:  
Standards:  
Colour:fusiolen® PP-R  
DIN 16962, DIN EN ISO 15874  
green

| Article no.    | d   | D     | L    | z    | kg    | PU [m] |
|----------------|-----|-------|------|------|-------|--------|
| socket welding |     |       |      |      |       |        |
| 1040020002     | 20  | 27,0  | 32,0 | 3,0  | 0,008 | 10     |
| 1040025003     | 25  | 34,0  | 35,0 | 3,0  | 0,013 | 10     |
| 1040032004     | 32  | 43,0  | 40,5 | 4,5  | 0,026 | 5      |
| 1040040005     | 40  | 52,0  | 47,5 | 6,5  | 0,044 | 5      |
| 1040050006     | 50  | 68,0  | 53,0 | 6,0  | 0,084 | 5      |
| 1040063007     | 63  | 84,0  | 60,5 | 5,5  | 0,139 | 1      |
| 1040075008     | 75  | 100,0 | 66,5 | 6,5  | 0,226 | 1      |
| 1040090009     | 90  | 120,0 | 72,5 | 6,5  | 0,343 | 1      |
| 1040110010     | 110 | 147,0 | 82,0 | 8,0  | 0,581 | 1      |
| 1040125011     | 125 | 167,0 | 92,0 | 12,0 | 0,845 | 1      |

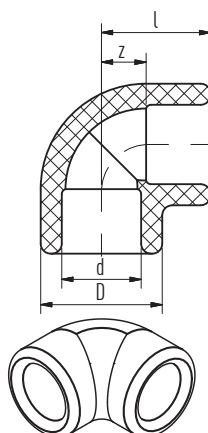
**Electrofusion socket**

SDR 6 / 7,4 / 9 / 11 / 17,6

Material:  
Standards:  
Colour:fusiolen® PP-R  
DIN 16962, DIN EN ISO 15874  
green

| Article no.    | d   | D     | L     | h     | kg    | PU [m] |
|----------------|-----|-------|-------|-------|-------|--------|
| socket welding |     |       |       |       |       |        |
| 1040020094     | 20  | 31,5  | 70,0  | 36,0  | 0,049 | 1      |
| 1040025100     | 25  | 36,5  | 78,0  | 38,5  | 0,057 | 1      |
| 1040032101     | 32  | 45,0  | 80,0  | 42,5  | 0,077 | 1      |
| 1040040102     | 40  | 54,0  | 92,0  | 47,0  | 0,103 | 1      |
| 1040050103     | 50  | 65,0  | 103,0 | 52,0  | 0,142 | 1      |
| 1040063104     | 63  | 81,5  | 118,0 | 58,0  | 0,239 | 1      |
| 1040075105     | 75  | 96,0  | 130,0 | 64,5  | 0,347 | 1      |
| 1040090106     | 90  | 113,5 | 145,0 | 72,0  | 0,501 | 1      |
| 1040110107     | 110 | 139,0 | 160,0 | 82,5  | 0,821 | 1      |
| 1040125108     | 125 | 156,0 | 172,0 | 90,0  | 1,097 | 1      |
| 1040160109 *   | 160 | 197,0 | 186,0 | 109,5 | 1,754 | 1      |
| 1040200110 *   | 200 | 243,0 | 210,0 | 134,0 | 3,625 | 1      |
| 1040250111 *   | 250 | 315,0 | 250,0 | 170,0 | 7,142 | 1      |

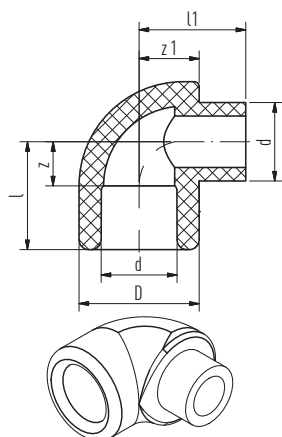
\*Electrofusion sockets cannot be used with 160 mm to 250 mm fittings (not for aquatherm blue pipe MF OT)

**Elbow 90° socket welding**

SDR 6 / 7,4 / 9 / 11 / 17,6

Material:  
Standards:  
Colour:fusiolen® PP-R  
DIN 16962, DIN EN ISO 15874  
green

| Article no.    | d   | l     | D     | z    | kg    | PU [m] |
|----------------|-----|-------|-------|------|-------|--------|
| socket welding |     |       |       |      |       |        |
| 1080020041     | 20  | 25,5  | 27,0  | 11,0 | 0,013 | 10     |
| 1080025042     | 25  | 29,5  | 34,0  | 13,5 | 0,023 | 10     |
| 1080032043     | 32  | 35,0  | 43,0  | 17,0 | 0,043 | 5      |
| 1080040044     | 40  | 41,5  | 52,0  | 21,0 | 0,077 | 5      |
| 1080050045     | 50  | 49,5  | 68,0  | 26,0 | 0,162 | 5      |
| 1080063046     | 63  | 60,0  | 84,0  | 32,5 | 0,293 | 1      |
| 1080075047     | 75  | 68,5  | 100,0 | 38,5 | 0,445 | 1      |
| 1080090048     | 90  | 79,0  | 120,0 | 46,0 | 0,729 | 1      |
| 1080110049     | 110 | 93,0  | 147,0 | 56,0 | 1,292 | 1      |
| 1080125050     | 125 | 116,5 | 167,0 | 76,5 | 2,004 | 1      |

**Elbow 90° inside / outside**

SDR 6 / 7,4 / 9 / 11

Material:  
Standards:  
Colour:fusiolen® PP-R  
DIN 16962, DIN EN ISO 15874  
green

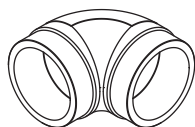
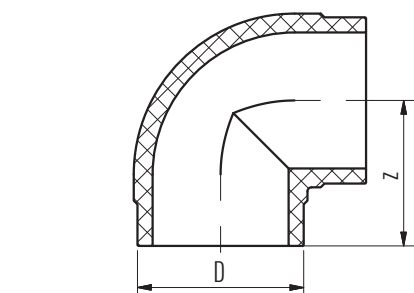
| Article no.    | d  | l    | l1   | D    | z    | z1   | kg    | PU [m] |
|----------------|----|------|------|------|------|------|-------|--------|
| socket welding |    |      |      |      |      |      |       |        |
| 1080020061     | 20 | 25,5 | 25,5 | 27,0 | 11,0 | 13,5 | 0,032 | 10     |
| 1080025062     | 25 | 29,5 | 29,5 | 34,0 | 13,5 | 17,0 | 0,023 | 10     |
| 1080032063     | 32 | 35,0 | 39,0 | 43,0 | 17,0 | 21,5 | 0,048 | 5      |
| 1080040064     | 40 | 41,5 | 45,5 | 52,0 | 21,0 | 26,0 | 0,080 | 5      |

**Elbow 90° butt welding**Material:  
Standards:  
Colour:fusiolen® PP-R / PP-RCT  
DIN 16962, DIN EN ISO 15874  
green

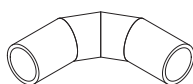
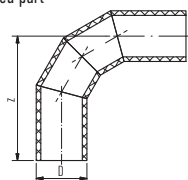
| Article no.    | D     | z     | kg    | PU [m] |
|----------------|-------|-------|-------|--------|
| socket welding |       |       |       |        |
| SDR 9          |       |       |       |        |
| 1083160070 *   | 160,0 | 145,0 | 2,371 | 1      |
| 1083200071 *   | 200,0 | 209,0 | 4,320 | 1      |
| 1083250072 *   | 250,0 | 240,0 | 8,500 | 1      |
| SDR 11         |       |       |       |        |
| 1084160052 *   | 160,0 | 145,0 | 1,956 | 1      |
| 1084200054 *   | 200,0 | 209,0 | 4,575 | 1      |
| 1084250056 *   | 250,0 | 240,0 | 7,180 | 1      |

\*Injection moulded part

Please note! Electrofusion sockets cannot be processed directly with injection moulded parts. When using electrofusion sockets, either segment welded special fittings must be used or pipe sections must be welded to the injection moulded fittings.



Injection moulded part



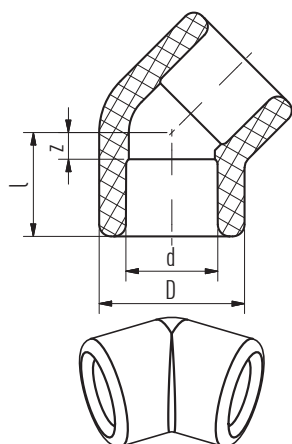
Segment welded article

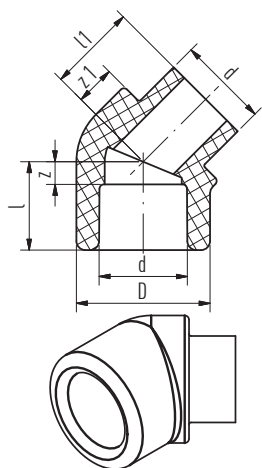
**Elbow 45° socket welding**

SDR 6 / 7,4 / 9 / 11 / 17,6

Material:  
Standards:  
Colour:fusiolen® PP-R  
DIN 16962, DIN EN ISO 15874  
green

| Article no.    | d   | l    | D     | z    | kg    | PU [m] |
|----------------|-----|------|-------|------|-------|--------|
| socket welding |     |      |       |      |       |        |
| 1080020002     | 20  | 19,5 | 29,5  | 5,0  | 0,014 | 10     |
| 1080025003     | 25  | 22   | 34,0  | 6,0  | 0,018 | 10     |
| 1080032004     | 32  | 25   | 43,0  | 7,5  | 0,035 | 5      |
| 1080040005     | 40  | 30   | 52,0  | 9,5  | 0,053 | 5      |
| 1080050006     | 50  | 35   | 68,0  | 11,5 | 0,112 | 5      |
| 1080063007     | 63  | 41,5 | 84,0  | 14,0 | 0,227 | 1      |
| 1080075008     | 75  | 46,5 | 100,0 | 16,5 | 0,350 | 1      |
| 1080090009     | 90  | 52,5 | 120,0 | 19,5 | 0,568 | 1      |
| 1080110010     | 110 | 60,5 | 147,0 | 23,5 | 1,025 | 1      |
| 1080125011     | 125 | 67   | 167,0 | 27,0 | 1,329 | 1      |





### Elbow 45° inside / outside

SDR 6 / 7,4 / 9 / 11

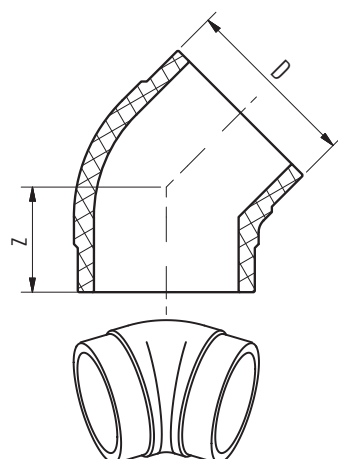
Material:

Standards:

Colour:

fusiolen® PP-R  
DIN 16962, DIN EN ISO 15874  
green

| Article no.    | d  | l    | l1   | D    | z   | z1   | kg    | PU [m] |
|----------------|----|------|------|------|-----|------|-------|--------|
| socket welding |    |      |      |      |     |      |       |        |
| 1080020020     | 20 | 19,5 | 19,5 | 29,5 | 5,0 | 9,0  | 0,013 | 10     |
| 1080020021     | 25 | 22,0 | 22,0 | 34,0 | 6,0 | 8,5  | 0,017 | 10     |
| 1080032022     | 32 | 25,5 | 29,0 | 43,0 | 7,5 | 11,5 | 0,036 | 5      |
| 1080040023     | 40 | 30,0 | 33,0 | 52,0 | 9,5 | 13,5 | 0,057 | 5      |



### Elbow 45° butt welding

segment welded\* (or injection moulded part)

Material:

Standards:

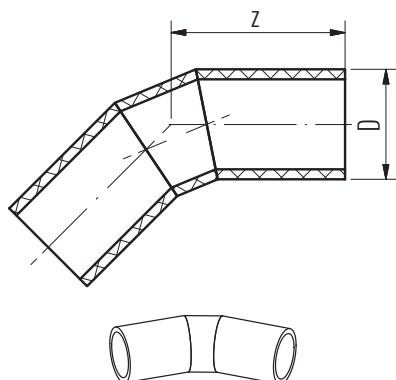
Colour:

fusiolen® PP-RCT  
DIN 16962, DIN EN ISO 15874  
green

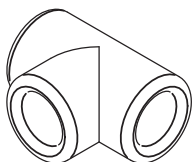
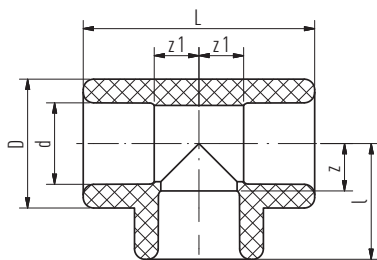
| Article no.    | D     | z     | kg     | PU [m] |
|----------------|-------|-------|--------|--------|
| socket welding |       |       |        |        |
| SDR 9          |       |       |        |        |
| 1083160030     | 160,0 | 95,0  | 4,230  | 1      |
| 1083200031     | 200,0 | 146,0 | 7,500  | 1      |
| 1083250032     | 250,0 | 182,0 | 17,000 | 1      |
| 1083315033 *   | 315,0 | 498,0 | 30,567 | 1      |
| SDR 11         |       |       |        |        |
| 1084160013     | 160,0 | 95,0  | 1,371  | 1      |
| 1084200015     | 200,0 | 146,0 | 3,310  | 1      |
| 1084250017     | 250,0 | 182,0 | 6,218  | 1      |
| 1084315018 *   | 315,0 | 498,0 | 27,300 | 1      |

\*segment welded

Please note! Electrofusion sockets cannot be used with injection moulded parts. When using electrofusion sockets, welded special moulded parts must be used.



Segment welded article

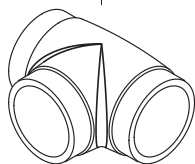
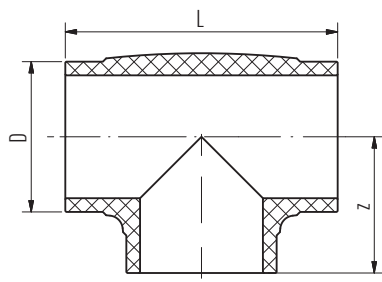


### T-piece socket welding

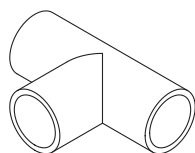
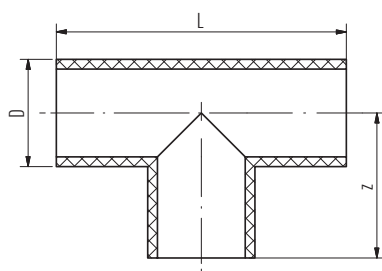
SDR 6 / 7,4 / 9 / 11 / 17,6 – Injection moulded fittings

Material:  
Standards:  
Colour:fusiolen® PP-R  
DIN 16962, DIN EN ISO 15874  
green

| Article no.    | d   | l     | D     | L     | z    | z1   | kg    | PU [m] |
|----------------|-----|-------|-------|-------|------|------|-------|--------|
| socket welding |     |       |       |       |      |      |       |        |
| 1060020016     | 20  | 25,5  | 27,0  | 51,0  | 11,0 | 11,0 | 0,017 | 10     |
| 1060025017     | 25  | 30,5  | 34,0  | 62,0  | 14,5 | 15,0 | 0,033 | 10     |
| 1060032018     | 32  | 33,5  | 43,0  | 70,0  | 15,5 | 17,0 | 0,054 | 5      |
| 1060040019     | 40  | 40,5  | 52,0  | 81,0  | 20,0 | 20,0 | 0,099 | 5      |
| 1060050020     | 50  | 49,5  | 68,0  | 99,0  | 26,0 | 26,0 | 0,177 | 5      |
| 1060063021     | 63  | 60,0  | 84,0  | 120,0 | 32,5 | 32,5 | 0,368 | 1      |
| 1060075022     | 75  | 68,5  | 100,0 | 137,0 | 38,5 | 38,5 | 0,541 | 1      |
| 1060090023     | 90  | 79,0  | 120,0 | 158,0 | 46,0 | 46,0 | 0,920 | 1      |
| 1060110024     | 110 | 93,0  | 147,0 | 186,0 | 56,0 | 56,0 | 1,598 | 1      |
| 1060125025     | 125 | 116,5 | 167,0 | 233,0 | 76,5 | 76,5 | 2,673 | 1      |



Injection moulded part



Segment welded article

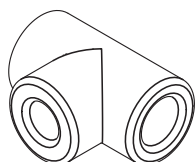
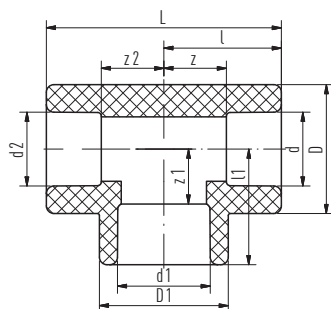
### T-piece butt welding

Material:  
Standards:  
Colour:fusiolen® PP-RCT  
DIN 16962, DIN EN ISO 15874  
green

| Article no.  | D     | L     | z     | kg     | PU [m] |
|--------------|-------|-------|-------|--------|--------|
| butt welding |       |       |       |        |        |
| SDR 9        |       |       |       |        |        |
| 1063160019   | 160,0 | 290,0 | 145,0 | 3,290  | 1      |
| 1063200020   | 200,0 | 410,0 | 205,0 | 7,000  | 1      |
| 1063250021   | 250,0 | 486,0 | 243,0 | 12,500 | 1      |
| 1063315022 * | 315,0 | 920,0 | 460,0 | 42,609 | 1      |
| SDR 11       |       |       |       |        |        |
| 1064160013   | 160,0 | 290,0 | 145,0 | 2,943  | 1      |
| 1064200015   | 200,0 | 410,0 | 205,0 | 6,099  | 1      |
| 1064250017   | 250,0 | 486,0 | 243,0 | 10,710 | 1      |
| 1064315018 * | 315,0 | 920,0 | 460,0 | 20,450 | 1      |

\*segment welded

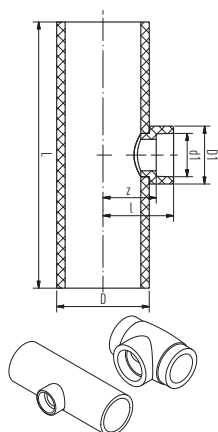
Please note! Electrofusion sockets cannot be used with injection moulded parts. When using electrofusion sockets, welded special moulded parts must be used.

**Red. T-piece socket welding**

SDR 6 / 7,4 / 9 / 11 / 17,6 – Injection moulded fittings

Material:  
Standards:  
Colour:fusiolen® PP-R  
DIN 16962, DIN EN ISO 15874  
green

| Article no.    | d   | d1    | d2    | l     | l1    | D     | D1    | L     | z    | z1   | z2   | kg PU [m] |
|----------------|-----|-------|-------|-------|-------|-------|-------|-------|------|------|------|-----------|
| socket welding |     |       |       |       |       |       |       |       |      |      |      |           |
| 1060020030     | 20  | 16,0  | 16,0  | 25,5  | 25,3  | 29,5  | 29,5  | 51,0  | 11,0 | 12,3 | 12,5 | 0,025     |
| 1060020031     | 20  | 16,0  | 20,0  | 25,5  | 25,3  | 29,5  | 29,5  | 51,0  | 11,0 | 12,3 | 11,0 | 0,024     |
| 1060020032     | 20  | 20,0  | 16,0  | 25,5  | 25,3  | 29,5  | 29,5  | 51,0  | 11,0 | 10,8 | 12,5 | 0,023     |
| 1060020033     | 20  | 25,0  | 20,0  | 31,0  | 30,5  | 34,0  | 34,0  | 62,0  | 16,5 | 14,5 | 16,5 | 0,040     |
| 1060025034     | 25  | 16,0  | 16,0  | 31,0  | 30,5  | 34,0  | 34,0  | 62,0  | 15,0 | 17,5 | 18,0 | 0,043     |
| 1060025035     | 25  | 16,0  | 20,0  | 31,0  | 30,5  | 34,0  | 34,0  | 62,0  | 15,0 | 17,5 | 16,5 | 0,041     |
| 1060025036     | 25  | 16,0  | 25,0  | 31,0  | 30,5  | 34,0  | 34,0  | 62,0  | 15,0 | 17,5 | 15,0 | 0,038     |
| 1060025037     | 25  | 20,0  | 20,0  | 31,0  | 30,5  | 34,0  | 34,0  | 62,0  | 15,0 | 16,0 | 16,5 | 0,039     |
| 1060025038     | 25  | 20,0  | 25,0  | 31,0  | 30,5  | 34,0  | 34,0  | 62,0  | 15,0 | 16,0 | 15,0 | 0,036     |
| 1060032039     | 32  | 16,0  | 32,0  | 35,0  | 31,0  | 43,0  | 29,5  | 70,0  | 17,0 | 18,0 | 17,0 | 0,053     |
| 1060032040     | 32  | 20,0  | 20,0  | 36,8  | 37,0  | 43,0  | 43,0  | 73,5  | 18,8 | 22,5 | 22,3 | 0,076     |
| 1060032041     | 32  | 20,0  | 32,0  | 35,0  | 31,0  | 43,0  | 29,5  | 70,0  | 17,0 | 16,5 | 17,0 | 0,053     |
| 1060032042     | 32  | 25,0  | 25,0  | 35,0  | 34,5  | 43,0  | 43,0  | 70,0  | 17,0 | 18,5 | 19,0 | 0,069     |
| 1060032043     | 32  | 25,0  | 32,0  | 35,0  | 32,0  | 43,0  | 34,0  | 70,0  | 17,0 | 16,0 | 17,0 | 0,050     |
| 1060040044     | 40  | 20,0  | 40,0  | 41,5  | 36,0  | 52,0  | 34,0  | 83,0  | 21,0 | 21,5 | 21,0 | 0,091     |
| 1060040045     | 40  | 25,0  | 40,0  | 41,5  | 36,0  | 52,0  | 34,0  | 83,0  | 21,0 | 20,0 | 21,0 | 0,089     |
| 1060040046     | 40  | 32,0  | 40,0  | 42,0  | 40,5  | 52,0  | 52,0  | 84,0  | 21,5 | 22,5 | 21,5 | 0,092     |
| 1060050047     | 50  | 20,0  | 50,0  | 49,5  | 40,5  | 68,0  | 29,5  | 99,0  | 26,0 | 26,0 | 26,0 | 0,162     |
| 1060050048     | 50  | 25,0  | 50,0  | 49,5  | 44,5  | 68,0  | 34,0  | 99,0  | 26,0 | 28,5 | 26,0 | 0,158     |
| 1060050049     | 50  | 32,0  | 50,0  | 49,5  | 44,5  | 68,0  | 43,0  | 99,0  | 26,0 | 26,5 | 26,0 | 0,160     |
| 1060050050     | 50  | 40,0  | 50,0  | 49,5  | 49,5  | 68,0  | 68,0  | 99,0  | 26,0 | 29,0 | 26,0 | 0,161     |
| 1060063051     | 63  | 20,0  | 63,0  | 60,0  | 48,5  | 84,0  | 34,0  | 120,0 | 32,5 | 34,0 | 32,5 | 0,335     |
| 1060063052     | 63  | 25,0  | 63,0  | 60,0  | 48,5  | 84,0  | 34,0  | 120,0 | 32,5 | 32,5 | 32,5 | 0,331     |
| 1060063053     | 63  | 32,0  | 63,0  | 60,0  | 53,0  | 84,0  | 52,0  | 120,0 | 32,5 | 35,5 | 32,5 | 0,340     |
| 1060063054     | 63  | 40,0  | 63,0  | 60,0  | 53,0  | 84,0  | 52,0  | 120,0 | 32,5 | 33,0 | 32,5 | 0,332     |
| 1060063055     | 63  | 50,0  | 63,0  | 60,0  | 56,0  | 84,0  | 68,0  | 120,0 | 32,5 | 36,5 | 32,5 | 0,398     |
| 1060075056     | 75  | 20,0  | 75,0  | 68,5  | 54,5  | 100,0 | 34,0  | 137,0 | 38,5 | 40,0 | 38,5 | 0,501     |
| 1060075057     | 75  | 25,0  | 75,0  | 68,5  | 54,5  | 100,0 | 34,0  | 137,0 | 38,5 | 38,5 | 38,5 | 0,497     |
| 1060075058     | 75  | 32,0  | 75,0  | 68,5  | 59,0  | 100,0 | 52,0  | 137,0 | 38,5 | 41,0 | 38,5 | 0,505     |
| 1060075059     | 75  | 40,0  | 75,0  | 68,5  | 59,0  | 100,0 | 52,0  | 137,0 | 38,5 | 38,5 | 38,5 | 0,497     |
| 1060075060     | 75  | 50,0  | 75,0  | 68,5  | 66,0  | 100,0 | 84,0  | 137,0 | 38,5 | 42,5 | 38,5 | 0,550     |
| 1060075061     | 75  | 63,0  | 75,0  | 68,5  | 66,0  | 100,0 | 84,0  | 137,0 | 38,5 | 38,5 | 38,5 | 0,515     |
| 1060090062     | 90  | 32,0  | 90,0  | 79,0  | 64,0  | 120,0 | 43,0  | 158,0 | 46,0 | 46,0 | 46,0 | 0,880     |
| 1060090063     | 90  | 40,0  | 90,0  | 79,0  | 66,5  | 120,0 | 52,0  | 158,0 | 46,0 | 46,0 | 46,0 | 0,862     |
| 1060090064     | 90  | 50,0  | 90,0  | 79,0  | 69,5  | 120,0 | 68,0  | 158,0 | 46,0 | 46,0 | 46,0 | 0,905     |
| 1060090065     | 90  | 63,0  | 90,0  | 79,0  | 73,5  | 120,0 | 84,0  | 158,0 | 46,0 | 46,0 | 46,0 | 0,876     |
| 1060090066     | 90  | 75,0  | 90,0  | 79,0  | 76,0  | 120,0 | 100   | 158,0 | 46,0 | 46,0 | 46,0 | 0,991     |
| 1060110067     | 110 | 63,0  | 110,0 | 93,0  | 83,5  | 147,0 | 84,0  | 186,0 | 56,0 | 56,0 | 56,0 | 1,534     |
| 1060110068     | 110 | 75,0  | 110,0 | 93,0  | 86,0  | 147,0 | 100,0 | 186,0 | 56,0 | 56,0 | 56,0 | 1,517     |
| 1060110069     | 110 | 90,0  | 110,0 | 93,0  | 89,0  | 147,0 | 120,0 | 186,0 | 56,0 | 56,0 | 56,0 | 1,548     |
| 1060125070     | 125 | 75,0  | 125,0 | 116,5 | 106,5 | 167,0 | 100,0 | 233,0 | 76,5 | 76,5 | 76,5 | 2,427     |
| 1060125071     | 125 | 90,0  | 125,0 | 116,5 | 109,5 | 167,0 | 120,0 | 233,0 | 76,5 | 76,5 | 76,5 | 2,509     |
| 1060125072     | 125 | 110,0 | 125,0 | 116,5 | 113,5 | 167,0 | 147,0 | 233,0 | 76,5 | 76,5 | 76,5 | 2,563     |



Please note! Electrofusion sockets cannot be used with injection moulded parts. When using electrofusion sockets, welded special moulded parts must be used.

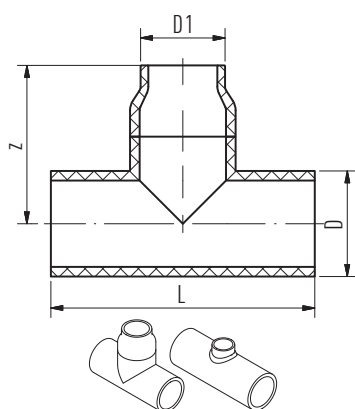
\*MF = multi-layer, fibre-reinforced

## Red. T-piece Sockets- and butt welding

Material:  
Standards:  
Colour:

fusiolen® PP-R / PP-RCT  
DIN 16962, DIN EN ISO 15874  
green

| Article no.                | d1    | l     | D     | D1    | L     | z     | kg     | PU [m] |
|----------------------------|-------|-------|-------|-------|-------|-------|--------|--------|
| Connection: socket welding |       |       |       |       |       |       |        |        |
| SDR 9                      |       |       |       |       |       |       |        |        |
| 1063160120                 | 75,0  | 122,0 | 160,0 | 100,0 | 460,0 | 92,0  | 3,903  | 1      |
| 1063160121                 | 90,0  | 125,0 | 160,0 | 120,0 | 460,0 | 92,0  | 4,039  | 1      |
| 1063200122                 | 75,0  | 142,0 | 200,0 | 100,0 | 500,0 | 112,0 | 6,476  | 1      |
| 1063200123                 | 90,0  | 145,0 | 200,0 | 120,0 | 500,0 | 112,0 | 6,581  | 1      |
| 1063200124                 | 110,0 | 149,0 | 200,0 | 147,0 | 500,0 | 112,0 | 6,863  | 1      |
| 1063200125                 | 125,0 | 155,0 | 200,0 | 167,0 | 500,0 | 115,0 | 7,114  | 1      |
| 1063250127                 | 75,0  | 167,0 | 250,0 | 100,0 | 750,0 | 137,0 | 14,802 | 1      |
| 1063250128                 | 90,0  | 170,0 | 250,0 | 120,0 | 750,0 | 137,0 | 14,932 | 1      |
| 1063250129                 | 110,0 | 174,0 | 250,0 | 147,0 | 750,0 | 137,0 | 15,178 | 1      |
| 1063250130                 | 125,0 | 180,0 | 250,0 | 167,0 | 750,0 | 140,0 | 15,398 | 1      |
| 1063315133 *               | 125,0 | 212,5 | 315,0 | 167,0 | 920,0 | 172,5 | 29,196 | 1      |
| SDR 11                     |       |       |       |       |       |       |        |        |
| 1064160074                 | 75,0  | 122,0 | 160,0 | 100,0 | 460,0 | 92,0  | 3,140  | 1      |
| 1064160076                 | 90,0  | 125,0 | 160,0 | 120,0 | 460,0 | 92,0  | 3,176  | 1      |
| 1064160078                 | 125,0 | 120,0 | 160,0 | 167,0 | 290,0 | 80,0  | 2,842  | 1      |
| 1064200080                 | 75,0  | 142,0 | 200,0 | 100,0 | 500,0 | 112,0 | 5,284  | 1      |
| 1064200082                 | 90,0  | 145,0 | 200,0 | 120,0 | 500,0 | 112,0 | 5,168  | 1      |
| 1064200084                 | 110,0 | 149,0 | 200,0 | 147,0 | 500,0 | 112,0 | 5,648  | 1      |
| 1064200086                 | 125,0 | 155,0 | 200,0 | 167,0 | 500,0 | 115,0 | 5,786  | 1      |
| 1064250090                 | 75,0  | 167,0 | 250,0 | 100,0 | 750,0 | 137,0 | 12,000 | 1      |
| 1064250092                 | 90,0  | 170,0 | 250,0 | 120,0 | 750,0 | 137,0 | 12,000 | 1      |
| 1064250094                 | 110,0 | 174,0 | 250,0 | 147,0 | 750,0 | 137,0 | 13,000 | 1      |
| 1064250096                 | 125,0 | 180,0 | 250,0 | 167,0 | 750,0 | 140,0 | 12,000 | 1      |
| 1064315101 *               | 125,0 | 213,0 | 315,0 | 167,0 | 920,0 | 173,0 | 25,150 | 1      |



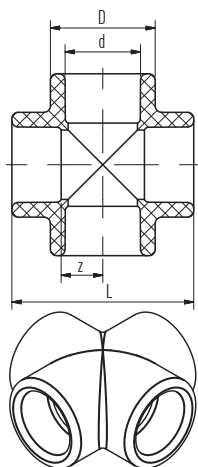
## Red. T-piece butt welding

Material:  
Standards:  
Colour:

fusiolen® PP-RCT  
DIN 16962, DIN EN ISO 15874  
green

| Article no.              | D     | D1  | L     | z     | kg     | PU [m] |
|--------------------------|-------|-----|-------|-------|--------|--------|
| Connection: butt welding |       |     |       |       |        |        |
| SDR 9                    |       |     |       |       |        |        |
| 1063200126               | 200,0 | 160 | 500,0 | 300,0 | 9,332  | 1      |
| 1063250131               | 250,0 | 160 | 750,0 | 375,0 | 21,547 | 1      |
| 1063250132               | 250,0 | 200 | 750,0 | 376,0 | 21,853 | 1      |
| 1063315134 *             | 315,0 | 160 | 920,0 | 238,0 | 29,237 | 1      |
| 1063315135               | 315,0 | 200 | 920,0 | 460,0 | 42,166 | 1      |
| 1063315136               | 315,0 | 250 | 920,0 | 460,0 | 42,557 | 1      |
| SDR 11                   |       |     |       |       |        |        |
| 1064200088               | 200,0 | 160 | 500,0 | 300,0 | 7,445  | 1      |
| 1064250098               | 250,0 | 160 | 750,0 | 375,0 | 19,500 | 1      |
| 1064250100               | 250,0 | 200 | 750,0 | 375,0 | 18,500 | 1      |
| 1064315102 *             | 315,0 | 160 | 920,0 | 237,5 | 24,850 | 1      |
| 1064315103               | 315,0 | 200 | 920,0 | 460,0 | 29,400 | 1      |
| 1064315104               | 315,0 | 250 | 920,0 | 460,0 | 30,500 | 1      |

\*Pipe with weld-in saddle

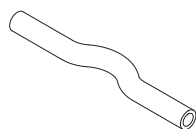
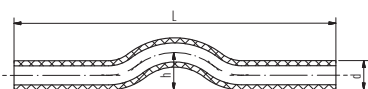


### Crosspiece

SDR 6 / 7,4 / 9 / 11

Material:  
Standards:  
Colour:fusiolen® PP-R  
DIN 16962, DIN EN ISO 15874  
green

| Article no.    | d  | D    | L    | z    | kg    | PU [m] |
|----------------|----|------|------|------|-------|--------|
| socket welding |    |      |      |      |       |        |
| 1040020090     | 20 | 29,5 | 51,5 | 11,3 | 0,025 | 10     |
| 1040025091     | 25 | 34,0 | 59,0 | 13,5 | 0,035 | 10     |
| 1040032092     | 32 | 43,0 | 70,0 | 17,0 | 0,062 | 5      |
| 1040040093     | 40 | 52,0 | 83,0 | 21,0 | 0,099 | 5      |

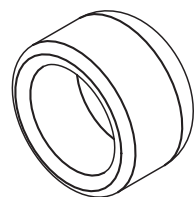
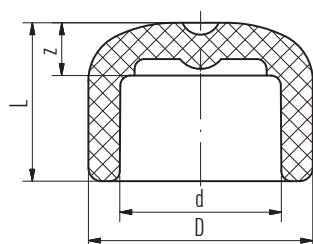


### Cross-over fitting

SDR 6 / 7,4 / 9 / 11

Material:  
Standards:  
Colour:fusiolen® PP-R  
DIN 16962, DIN EN ISO 15874  
green

| Article no.    | d  | L     | h    | kg    | PU [m] |
|----------------|----|-------|------|-------|--------|
| socket welding |    |       |      |       |        |
| 1090020002     | 20 | 352,0 | 32,0 | 0,060 | 10     |
| 1090025003     | 25 | 352,0 | 37,5 | 0,091 | 10     |
| 1090032004     | 32 | 352,0 | 48,0 | 0,154 | 5      |

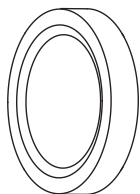
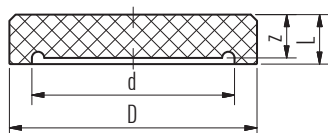


### End caps

SDR 6 / 7,4 / 9 / 11

Material:  
Standards:  
Colour:fusiolen® PP-R  
DIN 16962, DIN EN ISO 15874  
green

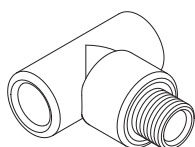
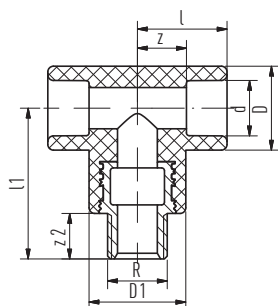
| Article no.    | d   | D     | L    | z    | kg    | PU [m] |
|----------------|-----|-------|------|------|-------|--------|
| socket welding |     |       |      |      |       |        |
| 1020020002     | 20  | 29,5  | 24,0 | 9,5  | 0,009 | 10     |
| 1020025003     | 25  | 34,0  | 24,0 | 8,0  | 0,011 | 10     |
| 1020032004     | 32  | 43,0  | 29,0 | 11,0 | 0,023 | 5      |
| 1020040005     | 40  | 52,0  | 38,0 | 17,5 | 0,042 | 5      |
| 1020050006     | 50  | 68,0  | 44,5 | 21,0 | 0,082 | 5      |
| 1020063007     | 63  | 84,0  | 52,0 | 24,5 | 0,146 | 1      |
| 1020075008     | 75  | 100,0 | 58,5 | 28,5 | 0,243 | 1      |
| 1020090009     | 90  | 120,0 | 67,5 | 34,5 | 0,365 | 1      |
| 1020110010     | 110 | 147,0 | 65,0 | 28,0 | 0,635 | 1      |
| 1020125011     | 125 | 167,0 | 82,0 | 42,0 | 0,872 | 1      |



## End caps butt welding

Material: fusiolen® PP-RCT  
Standards: DIN 16962, DIN EN ISO 15874  
Colour: green

| Article no.  | D     | d     | L    | z    | kg     | PU [m] |
|--------------|-------|-------|------|------|--------|--------|
| butt welding |       |       |      |      |        |        |
| SDR 9        |       |       |      |      |        |        |
| 1023160022   | 160,0 | 124,2 | 70,0 | 17,9 | 0,847  | 1      |
| 1023200023   | 200,0 | 155,2 | 80,0 | 22,4 | 1,373  | 1      |
| 1023250024   | 250,0 | 194,2 | 90,0 | 27,9 | 2,856  | 1      |
| 1023315025   | 315,0 | 244,6 | 70,0 | 52,5 | 5,080  | 1      |
| 1023355026   | 355,0 | 275,6 | 80,0 | 66,5 | 7,050  | 1      |
| SDR 11       |       |       |      |      |        |        |
| 1024160013   | 160,0 | 130,8 | 70,0 | 14,6 | 0,631  | 1      |
| 1024200015   | 200,0 | 163,6 | 80,0 | 18,2 | 1,070  | 1      |
| 1024250017   | 250,0 | 204,6 | 90,0 | 22,7 | 1,989  | 1      |
| 1024315018   | 315,0 | 257,8 | 70,0 | 52,5 | 4,200  | 1      |
| 1024355019   | 355,0 | 290,6 | 80,0 | 67,5 | 6,410  | 1      |
| 1024400020   | 400,0 | 327,4 | 70,0 | 60,0 | 7,190  | 1      |
| 1024450021   | 450,0 | 368,2 | 80,0 | 70,0 | 10,500 | 1      |



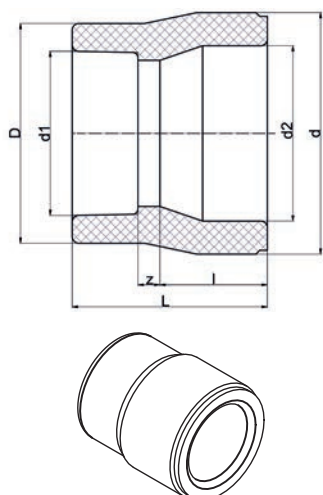
## Transition-T-Piece with male thread

SDR 6 / 7,4 / 11

Material: fusiolen® PP-R / brass  
Standards: DIN 16962, DIN EN ISO 15874  
Colour: green

| Article no.    | d  | l    | l1   | D    | D1   | z2   | R    | z    | kg    | PU [m] | RG |
|----------------|----|------|------|------|------|------|------|------|-------|--------|----|
| socket welding |    |      |      |      |      |      |      |      |       |        |    |
| 1060020154     | 20 | 31,5 | 53,0 | 29,5 | 37,0 | 16,0 | 1/2" | 17,0 | 0,102 | 10     | 1  |

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of >0.1% (w/w).

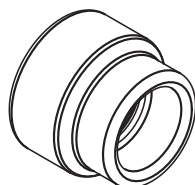
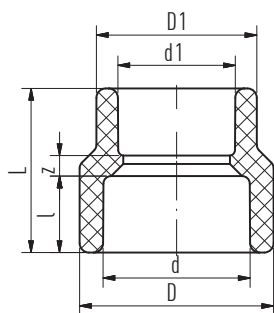


### Reducing piece socket welding

SDR 6 / 7,4 / 9 / 11 / 17,6

Material:  
Standards:  
Colour:fusiolen® PP-R  
DIN 16962, DIN EN ISO 15874  
green

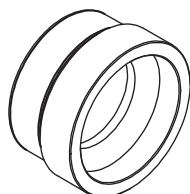
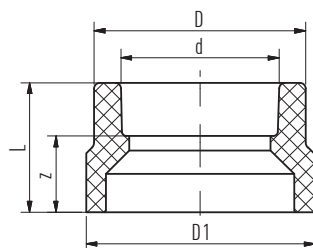
| Article no.    | d   | d1    | d2   | l    | D     | L     | z    | kg    | PU [m] |
|----------------|-----|-------|------|------|-------|-------|------|-------|--------|
| socket welding |     |       |      |      |       |       |      |       |        |
| 1040020020     | 20  | 16,0  | 13,5 | 14,5 | 24,5  | 39,0  | 11,5 | 0,009 | 10     |
| 1040025021     | 25  | 16,0  | 16,5 | 16,0 | 26,0  | 38,0  | 9,0  | 0,012 | 10     |
| 1040025022     | 25  | 20,0  | 16,5 | 16,0 | 29,5  | 38,5  | 8,0  | 0,012 | 10     |
| 1040032023     | 32  | 20,0  | 21,5 | 18,0 | 29,5  | 37,5  | 5,0  | 0,015 | 5      |
| 1040032024     | 32  | 25,0  | 21,0 | 18,0 | 34,0  | 38,0  | 4,0  | 0,016 | 5      |
| 1040040025     | 40  | 20,0  | 26,5 | 20,5 | 29,5  | 45,0  | 10,0 | 0,025 | 5      |
| 1040040026     | 40  | 25,0  | 26,5 | 20,5 | 34,0  | 50,0  | 13,5 | 0,028 | 5      |
| 1040040027     | 40  | 32,0  | 26,5 | 20,5 | 43,0  | 50,0  | 11,5 | 0,032 | 5      |
| 1040050028     | 50  | 20,0  | 33,5 | 23,5 | 29,5  | 55,0  | 17,0 | 0,045 | 5      |
| 1040050029     | 50  | 25,0  | 33,5 | 23,5 | 34,0  | 55,0  | 15,5 | 0,044 | 5      |
| 1040050030     | 50  | 32,0  | 33,5 | 23,5 | 43,0  | 54,0  | 12,5 | 0,048 | 5      |
| 1040050031     | 50  | 40,0  | 33,5 | 23,5 | 52,0  | 53,0  | 9,0  | 0,053 | 5      |
| 1040063032     | 63  | 20,0  | 42,0 | 27,5 | 29,5  | 65,0  | 23,0 | 0,073 | 1      |
| 1040063033     | 63  | 25,0  | 42,0 | 27,5 | 34,0  | 65,0  | 21,5 | 0,071 | 1      |
| 1040063034     | 63  | 32,0  | 42,0 | 27,5 | 43,0  | 62,0  | 16,5 | 0,080 | 1      |
| 1040063035     | 63  | 40,0  | 42,0 | 27,5 | 52,0  | 64,5  | 16,5 | 0,089 | 1      |
| 1040063036     | 63  | 50,0  | 42,0 | 27,5 | 68,0  | 63,5  | 12,5 | 0,107 | 1      |
| 1040075037     | 75  | 40,0  | 50,0 | 30,0 | 52,0  | 69,5  | 19,0 | 0,131 | 1      |
| 1040075038     | 75  | 50,0  | 50,0 | 30,0 | 68,0  | 63,0  | 9,5  | 0,141 | 1      |
| 1040075039     | 75  | 63,0  | 50,0 | 30,0 | 84,0  | 71,0  | 13,5 | 0,170 | 1      |
| 1040075040     | 75  | 20,0  | 50,0 | 30,0 | 34,5  | 65,5  | 21,0 | 0,113 | 1      |
| 1040075041     | 75  | 25,0  | 50,0 | 30,0 | 34,5  | 65,5  | 19,5 | 0,111 | 1      |
| 1040075042     | 75  | 32,0  | 50,0 | 30,0 | 52,0  | 69,5  | 21,5 | 0,140 | 1      |
| 1040090043     | 90  | 50,0  | 60,0 | 33,0 | 68,0  | 75,0  | 18,5 | 0,193 | 1      |
| 1040090044     | 90  | 63,0  | 60,0 | 33,0 | 84,0  | 78,0  | 17,5 | 0,224 | 1      |
| 1040090045     | 90  | 75,0  | 60,0 | 33,0 | 100,0 | 81,5  | 18,5 | 0,273 | 1      |
| 1040110046     | 110 | 63,0  | 73,5 | 37,0 | 84,0  | 86,0  | 21,5 | 0,356 | 1      |
| 1040110047     | 110 | 75,0  | 73,5 | 37,0 | 100,0 | 89,0  | 22,0 | 0,383 | 1      |
| 1040110048     | 110 | 90,0  | 73,5 | 37,0 | 120,0 | 99,0  | 29,0 | 0,500 | 1      |
| 1040125049     | 125 | 75,0  | 84,0 | 40,0 | 100,0 | 101,0 | 31,0 | 0,518 | 1      |
| 1040125050     | 125 | 90,0  | 84,0 | 40,0 | 120,0 | 99,0  | 26,0 | 0,588 | 1      |
| 1040125051     | 125 | 110,0 | 84,0 | 40,0 | 147,0 | 112,0 | 35,0 | 0,832 | 1      |

**Red.-Sockets inside / inside**

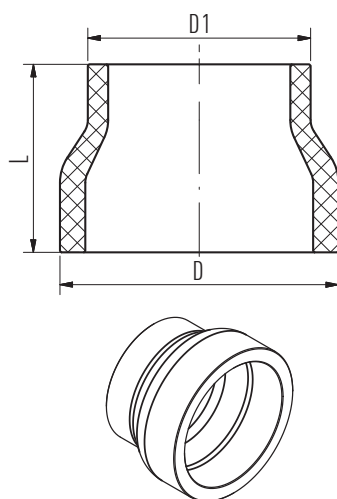
SDR 6 / 7,4 / 9 / 11 / 17,6

Material:  
Standards:  
Colour:fusiolen® PP-R  
DIN 16962, DIN EN ISO 15874  
green

| Article no.                 | d   | d1    | L    | D     | D1    | L    | z    | kg    | PU [m] |
|-----------------------------|-----|-------|------|-------|-------|------|------|-------|--------|
| double sided socket welding |     |       |      |       |       |      |      |       |        |
| 1040040073                  | 40  | 32,0  | 20,5 | 52,0  | 43,0  | 44,0 | 5,5  | 0,035 | 1      |
| 1040050074                  | 50  | 32,0  | 23,5 | 68,0  | 43,0  | 53,0 | 11,5 | 0,066 | 1      |
| 1040050075                  | 50  | 40,0  | 23,5 | 68,0  | 52,0  | 50,5 | 6,3  | 0,069 | 1      |
| 1040063076                  | 63  | 40,0  | 27,5 | 84,0  | 52,0  | 61,0 | 13,0 | 0,115 | 1      |
| 1040063077                  | 63  | 50,0  | 27,5 | 84,0  | 68,0  | 56,0 | 5,0  | 0,120 | 1      |
| 1040075078                  | 75  | 50,0  | 30,0 | 100,0 | 68,0  | 68,0 | 14,5 | 0,192 | 1      |
| 1040075079                  | 75  | 63,0  | 30,0 | 100,0 | 84,0  | 62,5 | 5,0  | 0,185 | 1      |
| 1040090080                  | 90  | 63,0  | 33,0 | 120,0 | 84,0  | 74,0 | 13,5 | 0,276 | 1      |
| 1040090081                  | 90  | 75,0  | 33,0 | 120,0 | 100,0 | 69,0 | 6,0  | 0,297 | 1      |
| 1040110082                  | 110 | 75,0  | 37,0 | 147,0 | 100,0 | 85,0 | 18,0 | 0,516 | 1      |
| 1040110083                  | 110 | 90,0  | 37,0 | 147,0 | 120,0 | 77,3 | 7,3  | 0,520 | 1      |
| 1040125084                  | 125 | 90,0  | 40,0 | 167,0 | 120,0 | 91,0 | 18,0 | 0,749 | 1      |
| 1040125085                  | 125 | 110,0 | 40,0 | 167,0 | 147,0 | 87,0 | 10,0 | 0,726 | 1      |

**Reducing piece socket- and butt welding**Material:  
Standards:  
Colour:fusiolen® PP-RCT  
DIN 16962, DIN EN ISO 15874  
green

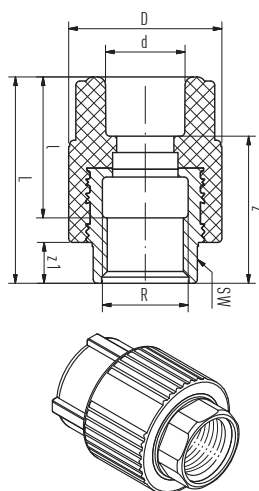
| Article no.                                      | d   | D     | D1  | L     | z    | kg    | PU [m] |
|--------------------------------------------------|-----|-------|-----|-------|------|-------|--------|
| one side socket welding, other side butt welding |     |       |     |       |      |       |        |
| SDR 9                                            |     |       |     |       |      |       |        |
| 1043160122                                       | 110 | 147,0 | 160 | 90,0  | 53,0 | 0,694 | 1      |
| 1043160123                                       | 125 | 167,0 | 160 | 90,0  | 50,0 | 0,868 | 1      |
| 1043200124                                       | 125 | 167,0 | 200 | 135,0 | 95,0 | 1,599 | 1      |
| SDR 11                                           |     |       |     |       |      |       |        |
| 1044160053                                       | 110 | 147,0 | 160 | 90,0  | 53,0 | 0,673 | 1      |
| 1044160055                                       | 125 | 167,0 | 160 | 90,0  | 50,0 | 0,709 | 1      |
| 1044200057                                       | 125 | 167,0 | 200 | 135,0 | 95,0 | 1,341 | 1      |



### Reducing piece butt welding

Material: fusiolen® PP-RCT  
Standards: DIN 16962, DIN EN ISO 15874  
Colour: green

| Article no.               | D     | D1  | L     | kg    | PU [m] |
|---------------------------|-------|-----|-------|-------|--------|
| double sided butt welding |       |     |       |       |        |
| SDR 9                     |       |     |       |       |        |
| 1043200125                | 200,0 | 160 | 135,0 | 1,588 | 1      |
| 1043250126                | 250,0 | 160 | 172,5 | 2,900 | 1      |
| 1043250127                | 250,0 | 200 | 172,5 | 3,206 | 1      |
| 1043315128                | 315,0 | 250 | 225,0 | 7,050 | 1      |
| 1043315131                | 315,0 | 200 | 225,0 | 6,350 | 1      |
| SDR 11                    |       |     |       |       |        |
| 1044200059                | 200,0 | 160 | 135,0 | 1,140 | 1      |
| 1044250061                | 250,0 | 160 | 172,5 | 2,152 | 1      |
| 1044250063                | 250,0 | 200 | 172,5 | 2,681 | 1      |
| 1044315065                | 315,0 | 250 | 225,0 | 4,690 | 1      |



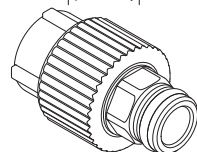
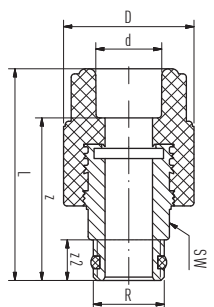
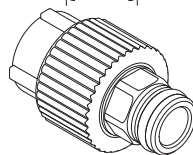
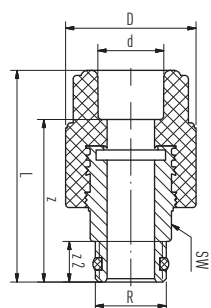
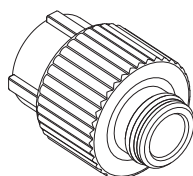
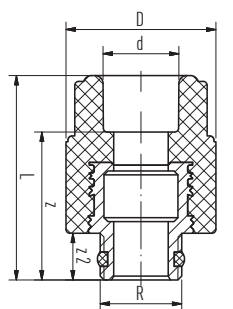
### Transition piece with female thread

with spanner flat — SDR 6 / 7,4 / 9 / 11

Material: fusiolen® PP-R / brass or stainless steel  
Standards: DIN 16962, DIN EN ISO 15874  
Colour: green

| Article no.             | d  | l    | D     | L    | z    | z1   | R      | SW | kg    | PU [m] |
|-------------------------|----|------|-------|------|------|------|--------|----|-------|--------|
| one side socket welding |    |      |       |      |      |      |        |    |       |        |
| 1070016007              | 16 | 34,5 | 38,5  | 50,5 | 37,5 | 10,0 | 1/2"   | 24 | 0,089 | 10     |
| 1070020008              | 20 | 34,5 | 38,5  | 50,5 | 36,0 | 10,0 | 1/2"   | 24 | 0,078 | 10     |
| 1070020009              | 20 | 29,0 | 43,5  | 50,0 | 35,5 | 10,0 | 3/4"   | 31 | 0,112 | 10     |
| 1070025010              | 25 | 36,0 | 38,5  | 52,0 | 36,0 | 10,0 | 1/2"   | 24 | 0,081 | 10     |
| 1070025011              | 25 | 29,0 | 43,5  | 50,0 | 34,0 | 10,0 | 3/4"   | 31 | 0,109 | 10     |
| 1070032012              | 32 | 32,0 | 43,5  | 53,0 | 35,0 | 10,0 | 3/4"   | 31 | 0,114 | 5      |
| 1070032013              | 32 | 37,5 | 60,0  | 59,5 | 41,5 | 14,0 | 1"     | 39 | 0,239 | 5      |
| 1070040014              | 40 | 40,0 | 60,0  | 62,0 | 41,5 | 14,0 | 1"     | 39 | 0,227 | 5      |
| 1070040015              | 40 | 40,0 | 74,0  | 63,0 | 42,5 | 15,0 | 1 1/4" | 50 | 0,385 | 5      |
| 1070050016              | 50 | 43,0 | 74,0  | 66,0 | 42,5 | 15,0 | 1 1/4" | 50 | 0,404 | 5      |
| 1070050017              | 50 | 45,0 | 85,5  | 67,0 | 43,5 | 15,0 | 1 1/2" | 55 | 0,418 | 5      |
| 1070063018              | 63 | 51,5 | 84,0  | 73,5 | 46,0 | 15,0 | 1 1/2" | 55 | 0,442 | 1      |
| 1070063019              | 63 | 51,0 | 101,0 | 77,0 | 49,5 | 19,0 | 2"     | 67 | 0,600 | 1      |
| 1070075020              | 75 | 51,0 | 100,0 | 77,0 | 47,0 | 19,0 | 2"     | 67 | 0,608 | 1      |
| 1070032066 *            | 32 | 37,5 | 60,0  | 59,5 | 41,5 | 14,0 | 1"     | 39 | 0,232 | 5      |
| 1070040067 *            | 40 | 40,0 | 60,0  | 62,0 | 41,5 | 14,0 | 1"     | 39 | 0,219 | 5      |
| 1070040068 *            | 40 | 40,0 | 74,0  | 63,0 | 42,5 | 15,0 | 1 1/4" | 50 | 0,331 | 5      |
| 1070050069 *            | 50 | 43,0 | 74,0  | 66,0 | 42,5 | 15,0 | 1 1/4" | 50 | 0,351 | 5      |
| 1070050070 *            | 50 | 45,0 | 84,0  | 67,0 | 43,5 | 15,0 | 1 1/2" | 55 | 0,445 | 5      |
| 1070063071 *            | 63 | 51,5 | 84,0  | 73,5 | 46,0 | 15,0 | 1 1/2" | 55 | 0,425 | 1      |
| 1070063072 *            | 63 | 51,0 | 101,0 | 77,0 | 49,5 | 19,0 | 2"     | 67 | 0,196 | 1      |
| 1070075073 *            | 75 | 51,0 | 100,0 | 77,0 | 47,0 | 19,0 | 2"     | 67 | 0,676 | 1      |

\*stainless steel

**Transition piece with male thread**

round, self-sealing — SDR 6 / 7,4 / 11

Material:  
Standards:  
Colour:fusiolen® PP-R / brass  
DIN 16962, DIN EN ISO 15874  
green

| Article no.             | d  | D    | L    | z    | z2   | R    | kg    | PU [m] |
|-------------------------|----|------|------|------|------|------|-------|--------|
| one side socket welding |    |      |      |      |      |      |       |        |
| 1070020051              | 20 | 38,5 | 52,5 | 38,0 | 12,0 | 1/2" | 0,090 | 10     |
| 1070025052              | 25 | 38,5 | 54,0 | 38,0 | 12,0 | 1/2" | 0,078 | 10     |
| 1070025053              | 25 | 38,5 | 53,5 | 37,5 | 13,0 | 3/4" | 0,085 | 10     |

**Transition piece with male thread**

round, brass or stainless steel — SDR 6 / 7,4 / 9 / 11

Material:  
Standards:  
Colour:fusiolen® PP-R / brass or stainless steel  
DIN 16962, DIN EN ISO 15874  
green

| Article no.             | d  | D    | L    | z    | z2   | R    | kg    | PU [m] |
|-------------------------|----|------|------|------|------|------|-------|--------|
| one side socket welding |    |      |      |      |      |      |       |        |
| 1070020022              | 20 | 38,5 | 56,5 | 42,0 | 16,0 | 1/2" | 0,084 | 10     |
| 1070020023              | 20 | 38,5 | 57,5 | 43,0 | 17,0 | 3/4" | 0,109 | 10     |
| 1070025024              | 25 | 38,5 | 58,0 | 42,0 | 16,0 | 1/2" | 0,085 | 10     |
| 1070025025              | 25 | 38,5 | 57,5 | 41,5 | 17,0 | 3/4" | 0,090 | 10     |
| 1070032026              | 32 | 38,5 | 59,5 | 41,5 | 17,0 | 3/4" | 0,095 | 5      |
| 1070020074 *            | 20 | 38,5 | 56,5 | 42,0 | 16,0 | 1/2" | 0,096 | 10     |
| 1070020075 *            | 20 | 38,5 | 57,5 | 43,0 | 17,0 | 3/4" | 0,108 | 10     |
| 1070025076 *            | 25 | 38,5 | 58,0 | 42,0 | 16,0 | 1/2" | 0,098 | 10     |
| 1070025077 *            | 25 | 38,5 | 57,5 | 41,5 | 17,0 | 3/4" | 0,108 | 10     |
| 1070032078 *            | 32 | 38,5 | 59,5 | 41,5 | 17,0 | 3/4" | 0,115 | 5      |

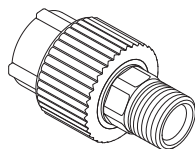
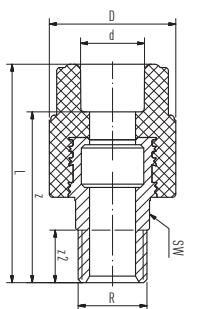
\*stainless steel

**Transition piece with male thread**

self-sealing, with hexagon threaded transition — SDR 6 / 7,4 / 11

Material:  
Standards:  
Colour:fusiolen® PP-R / brass  
DIN 16962, DIN EN ISO 15874  
green

| Article no.             | d  | D    | L    | z    | z2   | R    | SW | kg    | PU [m] |
|-------------------------|----|------|------|------|------|------|----|-------|--------|
| one side socket welding |    |      |      |      |      |      |    |       |        |
| 1070020056              | 20 | 38,5 | 63,5 | 49,0 | 13,0 | 1/2" | 22 | 0,111 | 10     |

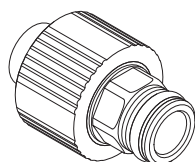
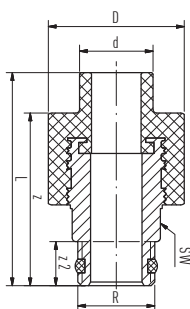
**Transition piece with male thread**

with spanner flat, brass or stainless steel — SDR 6 / 7,4 / 9 / 11

Material: fusiolen® PP-R / brass or stainless steel  
 Standards: DIN 16962, DIN EN ISO 15874  
 Colour: green

| Article no.             | d   | D     | L     | z     | z2   | R      | SW  | kg    | PU [m] |
|-------------------------|-----|-------|-------|-------|------|--------|-----|-------|--------|
| one side socket welding |     |       |       |       |      |        |     |       |        |
| 1070016026              | 16  | 38,5  | 66,5  | 53,5  | 16,0 | 1/2"   | 22  | 0,119 | 10     |
| 1070020027              | 20  | 38,5  | 66,5  | 52,0  | 16,0 | 1/2"   | 22  | 0,104 | 10     |
| 1070020028              | 20  | 38,5  | 67,5  | 53,0  | 17,0 | 3/4"   | 24  | 0,129 | 10     |
| 1070025029              | 25  | 38,5  | 68,0  | 52,0  | 16,0 | 1/2"   | 21  | 0,107 | 10     |
| 1070025030              | 25  | 38,5  | 67,5  | 51,5  | 17,0 | 3/4"   | 24  | 0,103 | 10     |
| 1070032031              | 32  | 53,0  | 78,5  | 60,5  | 20,0 | 1"     | 32  | 0,216 | 5      |
| 1070032032              | 32  | 68,0  | 81,0  | 63,0  | 21,0 | 1 1/4" | 42  | 0,318 | 5      |
| 1070040033              | 40  | 52,0  | 81,0  | 60,5  | 20,0 | 1"     | 32  | 0,222 | 5      |
| 1070040034              | 40  | 68,0  | 84,5  | 64,0  | 21,0 | 1 1/4" | 42  | 0,324 | 5      |
| 1070050035              | 50  | 68,0  | 85,5  | 62,0  | 21,0 | 1 1/4" | 42  | 0,351 | 5      |
| 1070050036              | 50  | 74,0  | 88,5  | 65,0  | 22,0 | 1 1/2" | 46  | 0,425 | 5      |
| 1070063037              | 63  | 72,5  | 94,5  | 67,0  | 22,0 | 1 1/2" | 46  | 0,467 | 1      |
| 1070063038              | 63  | 84,0  | 102,5 | 75,0  | 23,5 | 2"     | 50  | 0,685 | 1      |
| 1070075039              | 75  | 84,0  | 102,0 | 72,0  | 23,5 | 2"     | 50  | 0,733 | 1      |
| 1070075040              | 75  | 100,0 | 105,0 | 75,0  | 26,7 | 2 1/2" | 65  | 0,970 | 1      |
| 1070090041              | 90  | 120,0 | 121,0 | 88,0  | 30,0 | 3"     | 85  | 1,326 | 1      |
| 1070110042              | 110 | 147,0 | 148,0 | 111,0 | 39,0 | 4"     | 105 | 2,730 | 1      |
| 1070032079 *            | 32  | 53,0  | 78,5  | 60,5  | 20,0 | 1"     | 32  | 0,204 | 5      |
| 1070032080 *            | 32  | 68,0  | 81,0  | 63,0  | 21,0 | 1 1/4" | 41  | 0,360 | 5      |
| 1070040081 *            | 40  | 52,0  | 81,0  | 60,5  | 20,0 | 1"     | 32  | 0,251 | 5      |
| 1070040082 *            | 40  | 68,0  | 84,5  | 64,0  | 21,0 | 1 1/4" | 41  | 0,362 | 5      |
| 1070050083 *            | 50  | 68,0  | 85,5  | 62,0  | 21,0 | 1 1/4" | 41  | 0,389 | 5      |
| 1070050084 *            | 50  | 74,0  | 88,5  | 65,0  | 22,0 | 1 1/2" | 46  | 0,480 | 5      |
| 1070063085 *            | 63  | 72,5  | 94,5  | 67,0  | 22,0 | 1 1/2" | 46  | 0,523 | 1      |
| 1070063086 *            | 63  | 84,0  | 102,5 | 75,0  | 23,5 | 2"     | 50  | 0,708 | 1      |
| 1070075087 *            | 75  | 84,0  | 102,0 | 72,0  | 23,5 | 2"     | 50  | 0,699 | 1      |

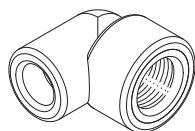
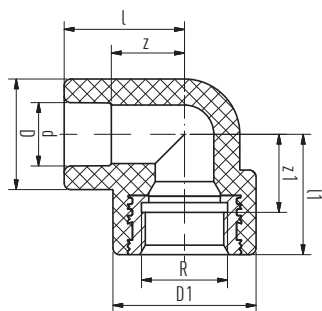
\*stainless steel

**Transition piece with male thread**

self-sealing, with hexagon threaded transition, outside/outside — SDR 6 / 7,4 / 11

Material: fusiolen® PP-R / brass  
 Standards: DIN 16962, DIN EN ISO 15874  
 Colour: green

| Article no.             | d  | D    | L    | z    | z2   | R    | SW | kg    | PU [m] |
|-------------------------|----|------|------|------|------|------|----|-------|--------|
| one side socket welding |    |      |      |      |      |      |    |       |        |
| 1070020054              | 20 | 38,5 | 59,0 | 48,0 | 13,0 | 1/2" | 22 | 0,107 | 10     |

**Transition-Elbow with female thread**

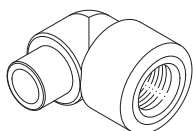
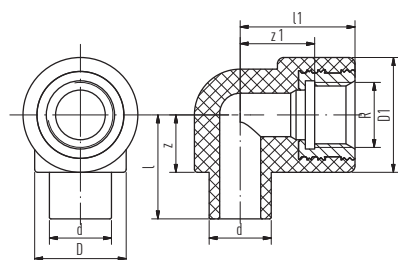
brass or stainless steel — SDR 6 / 7,4 / 9 / 11

Material: fusiolen® PP-R / brass or stainless steel  
Standards: DIN 16962, DIN EN ISO 15874  
Colour: green

| Article no.             | d  | l    | l1   | D    | D1   | z    | z1   | R    | kg    | PU [m] |
|-------------------------|----|------|------|------|------|------|------|------|-------|--------|
| one side socket welding |    |      |      |      |      |      |      |      |       |        |
| 1070020091              | 20 | 37,0 | 37,0 | 34,0 | 44,0 | 22,5 | 24,0 | 3/4" | 0,102 | 10     |
| 1070020092              | 20 | 31,0 | 31,5 | 29,5 | 37,0 | 16,5 | 18,5 | 1/2" | 0,076 | 10     |
| 1070025093              | 25 | 37,0 | 37,0 | 34,0 | 44,0 | 21,0 | 24,0 | 3/4" | 0,100 | 10     |
| 1070025094              | 25 | 33,5 | 31,5 | 34,0 | 37,0 | 17,5 | 18,5 | 1/2" | 0,075 | 10     |
| 1070032095              | 32 | 27,5 | 51,0 | 43,0 | 44,0 | 9,5  | 38,0 | 3/4" | 0,104 | 5      |
| 1070032096              | 32 | 34,0 | 66,5 | 43,0 | 60,5 | 16,0 | 44,5 | 1"   | 0,249 | 5      |
| 1070020110 *            | 20 | 37,0 | 37,0 | 29,5 | 37,0 | 22,5 | 24,0 | 3/4" | 0,095 | 10     |
| 1070020111 *            | 20 | 31,0 | 31,5 | 29,5 | 37,0 | 16,5 | 18,5 | 1/2" | 0,081 | 10     |
| 1070025112 *            | 25 | 37,0 | 37,0 | 34,0 | 44,0 | 21,0 | 24,0 | 3/4" | 0,101 | 10     |
| 1070025113 *            | 25 | 33,5 | 31,5 | 34,0 | 37,0 | 17,5 | 18,5 | 1/2" | 0,082 | 10     |
| 1070032114 *            | 32 | 35,0 | 37,0 | 43,0 | 37,0 | 17,0 | 24,0 | 1/2" | 0,112 | 5      |
| 1070032115 *            | 32 | 27,5 | 51,0 | 43,0 | 44,0 | 9,5  | 38,0 | 3/4" | 0,097 | 5      |
| 1070032116 *            | 32 | 34,0 | 66,5 | 43,0 | 60,5 | 16,0 | 44,5 | 1"   | 0,240 | 5      |

\*stainless steel

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of &gt;0.1% (w/w).

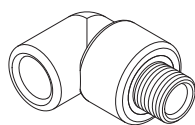
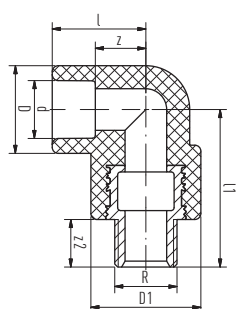
**Transition-Elbow with female thread**

SDR 6 / 7,4 / 11

Material: fusiolen® PP-R / brass  
Standards: DIN 16962, DIN EN ISO 15874  
Colour: green

| Article no.             | d  | l    | l1   | D    | D1   | z    | z1   | R    | kg    | PU [m] |
|-------------------------|----|------|------|------|------|------|------|------|-------|--------|
| one side socket welding |    |      |      |      |      |      |      |      |       |        |
| 1070020097              | 20 | 33,5 | 37,0 | 29,5 | 37,0 | 18,5 | 24,0 | 1/2" | 0,076 | 10     |

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of &gt;0.1% (w/w).

**Transition-Elbow with male thread**

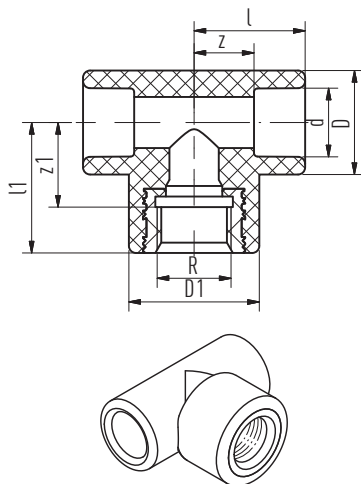
brass or stainless steel — SDR 6 / 7,4 / 9 / 11

Material: fusiolen® PP-R / brass or stainless steel  
Standards: DIN 16962, DIN EN ISO 15874  
Colour: green

| Article no.             | d  | l    | l1   | D    | D1   | z    | z2   | R    | kg    | PU [m] |
|-------------------------|----|------|------|------|------|------|------|------|-------|--------|
| one side socket welding |    |      |      |      |      |      |      |      |       |        |
| 1070020099              | 20 | 31,5 | 53,0 | 29,5 | 37,0 | 17,0 | 16,0 | 1/2" | 0,108 | 10     |
| 1070020100              | 20 | 31,5 | 54,0 | 34,0 | 38,0 | 17,0 | 17,0 | 3/4" | 0,128 | 10     |
| 1070025101              | 25 | 31,5 | 54,0 | 34,0 | 38,0 | 15,5 | 17,0 | 3/4" | 0,104 | 10     |
| 1070032102              | 32 | 27,5 | 68,0 | 43,0 | 38,0 | 9,5  | 17,0 | 3/4" | 0,112 | 5      |
| 1070032103              | 32 | 31,0 | 85,5 | 43,0 | 52,0 | 13,0 | 20,0 | 1"   | 0,231 | 5      |
| 1070020117 *            | 20 | 31,5 | 53,0 | 29,5 | 37,0 | 17,0 | 16,0 | 1/2" | 0,035 | 10     |
| 1070020118 *            | 20 | 31,5 | 54,0 | 34,0 | 38,0 | 17,0 | 17,0 | 3/4" | 0,123 | 10     |
| 1070025119 *            | 25 | 31,5 | 54,0 | 34,0 | 38,0 | 15,5 | 17,0 | 3/4" | 0,121 | 10     |
| 1070032120 *            | 32 | 27,5 | 68,0 | 43,0 | 38,0 | 9,5  | 17,0 | 3/4" | 0,128 | 5      |

\*stainless steel

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of &gt;0.1% (w/w).

**Transition-T-piece with female thread**

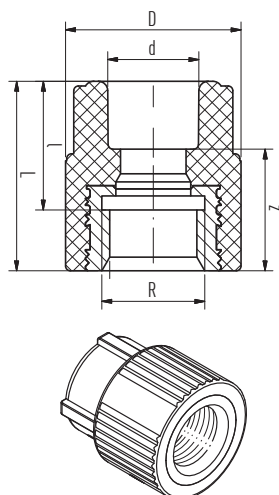
brass or stainless steel — SDR 6 / 7,4 / 9 / 11

Material: fusiofen® PP-R / brass or stainless steel  
 Standards: DIN 16962, DIN EN ISO 15874  
 Colour: green

| Article no.             | d  | l    | l1   | D    | D1   | z    | z1   | R    | kg    | PU [m] |
|-------------------------|----|------|------|------|------|------|------|------|-------|--------|
| one side socket welding |    |      |      |      |      |      |      |      |       |        |
| 1060020141              | 20 | 31,5 | 37,0 | 29,5 | 37,0 | 17,0 | 24,0 | 1/2" | 0,086 | 10     |
| 1060020142              | 20 | 37,0 | 37,0 | 34,0 | 44,0 | 22,5 | 24,0 | 3/4" | 0,121 | 10     |
| 1060025143              | 25 | 34,0 | 38,0 | 34,0 | 37,0 | 18,0 | 25,0 | 1/2" | 0,090 | 10     |
| 1060025144              | 25 | 37,0 | 37,0 | 34,0 | 44,0 | 21,0 | 24,0 | 3/4" | 0,109 | 10     |
| 1060032145              | 32 | 35,0 | 37,0 | 43,0 | 37,0 | 17,0 | 24,0 | 1/2" | 0,103 | 5      |
| 1060032146              | 32 | 27,5 | 51,0 | 43,0 | 44,0 | 9,5  | 38,0 | 3/4" | 0,111 | 5      |
| 1060032147              | 32 | 31,5 | 67,0 | 43,0 | 60,0 | 13,5 | 45,0 | 1"   | 0,255 | 5      |
| 1060040148              | 40 | 42,0 | 40,0 | 52,0 | 37,0 | 21,5 | 27,0 | 1/2" | 0,142 | 5      |
| 1060040149              | 40 | 40,5 | 40,5 | 52,0 | 52,0 | 20,0 | 27,5 | 3/4" | 0,147 | 5      |
| 1060040150              | 40 | 41,5 | 56,0 | 52,0 | 60,0 | 21,0 | 34,0 | 1"   | 0,276 | 5      |
| 1060050151              | 50 | 49,5 | 63,5 | 68,0 | 60,0 | 26,0 | 41,5 | 1"   | 0,385 | 5      |
| 1060050152              | 50 | 49,5 | 44,5 | 68,0 | 43,0 | 26,0 | 31,5 | 1/2" | 0,237 | 5      |
| 1060050153              | 50 | 49,5 | 44,5 | 68,0 | 43,0 | 26,0 | 31,5 | 3/4" | 0,243 | 5      |
| 1060020160 *            | 20 | 31,5 | 37,0 | 29,5 | 37,0 | 17,0 | 24,0 | 1/2" | 0,087 | 10     |
| 1060020161 *            | 20 | 37,0 | 37,0 | 34,0 | 44,0 | 22,5 | 24,0 | 3/4" | 0,108 | 10     |
| 1060025162 *            | 25 | 34,5 | 38,0 | 34,0 | 37,0 | 18,5 | 25,0 | 1/2" | 0,093 | 10     |
| 1060025163 *            | 25 | 37,0 | 37,0 | 34,0 | 44,0 | 21,0 | 24,0 | 3/4" | 0,111 | 10     |
| 1060032164 *            | 32 | 35,0 | 37,0 | 43,0 | 37,0 | 17,0 | 24,0 | 1/2" | 0,113 | 5      |
| 1060032165 *            | 32 | 27,5 | 51,0 | 43,0 | 44,0 | 9,5  | 38,0 | 3/4" | 0,111 | 5      |
| 1060032166 *            | 32 | 31,5 | 67,0 | 43,0 | 60,0 | 13,5 | 45,0 | 1"   | 0,082 | 5      |

\*stainless steel

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of >0.1% (w/w).

**Transition piece with female thread**

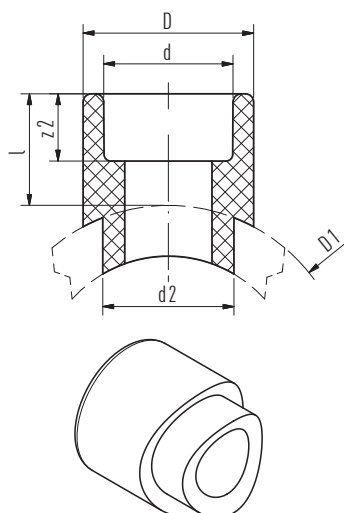
round, brass or stainless steel — SDR 6 / 7,4 / 9 / 11

Material: fusiofen® PP-R / brass or stainless steel  
 Standards: DIN 16962, DIN EN ISO 15874  
 Colour: green

| Article no.             | d  | l    | D    | L    | z    | R    | kg    | PU [m] |
|-------------------------|----|------|------|------|------|------|-------|--------|
| one side socket welding |    |      |      |      |      |      |       |        |
| 1070020002              | 20 | 27,5 | 37,5 | 40,5 | 26,0 | 1/2" | 0,064 | 10     |
| 1070020003              | 20 | 27,5 | 43,5 | 40,5 | 26,0 | 3/4" | 0,089 | 10     |
| 1070025004              | 25 | 29,5 | 38,5 | 42,5 | 26,5 | 1/2" | 0,065 | 10     |
| 1070025005              | 25 | 27,5 | 43,5 | 40,5 | 24,5 | 3/4" | 0,087 | 10     |
| 1070032006              | 32 | 30,5 | 43,5 | 43,5 | 25,5 | 3/4" | 0,092 | 5      |
| 1070020060 *            | 20 | 27,5 | 37,5 | 40,5 | 26,0 | 1/2" | 0,069 | 10     |
| 1070020061 *            | 20 | 27,5 | 43,5 | 40,5 | 26,0 | 3/4" | 0,090 | 10     |
| 1070025062 *            | 25 | 29,5 | 38,5 | 42,5 | 26,5 | 1/2" | 0,069 | 10     |
| 1070025063 *            | 25 | 27,5 | 43,5 | 40,5 | 24,5 | 3/4" | 0,086 | 10     |
| 1070032064 *            | 32 | 30,5 | 43,5 | 43,5 | 25,5 | 3/4" | 0,092 | 5      |
| 1070032065 *            | 32 | 28,0 | 37,0 | 41,0 | 23,0 | 1/2" | 0,078 | 5      |

\*stainless steel

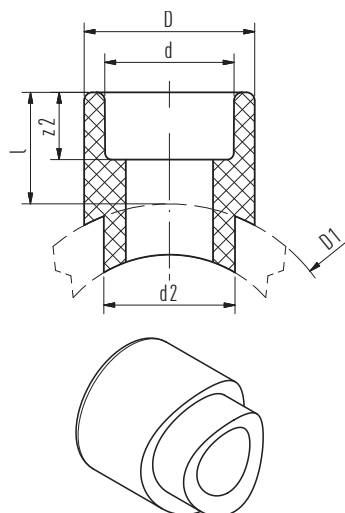
Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of >0.1% (w/w).

**Weld-in saddle**

socket welding — SDR 6 / 7,4 / 9 / 11 / 17,6

Material:  
Standards:  
Colour:fusiolen® PP-R  
DIN 16962, DIN EN ISO 15874  
green

| Article no     | D1      | d   | d2    | l    | D     | z2   | kg    | PU [m] |
|----------------|---------|-----|-------|------|-------|------|-------|--------|
| socket welding |         |     |       |      |       |      |       |        |
| 1030040001 *   | 40      | 20  | 25,0  | 27,0 | 29,5  | 14,5 | 0,016 | 5      |
| 1030040002 *   | 40      | 25  | 25,0  | 28,5 | 34,0  | 16,0 | 0,017 | 5      |
| 1030050003     | 50      | 20  | 25,0  | 27,5 | 29,5  | 14,5 | 0,018 | 5      |
| 1030050004     | 50      | 25  | 25,0  | 28,5 | 34,0  | 16,0 | 0,019 | 5      |
| 1030063005     | 63      | 20  | 25,0  | 27,5 | 29,5  | 14,5 | 0,017 | 5      |
| 1030063006     | 63      | 25  | 25,0  | 28,5 | 34,0  | 16,0 | 0,019 | 5      |
| 1030063007     | 63      | 32  | 32,0  | 30,0 | 43,0  | 18,0 | 0,028 | 5      |
| 1030075008     | 75      | 20  | 25,0  | 27,5 | 29,5  | 14,5 | 0,018 | 5      |
| 1030075009     | 75      | 25  | 25,0  | 28,5 | 34,0  | 16,0 | 0,019 | 5      |
| 1030075010     | 75      | 32  | 32,0  | 30,0 | 43,0  | 18,0 | 0,028 | 5      |
| 1030075011     | 75      | 40  | 40,0  | 34,0 | 52,0  | 20,5 | 0,049 | 5      |
| 1030090012     | 90      | 20  | 25,0  | 27,5 | 29,5  | 14,5 | 0,018 | 5      |
| 1030090013     | 90      | 25  | 25,0  | 28,5 | 34,0  | 16,0 | 0,019 | 5      |
| 1030090014     | 90      | 32  | 32,0  | 30,0 | 43,0  | 18,0 | 0,029 | 5      |
| 1030090015     | 90      | 40  | 40,0  | 34,0 | 52,0  | 20,5 | 0,048 | 5      |
| 1030110016     | 110     | 20  | 25,0  | 27,5 | 29,5  | 14,5 | 0,019 | 5      |
| 1030110017     | 110     | 25  | 25,0  | 28,5 | 34,0  | 16,0 | 0,020 | 5      |
| 1030110018     | 110     | 32  | 32,0  | 30,0 | 43,0  | 18,0 | 0,030 | 5      |
| 1030110019     | 110     | 40  | 40,0  | 34,0 | 52,0  | 20,5 | 0,050 | 5      |
| 1030110020     | 110     | 50  | 50,0  | 34,0 | 68,0  | 23,5 | 0,091 | 5      |
| 1030125021     | 125     | 20  | 25,0  | 27,5 | 29,5  | 14,5 | 0,019 | 5      |
| 1030125022     | 125     | 25  | 25,0  | 28,5 | 34,0  | 16,0 | 0,020 | 5      |
| 1030125023     | 125     | 32  | 32,0  | 30,0 | 43,0  | 18,0 | 0,029 | 5      |
| 1030125024     | 125     | 40  | 40,0  | 34,0 | 52,0  | 20,5 | 0,050 | 5      |
| 1030125025     | 125     | 50  | 50,0  | 34,0 | 68,0  | 23,5 | 0,090 | 5      |
| 1030125026     | 125     | 63  | 63,0  | 38,0 | 84,0  | 27,5 | 0,149 | 5      |
| 1030160028     | 160     | 25  | 25,0  | 28,5 | 34,0  | 16,0 | 0,023 | 5      |
| 1030160029     | 160     | 32  | 32,0  | 30,0 | 43,0  | 18,0 | 0,034 | 5      |
| 1030160030     | 160     | 40  | 40,0  | 34,0 | 52,0  | 20,5 | 0,054 | 5      |
| 1030160031     | 160     | 50  | 50,0  | 34,0 | 68,0  | 23,5 | 0,094 | 5      |
| 1030160032     | 160     | 63  | 63,0  | 38,0 | 84,0  | 27,5 | 0,157 | 5      |
| 1030160033     | 160     | 75  | 75,0  | 42,0 | 100,0 | 30,0 | 0,238 | 5      |
| 1030160034     | 160     | 90  | 90,0  | 45,0 | 120,0 | 33,0 | 0,360 | 5      |
| 1030250035     | 200-250 | 20  | 25,0  | 27,5 | 29,5  | 14,5 | 0,020 | 5      |
| 1030250036     | 200-250 | 25  | 25,0  | 28,5 | 34,0  | 16,0 | 0,021 | 5      |
| 1030250037     | 200-250 | 32  | 32,0  | 30,0 | 43,0  | 18,0 | 0,031 | 5      |
| 1030200038     | 200     | 40  | 40,0  | 34,0 | 52,0  | 20,5 | 0,049 | 5      |
| 1030200039     | 200     | 50  | 50,0  | 34,0 | 68,0  | 23,5 | 0,087 | 5      |
| 1030200040     | 200     | 63  | 63,0  | 37,5 | 84,0  | 27,5 | 0,146 | 5      |
| 1030200041     | 200     | 75  | 75,0  | 42,0 | 100,0 | 30,0 | 0,225 | 5      |
| 1030200042     | 200     | 90  | 90,0  | 45,0 | 120,0 | 33,0 | 0,356 | 5      |
| 1030200043     | 200     | 110 | 110,0 | 49,0 | 147,0 | 37,0 | 0,638 | 5      |
| 1030200044     | 200     | 125 | 125,0 | 55,0 | 167,0 | 40,0 | 0,862 | 5      |



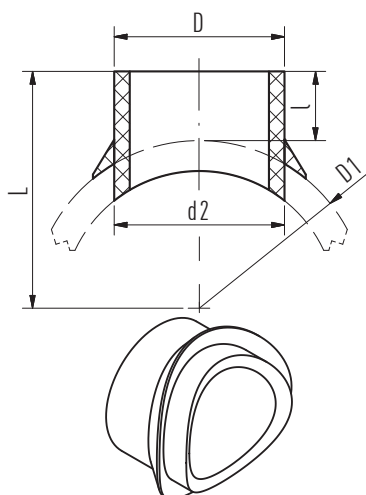
### Weld-in saddle

(Continued) SDR 6 / 7,4 / 9 / 11 / 17,6

Material: fusiole® PP-R  
Standards: DIN 16962, DIN EN ISO 15874  
Colour: green

| Article no.    | D1      | d   | d2    | l    | D     | z2   | kg    | PU [m] |
|----------------|---------|-----|-------|------|-------|------|-------|--------|
| socket welding |         |     |       |      |       |      |       |        |
| 1030250045     | 250     | 40  | 40,0  | 34,0 | 52,0  | 20,5 | 0,053 | 5      |
| 1030250046     | 250     | 50  | 50,0  | 34,0 | 68,0  | 23,5 | 0,090 | 5      |
| 1030250047     | 250     | 63  | 63,0  | 37,5 | 84,0  | 27,5 | 0,152 | 5      |
| 1030250048     | 250     | 75  | 75,0  | 42,0 | 100,0 | 30,0 | 0,222 | 5      |
| 1030250049     | 250     | 90  | 90,0  | 45,0 | 120,0 | 33,0 | 0,348 | 5      |
| 1030250050     | 250     | 110 | 110,0 | 49,0 | 147,0 | 37,0 | 0,602 | 5      |
| 1030250051     | 250     | 125 | 125,0 | 55,0 | 167,0 | 40,0 | 0,820 | 5      |
| 1030315052     | 315-355 | 63  | 63,0  | 37,5 | 84,0  | 27,5 | 0,153 | 1      |
| 1030315053     | 315-355 | 75  | 75,0  | 42,0 | 100,0 | 30,0 | 0,230 | 1      |
| 1030315054     | 315     | 90  | 90,0  | 45,0 | 120,0 | 33,0 | 0,363 | 1      |
| 1030315055     | 315     | 110 | 110,0 | 49,0 | 147,0 | 37,0 | 0,592 | 1      |
| 1030315056     | 315     | 125 | 125,0 | 55,0 | 167,0 | 40,0 | 0,830 | 1      |

With weld-on surface and additional weld-in socket for fusion with the pipe wall. The necessary tools for processing can be found in the Tools chapter.

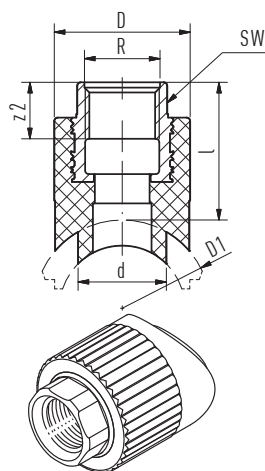


### Weld-in saddle butt-welding

Material: fusiole® PP-RCT / fibreglass  
Standards: DIN 16962, DIN EN ISO 15874  
Colour: green

| Article no.  | D1  | D     | d2    | l    | L     | kg    | PU [m] |
|--------------|-----|-------|-------|------|-------|-------|--------|
| butt welding |     |       |       |      |       |       |        |
| SDR 9        |     |       |       |      |       |       |        |
| 1033315073   | 315 | 160,0 | 160,0 | 80,0 | 237,5 | 0,831 | 1      |
| 1033355074   | 355 | 160,0 | 160,0 | 80,0 | 257,5 | 0,845 | 1      |
| SDR 11       |     |       |       |      |       |       |        |
| 1034315057   | 315 | 160,0 | 160,0 | 80,0 | 237,5 | 0,862 | 1      |
| 1034355061   | 355 | 160,0 | 160,0 | 80,0 | 257,5 | 0,867 | 1      |

With weld-on surface and additional weld-in socket for fusion with the pipe wall. The necessary tools for processing can be found in the Tools chapter.



### Weld-in saddle with female thread

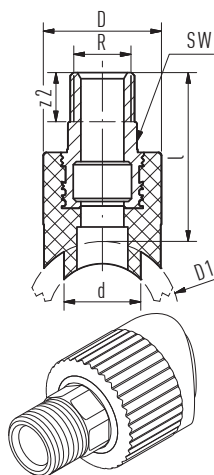
With spanner flat — SDR 6 / 7,4 / 9 / 11 / 17,6

Material:  
Standards:  
Colour:fusiolen® PP-R / brass  
DIN 16962, DIN EN ISO 15874  
green

| Article no.             | D1      | d  | l    | D    | z2   | R    | SW | kg    | PU [m] |
|-------------------------|---------|----|------|------|------|------|----|-------|--------|
| one side socket welding |         |    |      |      |      |      |    |       |        |
| 1030040100 *            | 40      | 25 | 39,0 | 38,5 | 16,0 | 1/2" | 24 | 0,088 | 5      |
| 1030050106              | 50      | 25 | 39,0 | 38,5 | 16,0 | 1/2" | 24 | 0,090 | 5      |
| 1030063112              | 63      | 25 | 39,0 | 38,5 | 16,0 | 1/2" | 24 | 0,089 | 5      |
| 1030075118              | 75      | 25 | 39,0 | 38,5 | 16,0 | 1/2" | 24 | 0,083 | 5      |
| 1030090126              | 90      | 25 | 39,0 | 38,5 | 16,0 | 1/2" | 24 | 0,090 | 5      |
| 1030110134              | 110     | 25 | 39,0 | 38,5 | 16,0 | 1/2" | 24 | 0,089 | 5      |
| 1030125142              | 125     | 25 | 39,0 | 38,0 | 16,0 | 1/2" | 24 | 0,092 | 5      |
| 1030160150              | 160     | 25 | 39,0 | 38,5 | 16,0 | 1/2" | 24 | 0,092 | 5      |
| 1030250158              | 200-250 | 25 | 39,0 | 38,5 | 16,0 | 1/2" | 24 | 0,092 | 5      |
| 1030040101              | 40      | 25 | 39,0 | 43,5 | 21,0 | 3/4" | 31 | 0,107 | 5      |
| 1030050107              | 50      | 25 | 39,0 | 43,5 | 21,0 | 3/4" | 31 | 0,110 | 5      |
| 1030063113              | 63      | 25 | 39,0 | 43,5 | 21,0 | 3/4" | 31 | 0,109 | 5      |
| 1030075119              | 75      | 25 | 39,0 | 43,5 | 21,0 | 3/4" | 31 | 0,109 | 5      |
| 1030090127              | 90      | 25 | 39,0 | 43,5 | 21,0 | 3/4" | 31 | 0,110 | 5      |
| 1030110135              | 110     | 25 | 39,0 | 43,5 | 21,0 | 3/4" | 31 | 0,110 | 5      |
| 1030125143              | 125     | 25 | 39,0 | 43,5 | 21,0 | 3/4" | 31 | 0,112 | 5      |
| 1030160151              | 160     | 25 | 39,0 | 43,5 | 21,0 | 3/4" | 31 | 0,112 | 5      |
| 1030250159              | 200-250 | 25 | 39,0 | 43,5 | 21,0 | 3/4" | 31 | 0,112 | 5      |
| 1030075120              | 75      | 32 | 43,0 | 60,0 | 22,0 | 1"   | 39 | 0,223 | 5      |
| 1030090128              | 90      | 32 | 43,0 | 60,0 | 22,0 | 1"   | 39 | 0,223 | 5      |
| 1030110136              | 110     | 32 | 43,0 | 60,0 | 22,0 | 1"   | 39 | 0,223 | 5      |
| 1030125144              | 125     | 32 | 43,0 | 60,0 | 22,0 | 1"   | 39 | 0,224 | 5      |
| 1030160152              | 160     | 32 | 43,0 | 60,0 | 22,0 | 1"   | 39 | 0,226 | 5      |
| 1030250160              | 200-250 | 32 | 43,0 | 60,0 | 22,0 | 1"   | 39 | 0,244 | 5      |

\*not for aquatherm blue pipe OT

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of >0.1% (w/w).



### Weld-in saddle with male thread

With spanner flat — SDR 6 / 7,4 / 9 / 11 / 17,6

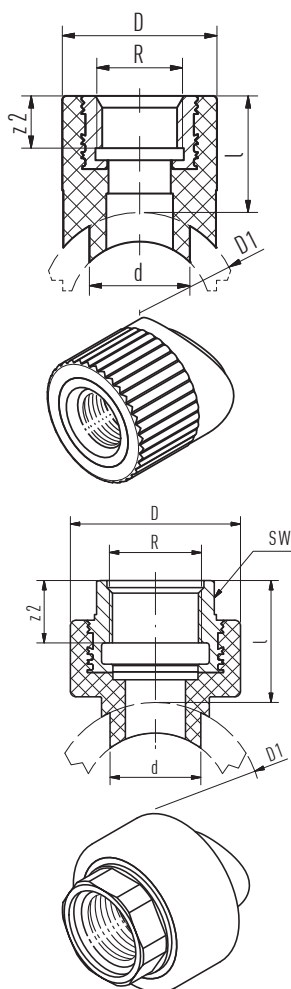
Material:  
Standards:  
Colour:fusiolen® PP-R / brass  
DIN 16962, DIN EN ISO 15874  
green

| Article no.             | D1  | d  | l    | D    | z2   | R    | SW | kg    | PU [m] |
|-------------------------|-----|----|------|------|------|------|----|-------|--------|
| one side socket welding |     |    |      |      |      |      |    |       |        |
| 1030040102 *            | 40  | 25 | 55,0 | 38,5 | 16,0 | 1/2" | 21 | 0,088 | 5      |
| 1030050108              | 50  | 25 | 55,0 | 38,5 | 16,0 | 1/2" | 21 | 0,090 | 5      |
| 1030063114              | 63  | 25 | 55,0 | 38,5 | 16,0 | 1/2" | 21 | 0,089 | 5      |
| 1030075121              | 75  | 25 | 55,0 | 38,5 | 16,0 | 1/2" | 21 | 0,097 | 5      |
| 1030090129              | 90  | 25 | 55,0 | 38,5 | 16,0 | 1/2" | 21 | 0,090 | 5      |
| 1030110137              | 110 | 25 | 55,0 | 38,5 | 16,0 | 1/2" | 21 | 0,089 | 5      |
| 1030125145              | 125 | 25 | 55,0 | 38,5 | 16,0 | 1/2" | 21 | 0,092 | 5      |
| 1030160153              | 160 | 25 | 55,0 | 38,5 | 16,0 | 1/2" | 21 | 0,092 | 5      |
| 1030040103 *            | 40  | 25 | 56,0 | 43,5 | 17,0 | 3/4" | 24 | 0,107 | 5      |
| 1030050109              | 50  | 25 | 56,0 | 43,5 | 17,0 | 3/4" | 24 | 0,110 | 5      |
| 1030063115              | 63  | 25 | 56,0 | 43,5 | 17,0 | 3/4" | 24 | 0,109 | 5      |
| 1030075122              | 75  | 25 | 56,0 | 43,5 | 17,0 | 3/4" | 24 | 0,109 | 5      |
| 1030090130              | 90  | 25 | 56,0 | 43,5 | 17,0 | 3/4" | 24 | 0,110 | 5      |
| 1030110138              | 110 | 25 | 56,0 | 43,5 | 17,0 | 3/4" | 24 | 0,110 | 5      |
| 1030125146              | 125 | 25 | 56,0 | 43,5 | 17,0 | 3/4" | 24 | 0,112 | 5      |
| 1030160154              | 160 | 25 | 56,0 | 43,5 | 17,0 | 3/4" | 24 | 0,112 | 5      |

\*not for aquatherm blue pipe OT

With weld-on surface and additional weld-in socket for fusion with the pipe wall. The necessary tools for processing can be found in the Tools chapter.

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of >0.1% (w/w).

**Weld-in saddle with female thread**

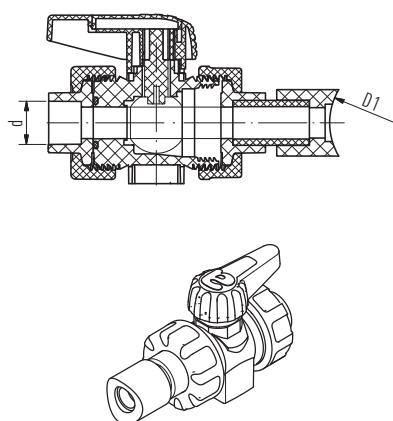
SDR 6 / 7,4 / 9 / 11 / 17,6

Material:  
Standards:  
Colour:fusiolen® PP-R / stainless steel  
DIN 16962, DIN EN ISO 15874  
green

| Article no.             | D1      | d  | l    | D    | z2   | R    | SW | kg    | PU [m] |
|-------------------------|---------|----|------|------|------|------|----|-------|--------|
| one side socket welding |         |    |      |      |      |      |    |       |        |
| 1030040104 **           | 40      | 25 | 39,0 | 38,5 | 16,0 | 1/2" | -  | 0,062 | 5      |
| 1030050110              | 50      | 25 | 39,0 | 38,5 | 16,0 | 1/2" | -  | 0,064 | 5      |
| 1030063116              | 63      | 25 | 39,0 | 38,5 | 16,0 | 1/2" | -  | 0,064 | 5      |
| 1030075123              | 75      | 25 | 39,0 | 38,5 | 16,0 | 1/2" | -  | 0,064 | 5      |
| 1030090131              | 90      | 25 | 39,0 | 38,5 | 16,0 | 1/2" | -  | 0,064 | 5      |
| 1030110139              | 110     | 25 | 39,0 | 38,5 | 16,0 | 1/2" | -  | 0,069 | 5      |
| 1030125147              | 125     | 25 | 39,0 | 38,5 | 16,0 | 1/2" | -  | 0,065 | 5      |
| 1030160155              | 160     | 25 | 39,0 | 38,5 | 16,0 | 1/2" | -  | 0,066 | 5      |
| 1030250161              | 200-250 | 25 | 39,0 | 38,5 | 16,0 | 1/2" | -  | 0,065 | 5      |
| 1030040105              | 40      | 25 | 39,0 | 43,5 | 21,0 | 3/4" | -  | 0,082 | 5      |
| 1030050111              | 50      | 25 | 39,0 | 43,5 | 21,0 | 3/4" | -  | 0,074 | 5      |
| 1030063117              | 63      | 25 | 39,0 | 43,5 | 21,0 | 3/4" | -  | 0,073 | 5      |
| 1030075124              | 75      | 25 | 39,0 | 43,5 | 21,0 | 3/4" | -  | 0,074 | 5      |
| 1030090132              | 90      | 25 | 39,0 | 43,5 | 21,0 | 3/4" | -  | 0,074 | 5      |
| 1030110140              | 110     | 25 | 39,0 | 43,5 | 21,0 | 3/4" | -  | 0,083 | 5      |
| 1030125148              | 125     | 25 | 39,0 | 43,5 | 21,0 | 3/4" | -  | 0,074 | 5      |
| 1030160156              | 160     | 25 | 39,0 | 43,5 | 21,0 | 3/4" | -  | 0,076 | 5      |
| 1030250162              | 200-250 | 25 | 39,0 | 43,5 | 21,0 | 3/4" | -  | 0,084 | 5      |
| 1030075125 *            | 75      | 32 | 43,0 | 60,0 | 22,0 | 1"   | 39 | 0,234 | 5      |
| 1030090133 *            | 90      | 32 | 43,0 | 60,0 | 22,0 | 1"   | 39 | 0,235 | 5      |
| 1030110141 *            | 110     | 32 | 43,0 | 60,0 | 22,0 | 1"   | 39 | 0,236 | 5      |
| 1030125149 *            | 125     | 32 | 43,0 | 60,0 | 22,0 | 1"   | 39 | 0,235 | 5      |
| 1030160157 *            | 160     | 32 | 43,0 | 60,0 | 22,0 | 1"   | 39 | 0,238 | 5      |
| 1030250163 *            | 200-250 | 32 | 43,0 | 60,0 | 22,0 | 1"   | 39 | 0,237 | 5      |

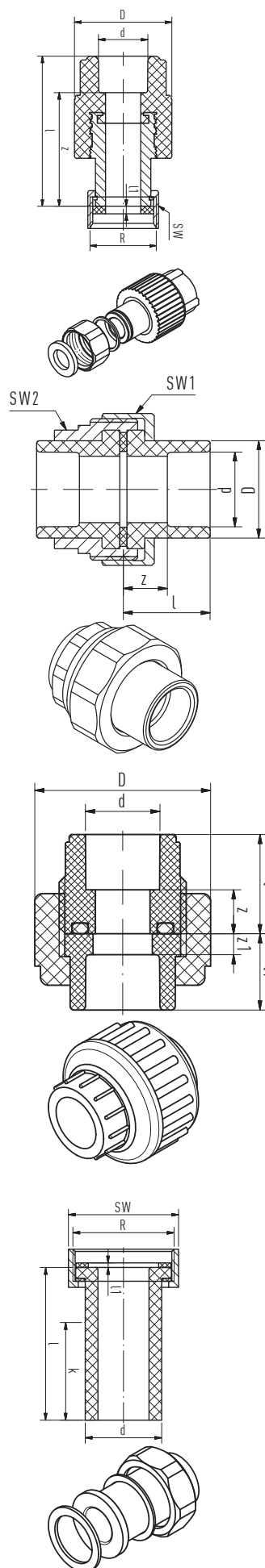
\*with hexagon threaded transition

\*\*not for aquatherm blue pipe OT

**aquatherm weld-on saddle set**with ball valve for mounting under pressure  
in use with hot tapping tool — SDR 6 / 7,4 / 9 / 11 / 17,6Material:  
Standards:  
Colour:fusiolen® PP-R  
DIN 16962, DIN EN ISO 15874  
green

| Article no.    | d  | D1      | PU [m] |
|----------------|----|---------|--------|
| socket welding |    |         |        |
| 1090075010     | 40 | 75      | 1      |
| 1090090011     | 40 | 90      | 1      |
| 1090110012     | 40 | 110     | 1      |
| 1090125013     | 40 | 125     | 1      |
| 1090125014     | 63 | 125     | 1      |
| 1090160015     | 40 | 160     | 1      |
| 1090160016     | 63 | 160     | 1      |
| 1090200017     | 40 | 200     | 1      |
| 1090200018     | 63 | 200     | 1      |
| 1090250019     | 40 | 250     | 1      |
| 1090250020     | 63 | 250     | 1      |
| 1090315021     | 63 | 315-355 | 1      |
| 1090400022     | 63 | 400-630 | 1      |

Items are not always available from stock. Please enquire separately about delivery times and quantities.  
The necessary tools for processing can be found in the Tools chapter.



### Water meter nut adapter

with gasket — SDR 6 / 7,4 / 9 / 11

Material: fusiolen® PP-R / brass  
Standards: DIN 16962, DIN EN ISO 15874  
Colour: green

| Article no.             | d  | l    | l1  | D    | z    | R    | SW | kg    | PU [m] |
|-------------------------|----|------|-----|------|------|------|----|-------|--------|
| one side socket welding |    |      |     |      |      |      |    |       |        |
| 1050020090              | 20 | 59,5 | 3,0 | 38,5 | 45,0 | 3/4" | 30 | 0,136 | 1      |
| 1050025091              | 25 | 61,0 | 3,0 | 38,5 | 45,0 | 3/4" | 30 | 0,155 | 1      |
| 1050032092              | 32 | 62,0 | 3,0 | 43,5 | 44,0 | 3/4" | 30 | 0,162 | 1      |

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of &gt;0.1% (w/w).

### Coupling screw joint, brass

SDR 6 / 7,4 / 9 / 11

Material: fusiolen® PP-R / brass  
Standards: DIN 16962, DIN EN ISO 15874  
Colour: green, brass

| Article no.    | d  | l    | D    | z    | SW1 | SW2 | kg    | PU [m] |
|----------------|----|------|------|------|-----|-----|-------|--------|
| socket welding |    |      |      |      |     |     |       |        |
| 1050032040     | 32 | 36,5 | 41,0 | 18,5 | 64  | 50  | 0,479 | 1      |
| 1050040041     | 40 | 38,0 | 50,0 | 17,5 | 80  | 60  | 0,841 | 1      |
| 1050050042     | 50 | 41,0 | 61,0 | 17,5 | 86  | 70  | 0,821 | 1      |
| 1050063043     | 63 | 45,0 | 76,0 | 17,5 | 108 | 90  | 1,498 | 1      |
| 1050075044     | 75 | 31,0 | 90,0 | 17,5 | 128 | 104 | 1,998 | 1      |

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of &gt;0.1% (w/w).

### Coupling screw joint

SDR 6 / 7,4 / 9 / 11

Material: fusiolen® PP-R  
Standards: DIN 16962, DIN EN ISO 15874  
Colour: green

| Article no.    | d  | l    | l1   | D     | z    | z1  | kg    | PU [m] |
|----------------|----|------|------|-------|------|-----|-------|--------|
| socket welding |    |      |      |       |      |     |       |        |
| 1050020050     | 20 | 26,0 | 20,0 | 46,0  | 12,0 | 5,5 | 0,036 | 10     |
| 1050025051     | 25 | 28,0 | 21,0 | 56,0  | 12,0 | 5,0 | 0,058 | 10     |
| 1050032052     | 32 | 30,0 | 23,0 | 66,0  | 12,0 | 5,0 | 0,089 | 5      |
| 1050040053     | 40 | 34,0 | 25,5 | 79,0  | 13,5 | 5,0 | 0,136 | 5      |
| 1050050054     | 50 | 39,0 | 28,8 | 87,0  | 15,5 | 5,0 | 0,170 | 5      |
| 1050063055     | 63 | 47,5 | 32,5 | 107,0 | 20,0 | 5,0 | 0,240 | 1      |
| 1050075056     | 75 | 50,0 | 36,0 | 128,0 | 20,0 | 6,0 | 0,546 | 1      |

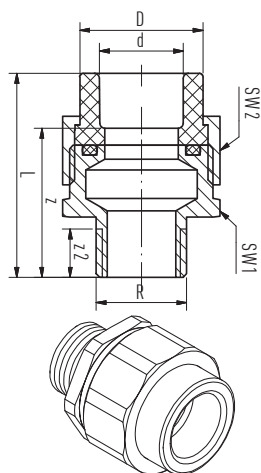
### Loose nut adapter

with gasket — SDR 6 / 7,4 / 9 / 11

Material: fusiolen® PP-R / brass  
Standards: DIN 16962, DIN EN ISO 15874  
Colour: green

| Article no.             | d  | l     | l1  | k    | R      | SW | kg    | PU [m] |
|-------------------------|----|-------|-----|------|--------|----|-------|--------|
| one side socket welding |    |       |     |      |        |    |       |        |
| 1050020082              | 20 | 100,0 | 3,0 | 65,0 | 1"     | 36 | 0,079 | 1      |
| 1050025083              | 25 | 100,0 | 3,0 | 62,0 | 1 1/4" | 46 | 0,104 | 1      |
| 1050032084              | 32 | 100,0 | 3,0 | 58,0 | 1 1/2" | 52 | 0,175 | 1      |
| 1050040085              | 40 | 100,0 | 3,0 | 53,0 | 2"     | 64 | 0,258 | 1      |

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of &gt;0.1% (w/w).



### Transition coupling with male thread

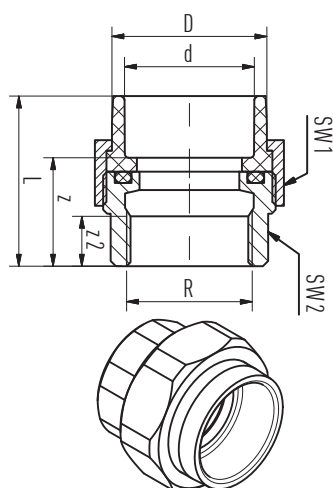
with union nut and welding socket — SDR 6 / 7,4 / 9 / 11

Material:  
Standards:  
Colour:

fusiolen® PP-R / brass  
DIN 16962, DIN EN ISO 15874  
green

| Article no.             | d  | D    | L    | z    | z2   | R      | SW1 | SW2 | kg    | PU [m] |
|-------------------------|----|------|------|------|------|--------|-----|-----|-------|--------|
| one side socket welding |    |      |      |      |      |        |     |     |       |        |
| 1050020070              | 20 | 27,5 | 52,5 | 38,0 | 13,5 | 1/2"   | 34  | 36  | 0,145 | 1      |
| 1050025071              | 25 | 36,0 | 59,5 | 43,5 | 14,5 | 3/4"   | 42  | 46  | 0,243 | 1      |
| 1050032072              | 32 | 41,5 | 64,5 | 46,5 | 16,8 | 1"     | 48  | 52  | 0,336 | 1      |
| 1050040073              | 40 | 53,0 | 70,0 | 49,5 | 19,1 | 1 1/4" | 60  | 64  | 0,517 | 1      |
| 1050050074              | 50 | 59,0 | 84,8 | 61,3 | 22,0 | 1 1/2" | 48  | 72  | 0,624 | 1      |
| 1050063075              | 63 | 74,0 | 95,5 | 68,0 | 25,0 | 2"     | 62  | 89  | 1,045 | 1      |

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of >0.1% (w/w).



### Transition coupling with female thread

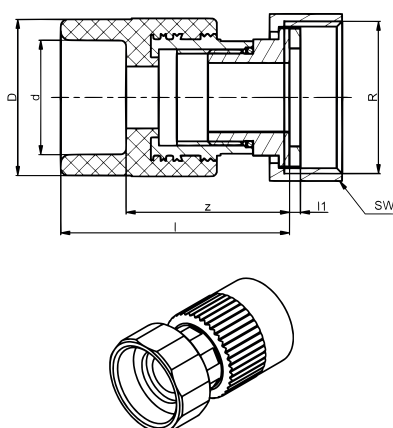
with union nut and welding socket — SDR 6 / 7,4 / 9 / 11

Material:  
Standards:  
Colour:

fusiolen® PP-R / brass  
DIN 16962, DIN EN ISO 15874  
green

| Article no.             | d  | D    | L    | z    | z2   | R      | SW1 | SW2 | kg    | PU [m] |
|-------------------------|----|------|------|------|------|--------|-----|-----|-------|--------|
| one side socket welding |    |      |      |      |      |        |     |     |       |        |
| 1050020076              | 20 | 27,5 | 45,0 | 30,5 | 15,0 | 1/2"   | 36  | 24  | 0,112 | 1      |
| 1050025077              | 25 | 36,0 | 49,0 | 33,0 | 15,5 | 3/4"   | 46  | 32  | 0,193 | 1      |
| 1050032078              | 32 | 41,5 | 54,0 | 36,0 | 15,0 | 1"     | 52  | 40  | 0,291 | 1      |
| 1050040079              | 40 | 53,0 | 56,5 | 36,0 | 20,0 | 1 1/4" | 64  | 47  | 0,423 | 1      |
| 1050050080              | 50 | 59,0 | 64,8 | 41,3 | 19,0 | 1 1/2" | 72  | 57  | 0,610 | 1      |
| 1050063081              | 63 | 74,0 | 74,5 | 47,0 | 18,0 | 2"     | 89  | 68  | 0,924 | 1      |

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of >0.1% (w/w).



### Nut adapter ISO-standard

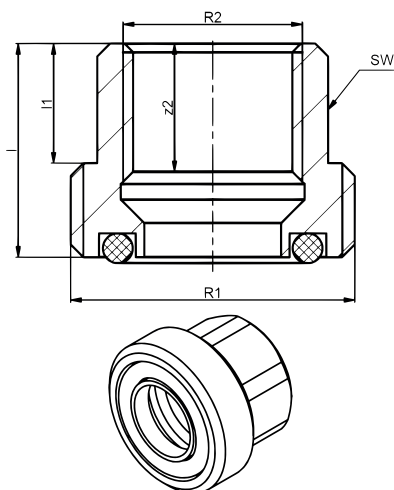
SDR 6 / 7,4 / 9 / 11

Material:  
Standards:  
Colour:

fusiolen® PP-R / brass  
DIN 16962, DIN EN ISO 15874  
green

| Article no.             | d  | l    | l1  | D     | z    | R      | SW  | kg    | PU [m] |
|-------------------------|----|------|-----|-------|------|--------|-----|-------|--------|
| one side socket welding |    |      |     |       |      |        |     |       |        |
| 1050020097              | 20 | 58,5 | 3,0 | 38,5  | 34,0 | 1"     | 36  | 0,182 | 10     |
| 1050025098              | 25 | 60,0 | 3,0 | 38,5  | 44,0 | 1"     | 36  | 0,186 | 10     |
| 1050025099              | 25 | 60,0 | 3,0 | 43,5  | 44,0 | 1 1/4" | 46  | 0,274 | 10     |
| 1050032100              | 32 | 63,0 | 3,0 | 43,5  | 45,0 | 1 1/4" | 46  | 0,279 | 5      |
| 1050032101              | 32 | 69,5 | 3,0 | 60,0  | 51,5 | 1 1/2" | 52  | 0,446 | 5      |
| 1050040102              | 40 | 72,0 | 3,0 | 60,0  | 51,5 | 1 1/2" | 52  | 0,421 | 5      |
| 1050040103              | 40 | 72,0 | 3,0 | 74,0  | 51,5 | 2"     | 64  | 0,719 | 5      |
| 1050050104              | 50 | 75,0 | 3,0 | 74,0  | 51,5 | 2"     | 64  | 0,736 | 5      |
| 1050050105              | 50 | 77,0 | 3,0 | 84,0  | 53,5 | 2 1/4" | 72  | 0,831 | 5      |
| 1050063106              | 63 | 83,5 | 3,0 | 84,0  | 56,0 | 2 1/4" | 72  | 0,889 | 1      |
| 1050063107              | 63 | 82,5 | 3,0 | 101,0 | 55,0 | 2 3/4" | 89  | 1,306 | 1      |
| 1050075108              | 75 | 85,0 | 3,0 | 100,0 | 55,0 | 2 3/4" | 89  | 1,275 | 1      |
| 1050075109              | 75 | 91,0 | 3,0 | 100,0 | 61,0 | 3 1/2" | 110 | 1,818 | 1      |

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of >0.1% (w/w).

**Brass counterpart with female thread**

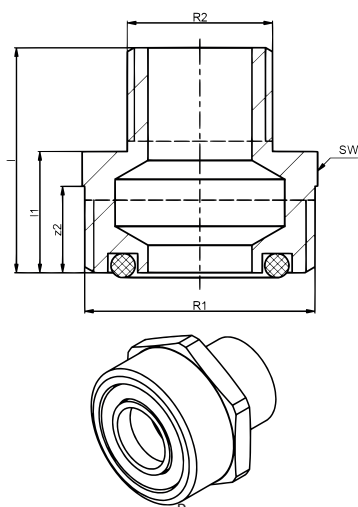
Material:

brass

to ISO-Norm-screwed connection — SDR 6 / 7,4 / 9 / 11

| Article no. | l1   | L    | z2   | R1     | R2     | SW | kg    | PU [m] |
|-------------|------|------|------|--------|--------|----|-------|--------|
| 1050000130  | 14,0 | 25,0 | 15,0 | 1"     | 1/2"   | 25 | 0,063 | 10     |
| 1050000131  | 12,5 | 26,0 | 14,0 | 1 1/4" | 3/4"   | 32 | 0,119 | 10     |
| 1050000132  | 15,0 | 31,0 | 17,0 | 1 1/2" | 1"     | 40 | 0,175 | 5      |
| 1050000133  | 17,0 | 33,0 | 22,0 | 2"     | 1 1/4" | 47 | 0,263 | 5      |
| 1050000134  | 20,0 | 36,0 | 19,0 | 2 1/4" | 1 1/2" | 57 | 0,333 | 5      |
| 1050000135  | 24,0 | 42,0 | 24,0 | 2 3/4" | 2"     | 68 | 0,517 | 1      |
| 9600027522  | 24,0 | 46,0 | 27,0 | 3 1/2" | 2 1/2" | 84 | 0,801 | 1      |
| 9600027524  | 27,0 | 46,0 | 27,0 | 4"     | 3"     | 97 | 0,943 | 1      |

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of &gt;0.1% (w/w).

**Brass counterpart with male thread**

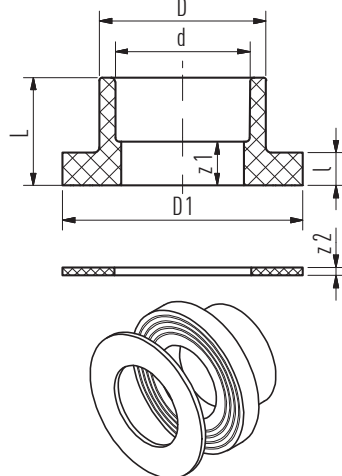
Material:

brass

to ISO-Norm-screwed connection — SDR 6 / 7,4 / 9 / 11

| Article no. | l1   | L    | z2   | R1     | R2     | SW | kg    | PU [m] |
|-------------|------|------|------|--------|--------|----|-------|--------|
| 1050000138  | 17,5 | 32,5 | 10,5 | 1"     | 1/2"   | 34 | 0,109 | 10     |
| 1050000139  | 21,0 | 38,5 | 12,5 | 1 1/4" | 3/4"   | 42 | 0,188 | 10     |
| 1050000140  | 22,5 | 41,5 | 13,5 | 1 1/2" | 1"     | 48 | 0,211 | 5      |
| 1050000141  | 22,5 | 44,5 | 13,0 | 2"     | 1 1/4" | 60 | 0,363 | 5      |
| 1050000142  | 34,0 | 56,0 | 16,0 | 2 1/4" | 1 1/2" | 48 | 0,472 | 5      |
| 1050000143  | 38,0 | 63,0 | 16,0 | 2 3/4" | 2"     | 62 | 0,803 | 1      |
| 9600027722  | 42,0 | 70,0 | 22,0 | 3 1/2" | 2 1/2" | 82 | 1,189 | 1      |
| 9600027724  | 42,0 | 74,0 | 22,0 | 4"     | 3"     | 97 | 1,398 | 1      |

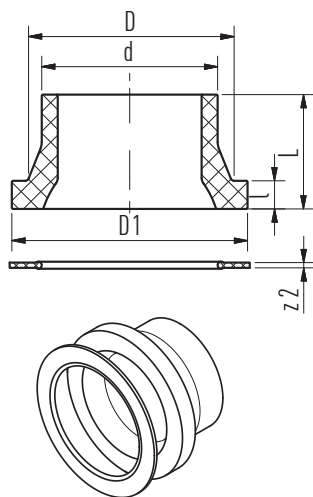
Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of &gt;0.1% (w/w).

**Flange adapter with gasket**Material:  
Standards:  
Colourfusiolen® PP-R  
DIN 16962, DIN EN ISO 15874  
green

SDR 6 / 7,4 / 9 / 11

| Article no.             | d   | L     | l    | D     | D1    | z1   | z2  | kg    | PU [m] |
|-------------------------|-----|-------|------|-------|-------|------|-----|-------|--------|
| one side socket welding |     |       |      |       |       |      |     |       |        |
| 1050032020              | 32  | 34,0  | 10,0 | 41,0  | 68,0  | 16,0 | 3,0 | 0,053 | 1      |
| 1050040021              | 40  | 35,5  | 11,0 | 50,0  | 78,0  | 15,0 | 3,0 | 0,071 | 1      |
| 1050050022              | 50  | 39,5  | 12,0 | 61,0  | 88,0  | 16,0 | 3,0 | 0,071 | 1      |
| 1050063023              | 63  | 43,5  | 14,0 | 76,0  | 102,0 | 16,0 | 3,0 | 0,112 | 1      |
| 1050075024              | 75  | 46,0  | 16,0 | 90,0  | 122,0 | 16,0 | 3,0 | 0,169 | 1      |
| 1050090025              | 90  | 50,0  | 17,0 | 108,0 | 138,0 | 17,0 | 3,0 | 0,261 | 1      |
| 1050110026              | 110 | 55,5  | 18,5 | 131,0 | 158,0 | 18,5 | 3,0 | 0,329 | 1      |
| 1050125028              | 125 | 63,0  | 20,0 | 165,0 | 188,0 | 23,0 | 3,0 | 0,724 | 1      |
| 1050125027 *            | 125 | 195,0 | 18,5 | 131,0 | 158,0 | -    | 3,0 | 1,180 | 1      |

\*Can only be used with 125 mm fitting; with 110 mm flange adapter / suitable flange adapter for shut-off valve available on request



## Flange adapter butt welding

with gasket

Material:  
Standards:  
Colour:

fusiolen® PP-RCT  
DIN 16962, DIN EN ISO 15874  
green

| Article no. | d | l | D | D1 | L | z2 | kg | PU [m] |
|-------------|---|---|---|----|---|----|----|--------|
|-------------|---|---|---|----|---|----|----|--------|

one side butt welding

SDR 11

|            |     |      |       |       |       |     |        |   |
|------------|-----|------|-------|-------|-------|-----|--------|---|
| 1054160030 | 160 | 25,0 | 175,0 | 212,0 | 93,0  | 3,0 | 0,955  | 1 |
| 1054200032 | 200 | 32,0 | 232,0 | 268,0 | 130,0 | 6,0 | 1,957  | 1 |
| 1054250034 | 250 | 35,0 | 285,0 | 320,0 | 130,0 | 6,0 | 2,717  | 1 |
| 1054315035 | 315 | 35,0 | 335,0 | 370,0 | 168,0 | 6,0 | 6,000  | 1 |
| 1054355036 | 355 | 40,0 | 373,0 | 430,0 | 180,0 | 6,0 | 7,930  | 1 |
| 1054400037 | 400 | 46,0 | 427,0 | 482,0 | 195,0 | 6,0 | 12,000 | 1 |
| 1054450038 | 450 | 60,0 | 514,0 | 585,0 | 139,0 | 7,0 | 15,200 | 1 |

SDR 17,6

|            |     |      |       |       |       |     |        |   |
|------------|-----|------|-------|-------|-------|-----|--------|---|
| 2057160100 | 160 | 18,0 | 175,0 | 212,0 | 80,0  | 3,0 | 0,821  | 1 |
| 2057200101 | 200 | 32,0 | 232,0 | 268,0 | 130,0 | 6,0 | 1,849  | 1 |
| 2057250102 | 250 | 35,0 | 285,0 | 320,0 | 130,0 | 6,0 | 2,736  | 1 |
| 2057315103 | 315 | 25,0 | 335,0 | 370,0 | 168,0 | 6,0 | 4,500  | 1 |
| 2057355104 | 355 | 30,0 | 373,0 | 430,0 | 184,0 | 6,0 | 7,000  | 1 |
| 2057400105 | 400 | 33,0 | 427,0 | 482,0 | 195,0 | 6,0 | 7,360  | 1 |
| 2057450106 | 450 | 46,0 | 514,0 | 585,0 | 142,0 | 7,0 | 10,400 | 1 |
| 2057500107 | 500 | 46,0 | 530,0 | 585,0 | 138,0 | 7,0 | 8,700  | 1 |
| 2057630108 | 630 | 50,0 | 642,0 | 685,0 | 140,0 | 7,0 | 12,530 | 1 |

Suitable flange sleeves for butterfly valves are available on request.

## Flange adapter for butterfly valves

without gasket

Material:  
Standards:  
Colour:

fusiolen® PP-RCT  
DIN 16962, DIN EN ISO 15874  
green

| Article no. | d | l | D | D1 | L | z2 | kg | PU [m] |
|-------------|---|---|---|----|---|----|----|--------|
|-------------|---|---|---|----|---|----|----|--------|

one side butt welding

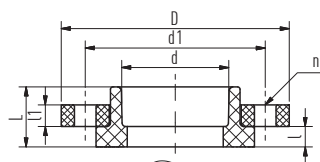
SDR 11

|            |     |      |       |       |       |     |        |   |
|------------|-----|------|-------|-------|-------|-----|--------|---|
| 2024315924 | 315 | 35,0 | 335,0 | 370,0 | 168,0 | 6,0 | 6,000  | 1 |
| 2024355924 | 355 | 40,0 | 373,0 | 430,0 | 180,0 | 6,0 | 7,930  | 1 |
| 2024400924 | 400 | 46,0 | 427,0 | 482,0 | 195,0 | 6,0 | 12,000 | 1 |
| 2024450924 | 450 | 60,0 | 514,0 | 585,0 | 139,0 | 7,0 | 15,200 | 1 |

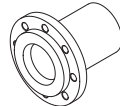
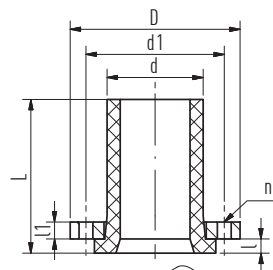
SDR 17,6

|            |     |      |       |       |       |     |        |   |
|------------|-----|------|-------|-------|-------|-----|--------|---|
| 2027315924 | 315 | 25,0 | 335,0 | 370,0 | 168,0 | 6,0 | 4,500  | 1 |
| 2027355924 | 355 | 30,0 | 373,0 | 430,0 | 184,0 | 6,0 | 7,000  | 1 |
| 2027400924 | 400 | 33,0 | 427,0 | 482,0 | 195,0 | 6,0 | 7,360  | 1 |
| 2027450924 | 450 | 46,0 | 514,0 | 585,0 | 142,0 | 7,0 | 10,400 | 1 |
| 2027500924 | 500 | 46,0 | 530,0 | 585,0 | 138,0 | 7,0 | 8,700  | 1 |
| 2027630924 | 630 | 50,0 | 642,0 | 685,0 | 140,0 | 7,0 | 12,530 | 1 |

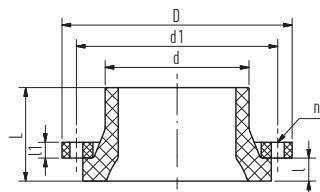
Suitable flange sleeves for butterfly valves are available on request.



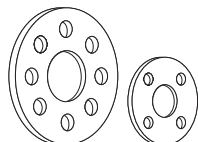
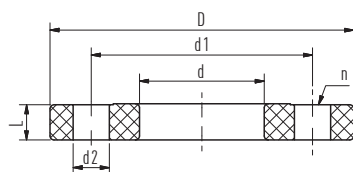
socket welding



SDR 6 / 7,4 / 9 / 11 / 17,6



butt welding



## Flange adapter incl. flange PN6

without gasket

Material: Flange: steel galvanised,  
Flange adapter: fusiofen® PP-R  
Standards: Flange according to DIN 2641  
Colour: Flange: black / Flange adapter: green

| Article no. | d | D | d1 | l | l1 | L | n | kg | PU [m] |
|-------------|---|---|----|---|----|---|---|----|--------|
|-------------|---|---|----|---|----|---|---|----|--------|

socket welding

SDR 6 / 7,4 / 9 / 11 / 17,6

|            |     |       |       |      |      |      |   |       |   |
|------------|-----|-------|-------|------|------|------|---|-------|---|
| 1050032001 | 32  | 100,0 | 75,0  | 10,0 | 10,0 | 34,0 | 4 | 1,090 | 1 |
| 1050040002 | 40  | 120,0 | 90,0  | 11,0 | 10,0 | 35,5 | 4 | 1,170 | 1 |
| 1050050003 | 50  | 130,0 | 100,0 | 12,0 | 10,0 | 39,5 | 4 | 1,360 | 1 |
| 1050063004 | 63  | 140,0 | 110,0 | 14,0 | 10,0 | 43,5 | 4 | 0,886 | 1 |
| 1050075005 | 75  | 160,0 | 130,0 | 16,0 | 10,0 | 46,0 | 4 | 1,148 | 1 |
| 1050090006 | 90  | 190,0 | 150,0 | 17,0 | 10,0 | 50,0 | 4 | 1,618 | 1 |
| 1050110007 | 110 | 210,0 | 170,0 | 18,5 | 10,0 | 55,5 | 4 | 1,824 | 1 |
| 1050125009 | 125 | 240,0 | 200,0 | 20,0 | 12,0 | 63,0 | 4 | 3,945 | 1 |

SDR 6 / 7,4 / 9 / 11 / 17,6

|              |     |       |       |      |      |       |   |       |   |
|--------------|-----|-------|-------|------|------|-------|---|-------|---|
| 1050125008 * | 125 | 210,0 | 170,0 | 18,5 | 10,0 | 195,0 | 8 | 2,715 | 1 |
|--------------|-----|-------|-------|------|------|-------|---|-------|---|

butt welding

SDR 11

|            |     |       |       |      |      |       |   |       |   |
|------------|-----|-------|-------|------|------|-------|---|-------|---|
| 1050160010 | 160 | 265,0 | 225,0 | 25,0 | 12,0 | 93,0  | 8 | 4,136 | 1 |
| 1050200011 | 200 | 320,0 | 280,0 | 32,0 | 12,0 | 130,0 | 8 | 6,694 | 1 |
| 1050250012 | 250 | 375,0 | 335,0 | 35,0 | 12,0 | 130,0 | 8 | 9,500 | 1 |

d = Connection dimension, d1 = hole-circle, PN 6 = Flange according to DIN 2641

\*125 mm Fitting with 110 mm, flange adapter incl. flange PN6 use only in combination with a fitting

## Plastic coated steel flange

SDR 6 / 7,4 / 9 / 11 / 17,6

Material: PP / steel  
Standards: Flange according to  
DIN EN 1092, DIN 2501  
Colour: grey

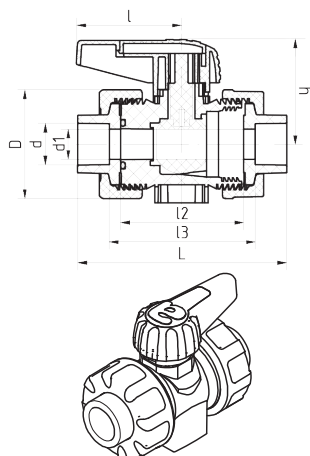
| Article no. | fitting Art.-Nr. | Ø Flange adapter | DN | d | d1 | D | d2 | L | n | kg | PU [m] |
|-------------|------------------|------------------|----|---|----|---|----|---|---|----|--------|
|-------------|------------------|------------------|----|---|----|---|----|---|---|----|--------|

|              |                          |     |     |       |       |       |      |      |    |      |   |
|--------------|--------------------------|-----|-----|-------|-------|-------|------|------|----|------|---|
| 1040032150   | 1050032020               | 32  | 25  | 42,0  | 85,0  | 122,0 | 14,0 | 17,0 | 4  | 0,4  | 1 |
| 1040040151   | 1050040021               | 40  | 32  | 51,0  | 100,0 | 142,0 | 18,0 | 17,0 | 4  | 0,5  | 1 |
| 1040050152   | 1050050022               | 50  | 40  | 62,0  | 110,0 | 156,0 | 18,0 | 19,0 | 4  | 0,7  | 1 |
| 1040063153   | 1050063023               | 63  | 50  | 78,0  | 125,0 | 170,0 | 18,0 | 20,0 | 4  | 0,9  | 1 |
| 1040075154   | 1050075024               | 75  | 65  | 92,0  | 145,0 | 191,0 | 18,0 | 21,0 | 4  | 1,0  | 1 |
| 1040090155   | 1050090025               | 90  | 80  | 110,0 | 160,0 | 206,0 | 18,0 | 21,0 | 8  | 1,2  | 1 |
| 1040110156   | 1050110026<br>1050125027 | 110 | 100 | 133,0 | 180,0 | 226,0 | 18,0 | 22,0 | 8  | 1,5  | 1 |
| 1040125157   | 1050125028<br>(125 mm)   | 125 | 125 | 167,0 | 210,0 | 261,0 | 18,0 | 26,0 | 8  | 1,9  | 1 |
| 1040160158   | 1052160029<br>1054160030 | 160 | 150 | 178,0 | 240,0 | 296,0 | 22,0 | 28,0 | 8  | 1,8  | 1 |
| 1040200159 * | 1052200031<br>1054200032 | 200 | 200 | 235,0 | 295,0 | 350,0 | 22,0 | 32,0 | 8  | 3,1  | 1 |
| 1040250160 * | 1052250033<br>1054250034 | 250 | 250 | 288,0 | 350,0 | 412,0 | 22,0 | 36,0 | 12 | 4,9  | 1 |
| 1040315161 * | 1054315035               | 315 | 300 | 338,0 | 400,0 | 462,0 | 22,0 | 42,0 | 12 | 6,4  | 1 |
| 1040355162 * | 1054355036               | 355 | 350 | 376,0 | 460,0 | 525,0 | 22,0 | 52,0 | 16 | 11,1 | 1 |
| 1040400163 * | 2057400105               | 400 | 400 | 430,0 | 515,0 | 586,0 | 26,0 | 56,0 | 16 | 14,7 | 1 |
| 1040450164 * | 2057450106               | 450 | 500 | 514,0 | 620,0 | 690,0 | 27,0 | 54,5 | 20 | 20,3 | 1 |
| 1040500165 * | 2057500107               | 500 | 500 | 530,0 | 620,0 | 690,0 | 27,0 | 55,0 | 20 | 19,2 | 1 |
| 1040630166 * | 2057630108               | 630 | 600 | 642,0 | 725,0 | 804,0 | 30,0 | 62,0 | 20 | 27,7 | 1 |

d = Connection dimension, d1 = hole-circle, PN10/16= Flange according to DIN EN1092, DIN2501

\*Flange PN16 200 – 630 mm (Art. no. 9700015934–9700015954) available on request.

\*\*Material: steel/epoxy



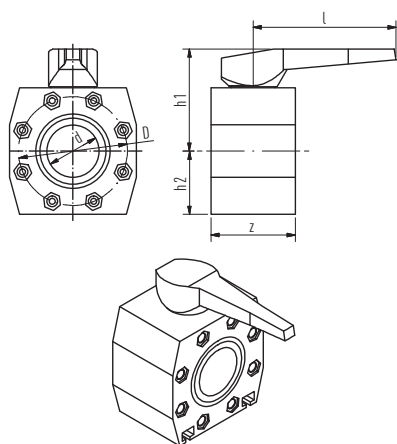
### PP-ball valve, with union nut and welding socket

SDR 6 / 7,4 / 9 / 11

Material:  
Colour:fusiolen® PP-R  
green

| Article no.    | d  | d1   | D     | h     | l1   | l2    | l3    | L     | l     | kg    | PU [m] |
|----------------|----|------|-------|-------|------|-------|-------|-------|-------|-------|--------|
| socket welding |    |      |       |       |      |       |       |       |       |       |        |
| 1090020052     | 20 | 13,5 | 50,3  | 48,0  | 25,0 | 56,5  | 68,0  | 97,0  | 48,0  | 0,118 | 1      |
| 1090025053     | 25 | 18,5 | 59,0  | 56,5  | 25,0 | 65,5  | 78,0  | 110,0 | 59,0  | 0,184 | 1      |
| 1090032054     | 32 | 23,9 | 70,3  | 64,5  | 26,0 | 72,0  | 84,5  | 120,5 | 59,0  | 0,274 | 1      |
| 1090040055     | 40 | 31,0 | 85,9  | 83,3  | 45,0 | 85,0  | 100,0 | 141,0 | 63,5  | 0,483 | 1      |
| 1090050056     | 50 | 38,5 | 99,5  | 89,4  | 45,0 | 89,0  | 107,0 | 154,0 | 63,5  | 0,648 | 1      |
| 1090063057     | 63 | 50,0 | 125,5 | 115,0 | 45,0 | 101,0 | 118,0 | 173,0 | 108,0 | 1,206 | 1      |
| 1090075052     | 75 | -    | 129,0 | 139,0 | -    | -     | 216,0 | 276,0 | 152,0 | 2,441 | 1      |

Also suitable for vacuum pipes.



### PP-ball valve, with flange connection on both sides

SDR 6 / 7,4 / 9 / 11 / 17,6

Material:  
Colour:fusiolen® PP-R  
green

| Article no. | für Ø | d     | l     | D     | z     | h1    | h2    | kg     | PU [m] |
|-------------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| 1090090058  | 90    | 77,0  | 210,0 | 160,0 | 124,0 | 150,0 | 93,0  | 4,196  | 1      |
| 1090110059  | 110   | 94,0  | 260,0 | 180,0 | 145,0 | 165,0 | 103,0 | 5,612  | 1      |
| 1090160060  | 160   | 135,0 | 310,0 | 240,0 | 205,0 | 210,0 | 136,5 | 13,420 | 1      |

Also suitable for vacuum pipes.

For dimension 125 mm the PP-ball valve Art. no. 1090110059 with flange adapter Art. no. 1050125027 and flange Art. no. 1040110156 is used. For connection with aquatherm green weldable flange adapter (Art. no. 3050090006 - 1054160030) and aquatherm green plastic coated steel flange (Art. no. 1040090155 - 1040160158). Hexagon screw M 16x60 mm for Art. no. 1090090058/1090110059 Hexagon screw M 20x80 mm for Art. no. 1090110059 corresponding flat washer M 16.

NOTICE: These are not included in the above articles.

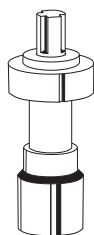
### Electrical drive for ball valve

Colour:

black / red

for article no. 1090020052 - 1090063057 (\*for article no. 1090090058 - 1090110059)

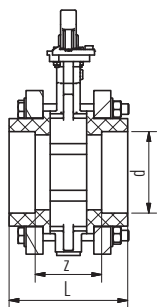
| Article no.  | Dimension | for Article no                | kg    | PU [m] |
|--------------|-----------|-------------------------------|-------|--------|
| 230 Volt     |           |                               |       |        |
| 9700041489   | 20        | incl. fixtures for 1090020052 | 1,500 | 1      |
| 9700041491   | 25        | incl. fixtures for 1090025053 | 1,600 | 1      |
| 9700041493   | 32        | incl. fixtures for 1090032054 | 1,600 | 1      |
| 9700041495   | 40        | incl. fixtures for 1090040055 | 1,600 | 1      |
| 9700041497   | 50        | incl. fixtures for 1090050056 | 1,700 | 1      |
| 9700041499   | 63        | incl. fixtures for 1090063057 | 1,700 | 1      |
| 9700041603 * | 90        | incl. fixtures for 1090090058 | 3,300 | 1      |
| 9700041605 * | 110       | incl. fixtures for 1090110059 | 3,400 | 1      |
| 9700041608 * | 160       | incl. fixtures for 1090160060 | 3,700 | 1      |
| 24 Volt      |           |                               |       |        |
| 9700041589   | 20        | incl. fixtures for 1090020052 | 1,500 | 1      |
| 9700041591   | 25        | incl. fixtures for 1090025053 | 1,600 | 1      |
| 9700041593   | 32        | incl. fixtures for 1090032054 | 1,600 | 1      |
| 9700041595   | 40        | incl. fixtures for 1090040055 | 1,600 | 1      |
| 9700041597   | 50        | incl. fixtures for 1090050056 | 1,700 | 1      |
| 9700041599   | 63        | incl. fixtures for 1090063057 | 1,700 | 1      |
| 9700041703 * | 90        | incl. fixtures for 1090090058 | 3,300 | 1      |
| 9700041705 * | 110       | incl. fixtures for 1090110059 | 3,400 | 1      |
| 9700041708 * | 160       | incl. fixtures for 1090110059 | 3,700 | 1      |

**Extension for ball valve**

for article no. 1090020052– 1090160060

Material:  
Colour:PVC  
grey

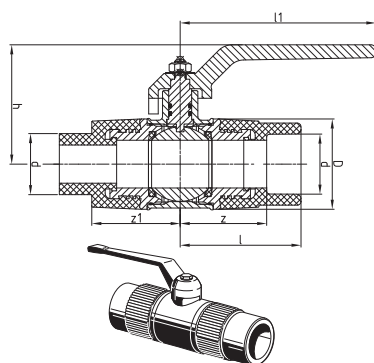
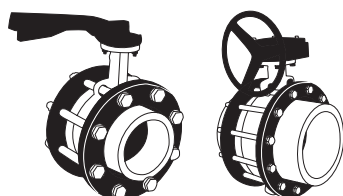
| Article no. | for Article no.                | l   | kg    | PU [m] |
|-------------|--------------------------------|-----|-------|--------|
| 9700098900  | 1090020052 L:100 mm            | 100 | 0,020 | 1      |
| 9700098901  | 1090025053/1090032054 L:100 mm | 100 | 0,025 | 1      |
| 9700098902  | 1090040055/1090050056 L:100 mm | 100 | 0,030 | 1      |
| 9700098903  | 1090063057 L:100 mm            | 100 | 0,125 | 1      |

**aquatherm blue butterfly valve**

with a hand lever or gearbox

Material:  
Colour:fusiolen® PP-R, stainless steel  
blue

| Article no.                                     | d   | L     | z     | kg     | PU [m] |
|-------------------------------------------------|-----|-------|-------|--------|--------|
| socket welding                                  |     |       |       |        |        |
| with hand lever for SDR 6 / 7,4 / 9 / 11 / 17,6 |     |       |       |        |        |
| 9702041820                                      | 75  | 138,0 | 80,0  | 6,500  | 1      |
| 9702041822                                      | 90  | 146,0 | 80,0  | 8,850  | 1      |
| 9702041824                                      | 110 | 163,0 | 89,0  | 10,400 | 1      |
| 9702041826                                      | 125 | 184,0 | 104,0 | 15,250 | 1      |
| butt welding                                    |     |       |       |        |        |
| with hand lever for SDR 11                      |     |       |       |        |        |
| 9702041830                                      | 160 | 242,0 | 229,0 | 19,400 | 1      |
| with hand lever for SDR 17,6                    |     |       |       |        |        |
| 9702541830                                      | 160 | 242,0 | 228,0 | 18,100 | 1      |
| with gearbox for SDR 11                         |     |       |       |        |        |
| 9702041834                                      | 200 | 320,0 | 309,0 | 38,400 | 1      |
| 9702041838                                      | 250 | 328,0 | 318,0 | 55,200 | 1      |
| 9702041842                                      | 315 | 432,0 | 420,5 | 75,800 | 1      |
| with gearbox for SDR 17,6                       |     |       |       |        |        |
| 9702541834                                      | 200 | 320,0 | 309,0 | 37,700 | 1      |
| 9702541838                                      | 250 | 328,0 | 318,0 | 54,400 | 1      |
| 9702541842                                      | 315 | 432,0 | 420,5 | 72,600 | 1      |

**Ball valve for a manifold**

inside/outside — SDR 6 / 7,4 / 9 / 11

Material:  
Colour:fusiolen® PP-R / brass  
green

| Article no.    | d  | l    | l1    | D    | z    | z1   | h    | kg    | PU [m] |
|----------------|----|------|-------|------|------|------|------|-------|--------|
| socket welding |    |      |       |      |      |      |      |       |        |
| 1050032189     | 32 | 63,0 | 108,0 | 47,5 | 45,0 | 46,5 | 78,0 | 0,575 | 2      |

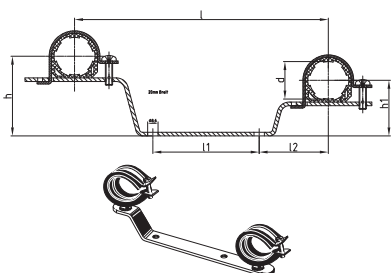
Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of &gt;0.1% (w/w).

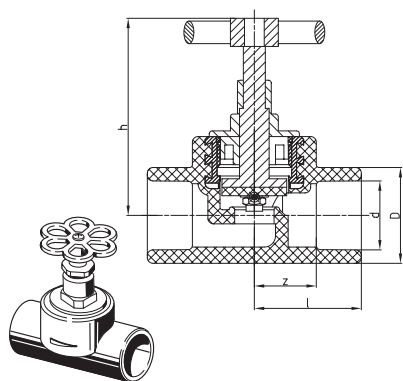
**Supporting strap for four-port manifold**

with clamps, galvanised, double

Material:  
Farbe:steel galvanised  
zinc

| Article no. | d  | l     | l1   | l2   | h    | h1   | kg    | PU [m] |
|-------------|----|-------|------|------|------|------|-------|--------|
| 9600060211  | 32 | 210,0 | 80,0 | 57,0 | 66,0 | 46,0 | 0,226 | 2      |



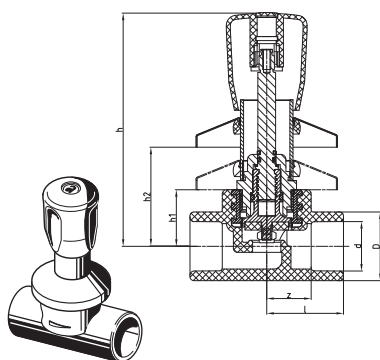
**Globe valve**

for surface installation — SDR 6 / 7,4 / 9 / 11

Material:  
Colour:fusiolen® PP-R / brass  
green

| Article no.    | d  | l    | D    | z    | h     | kg    | PU [m] |
|----------------|----|------|------|------|-------|-------|--------|
| socket welding |    |      |      |      |       |       |        |
| 1090020040     | 20 | 35,0 | 29,5 | 20,5 | 75,3  | 0,165 | 1      |
| 1090025041     | 25 | 38,0 | 34,0 | 22,0 | 75,0  | 0,172 | 1      |
| 1090032042     | 32 | 49,0 | 43,0 | 31,0 | 97,0  | 0,314 | 1      |
| 1090040043     | 40 | 60,0 | 52,0 | 39,5 | 111,5 | 0,585 | 1      |

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of &gt;0.1% (w/w).

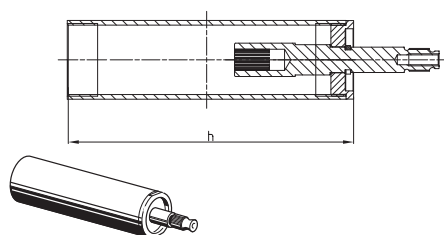
**Concealed valve, chromium plated**

SDR 6 / 7,4 / 9 / 11

Material:  
Colour:fusiolen® PP-R / brass  
green

| Article no.    | d  | l    | D    | z    | h     | h1   | H2   | kg    | PU [m] |
|----------------|----|------|------|------|-------|------|------|-------|--------|
| socket welding |    |      |      |      |       |      |      |       |        |
| 1050020150     | 20 | 35,0 | 29,5 | 20,5 | 116,0 | 28,0 | 59,0 | 0,319 | 1      |
| 1050025151     | 25 | 38,0 | 34,0 | 22,0 | 116,0 | 28,0 | 59,0 | 0,330 | 1      |
| 1050032152     | 32 | 49,0 | 43,0 | 31,0 | 121,0 | 34,0 | 59,0 | 0,416 | 1      |

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of &gt;0.1% (w/w).

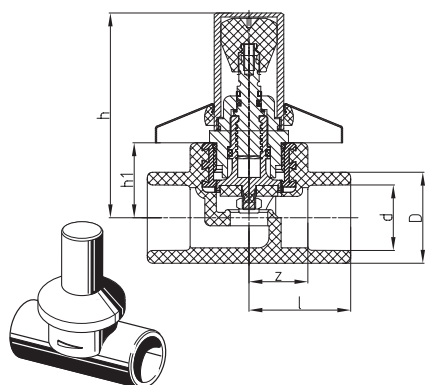
**Extension for concealed valve**

chromium-plated for art. no 1050020150-1050032152

Material:  
Colour:brass  
chrome

| Article no. | H     | kg    | PU [m] |
|-------------|-------|-------|--------|
| 9600040900  | 92,0  | 0,148 | 1      |
| 9600040903  | 132,0 | 0,209 | 1      |

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of &gt;0.1% (w/w).

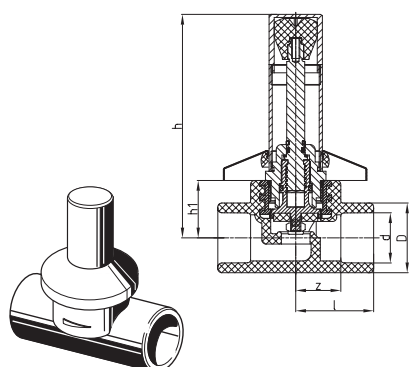
**Concealed valve, tamper proof**

short design — SDR 6 / 7,4 / 9 / 11

Material:  
Colour:fusiolen® PP-R / brass  
green, chrome

| Article no.    | d  | l    | D    | z    | h    | h1   | kg    | PU [m] |
|----------------|----|------|------|------|------|------|-------|--------|
| socket welding |    |      |      |      |      |      |       |        |
| 1050020153     | 20 | 35,0 | 29,5 | 20,5 | 71,5 | 28,0 | 0,258 | 1      |
| 1050025154     | 25 | 38,0 | 34,0 | 22,0 | 72,0 | 28,0 | 0,288 | 1      |
| 1050032155     | 32 | 49,0 | 43,0 | 31,0 | 82,5 | 34,0 | 0,376 | 1      |

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of &gt;0.1% (w/w).

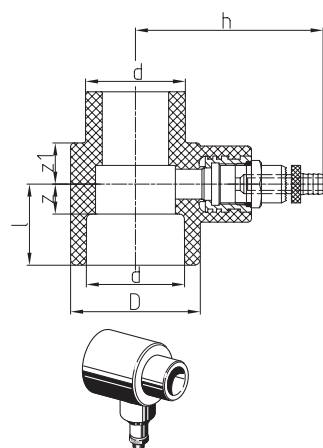
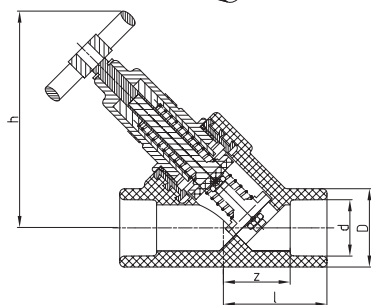
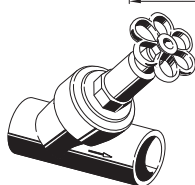
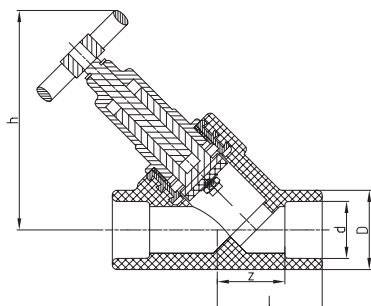
**Concealed valve, tamper proof**

long design— SDR 6 / 7,4 / 9 / 11

Material:  
Colour:fusiolen® PP-R / brass  
green, chrome

| Article no.    | d  | l    | D    | z    | h     | h1   | kg    | PU [m] |
|----------------|----|------|------|------|-------|------|-------|--------|
| socket welding |    |      |      |      |       |      |       |        |
| 1050020159     | 20 | 35,0 | 29,5 | 20,5 | 109,0 | 28,0 | 0,342 | 1      |
| 1050025160     | 25 | 38,0 | 34,0 | 22,0 | 109,0 | 28,0 | 0,350 | 1      |
| 1050032161     | 32 | 49,0 | 43,0 | 31,0 | 115,0 | 34,0 | 0,432 | 1      |

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of &gt;0.1% (w/w).



### Inclined valve

without drain — SDR 6 / 7,4 / 9 / 11

Material:

fusiolen® PP-R / brass

Colour:

green

| Article no.    | d  | l    | D    | z    | h     | kg    | PU [m] |
|----------------|----|------|------|------|-------|-------|--------|
| socket welding |    |      |      |      |       |       |        |
| 1050020162     | 20 | 45,0 | 34,0 | 30,5 | 95,5  | 0,294 | 1      |
| 1050025163     | 25 | 45,0 | 34,0 | 29,0 | 95,5  | 0,283 | 1      |
| 1050032164     | 32 | 56,0 | 43,0 | 38,0 | 111,5 | 0,421 | 1      |
| 1050040165     | 40 | 65,0 | 52,0 | 44,5 | 135,0 | 0,834 | 1      |

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of >0.1% (w/w).

### Non-return valve

without drain — SDR 6 / 7,4 / 9 / 11

Material:

fusiolen® PP-R / brass

Colour:

green

| Article no.    | d  | l    | D    | z    | h     | kg    | PU [m] |
|----------------|----|------|------|------|-------|-------|--------|
| socket welding |    |      |      |      |       |       |        |
| 1050020170     | 20 | 45,0 | 34,0 | 30,5 | 95,5  | 0,297 | 1      |
| 1050025171     | 25 | 45,0 | 34,0 | 29,0 | 95,5  | 0,292 | 1      |
| 1050032172     | 32 | 56,0 | 43,0 | 38,0 | 111,5 | 0,432 | 1      |
| 1050040173     | 40 | 65,0 | 52,0 | 44,5 | 135,0 | 0,840 | 1      |

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of >0.1% (w/w).

### Draining branch

to weld in aquatherm green valves

SDR 6 / 7,4 / 9 / 11

Material:

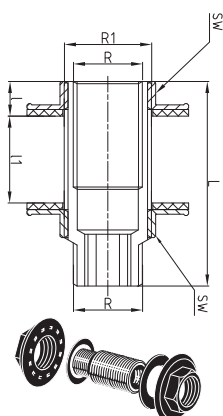
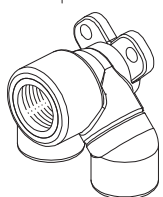
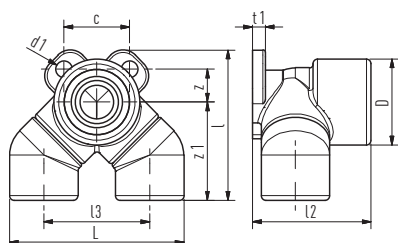
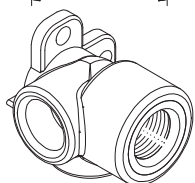
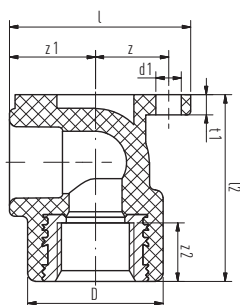
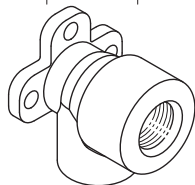
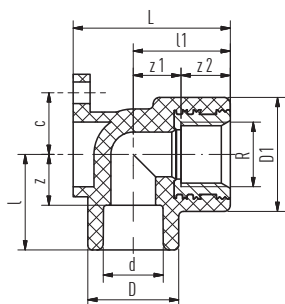
fusiolen® PP-R / brass

Colour:

green

| Article no.    | d  | l    | D    | z    | z1   | h    | kg    | PU [m] |
|----------------|----|------|------|------|------|------|-------|--------|
| socket welding |    |      |      |      |      |      |       |        |
| 1050020183     | 20 | 26,0 | 34,0 | 11,5 | 16,5 | 71,0 | 0,098 | 1      |
| 1050025184     | 25 | 26,0 | 34,0 | 10,0 | 16,5 | 71,0 | 0,096 | 1      |
| 1050032185     | 32 | 32,0 | 43,0 | 14,0 | 17,0 | 74,5 | 0,118 | 1      |
| 1050040186     | 40 | 32,5 | 52,0 | 12,0 | 16,5 | 80,5 | 0,140 | 1      |
| 1050050187     | 50 | 39,0 | 68,0 | 15,5 | 17,0 | 88,0 | 0,202 | 1      |
| 1050063188     | 63 | 44,0 | 84,0 | 16,5 | 16,5 | 96,0 | 0,288 | 1      |

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of >0.1% (w/w).



## Back plate elbow

brass (\*stainless steel) — SDR 6 / 7,4 / 11

Material: fusiole® PP-R / brass or stainless steel  
Standards: DIN 1692, DIN EN ISO 15874  
Colour: green

| Article no.             | d  | R    | l    | l1   | D    | D1   | L    | z    | z1   | z2   | c    | kg    | PU [m] |
|-------------------------|----|------|------|------|------|------|------|------|------|------|------|-------|--------|
| one side socket welding |    |      |      |      |      |      |      |      |      |      |      |       |        |
| 1040020151              | 20 | 1/2" | 31,0 | 31,5 | 29,5 | 37,0 | 51,0 | 16,5 | 18,5 | 13,0 | 20,0 | 0,079 | 10     |
| 1040020152              | 20 | 3/4" | 37,0 | 37,0 | 34,0 | 44,0 | 54,0 | 22,5 | 24,0 | 13,0 | -    | 0,106 | 10     |
| 1040025153              | 25 | 3/4" | 37,0 | 37,0 | 34,0 | 44,0 | 54,0 | 21,0 | 24,0 | 13,0 | -    | 0,105 | 10     |
| 1040025154              | 25 | 1/2" | 33,5 | 31,0 | 34,0 | 37,0 | 53,0 | 17,5 | 18,0 | 13,0 | 20,0 | 0,080 | 10     |
| 1090020070 *            | 20 | 1/2" | 31,0 | 31,5 | 29,5 | 37,0 | 51,0 | 16,5 | 18,5 | 13,0 | 20,0 | 0,084 | 10     |
| 1090020071 *            | 20 | 3/4" | 37,0 | 37,0 | 34,0 | 44,0 | 54,0 | 22,5 | 24,0 | 13,0 | -    | 0,101 | 10     |
| 1090025072 *            | 25 | 3/4" | 37,0 | 37,0 | 34,0 | 44,0 | 54,0 | 21,0 | 24,0 | 13,0 | -    | 0,111 | 10     |
| 1090025073 *            | 25 | 1/2" | 33,5 | 31,0 | 34,0 | 37,0 | 53,0 | 17,5 | 18,0 | 13,0 | 20,0 | 0,076 | 10     |

\*stainless steel

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of &gt;0.1% (w/w).

## Flow-through back plate elbow 90°

Material: fusiole® PP-R / brass

| Article no.                 | Dimension                   | d1  | l    | l2   | D    | t1  | z    | z1   | z2   | PU [m] |
|-----------------------------|-----------------------------|-----|------|------|------|-----|------|------|------|--------|
| double sided socket welding |                             |     |      |      |      |     |      |      |      |        |
| 1090020031                  | 90° 20 mm x 1/2" IG x 20 mm | 7,0 | 49,5 | 51,0 | 37,0 | 5,5 | 20,0 | 23,5 | 16,0 | 1      |

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of &gt;0.1% (w/w).

## Flow-through back plate parallel

Material: fusiole® PP-R / brass

| Article no.                 | Dimension                        | d1  | l    | l2   | l3   | D    | L    | c    | t1  | z    | z1   | PU [m] |
|-----------------------------|----------------------------------|-----|------|------|------|------|------|------|-----|------|------|--------|
| double sided socket welding |                                  |     |      |      |      |      |      |      |     |      |      |        |
| 1050020015                  | parallel 20 mm x 1/2" IG x 20 mm | 7,0 | 65,0 | 51,0 | 45,6 | 37,0 | 75,0 | 28,3 | 5,5 | 14,0 | 42,3 | 1      |

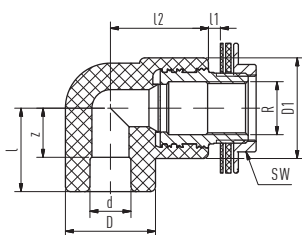
Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of &gt;0.1% (w/w).

## Dry construction wall fitting

Material: brass

| Article no. | R    | R1   | l    | l1   | L    | SW | kg    | PU [m] |
|-------------|------|------|------|------|------|----|-------|--------|
| 9600020114  | 1/2" | 3/4" | 10,5 | 26,0 | 62,0 | 30 | 0,213 | 10     |

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of &gt;0.1% (w/w).

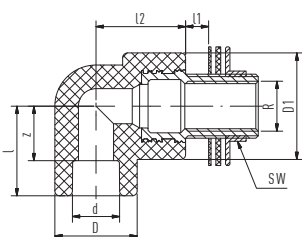
**Transition piece with counternut**

with gasket and tension — SDR 6 / 7,4 / 11

Material:  
Standards:  
Colour:fusiolen® PP-R / brass  
DIN 16962, DIN EN ISO 15874  
green

| Article no.             | d  | l    | l1  | l2   | D    | D1   | z    | R    | SW | kg    | PU [m] |
|-------------------------|----|------|-----|------|------|------|------|------|----|-------|--------|
| one side socket welding |    |      |     |      |      |      |      |      |    |       |        |
| 1050020062              | 20 | 37,0 | 3,5 | 35,0 | 29,5 | 44,0 | 22,5 | 1/2" | 29 | 0,154 | 10     |
| 1050025063              | 25 | 37,0 | 3,5 | 37,0 | 34,0 | 44,0 | 21,0 | 1/2" | 29 | 0,206 | 10     |

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of &gt;0.1% (w/w).

**Transition elbow for plasterboard**

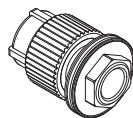
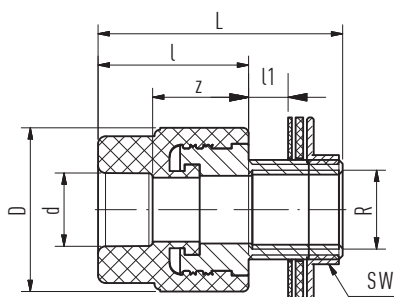
SDR 6 / 7,4 / 11

Material:  
Colour:fusiolen® PP-R / brass  
green

| Article no.             | d  | l    | l1   | l2   | D    | D1   | z    | R    | SW | kg    | PU [m] |
|-------------------------|----|------|------|------|------|------|------|------|----|-------|--------|
| one side socket welding |    |      |      |      |      |      |      |      |    |       |        |
| 1050020064              | 20 | 37,0 | 18,5 | 35,0 | 29,5 | 44,0 | 22,5 | 1/2" | 29 | 0,223 | 10     |

with 30 mm thread, counternut, gasket and tension washer.

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of &gt;0.1% (w/w).

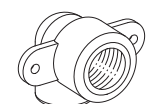
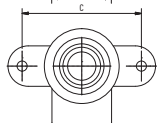
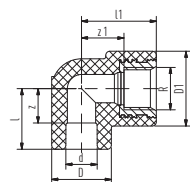
**Transition piece with counternut**

with gasket and tension — SDR 6 / 7,4 / 11

Material:  
Standards:  
Colour:fusiolen® PP-R / brass  
DIN 16962, DIN EN ISO 15874  
green

| Article no.             | d  | l    | l1   | D    | L    | z    | R    | SW | kg    | PU [m] |
|-------------------------|----|------|------|------|------|------|------|----|-------|--------|
| one side socket welding |    |      |      |      |      |      |      |    |       |        |
| 1050020060              | 20 | 40,0 | 13,5 | 43,5 | 65,0 | 25,5 | 1/2" | 29 | 0,204 | 10     |

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of &gt;0.1% (w/w).

**Back plate elbow for dry construction**

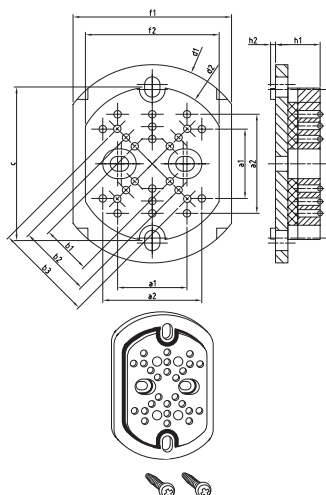
brass (\*stainless steel) — SDR 6 / 7,4 / 11

Material:  
Standards:  
Colour:fusiolen® PP-R / brass or stainless steel  
DIN 16962, DIN EN ISO 15874  
green

| Article no.             | d  | l    | l1   | D    | D1   | z    | z1   | R    | kg    | PU [m] |
|-------------------------|----|------|------|------|------|------|------|------|-------|--------|
| one side socket welding |    |      |      |      |      |      |      |      |       |        |
| 1040020156              | 20 | 30,0 | 37,0 | 29,5 | 37,0 | 15,5 | 24,0 | 1/2" | 0,079 | 10     |
| 1090020074 *            | 20 | 30,0 | 37,0 | 29,5 | 37,0 | 15,5 | 24,0 | 1/2" | 0,078 | 10     |

\*stainless steel

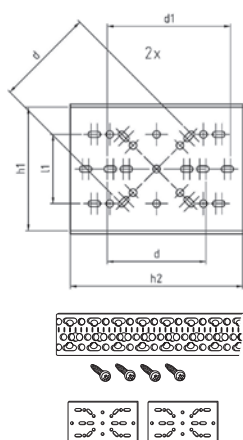
Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of &gt;0.1% (w/w).



### Mounting plate for aquatherm green back plate elbow

Material: PP  
Colour: white

| Article no. | a1 | a2 | b1 | b2 | b3 | c  | d1   | d2   | f1 | f2 | h1 | h2 | kg    | PU [m] |
|-------------|----|----|----|----|----|----|------|------|----|----|----|----|-------|--------|
| 7020000015  | 28 | 40 | 20 | 30 | 40 | 62 | 80,0 | 62,0 | 64 | 54 | 18 | 2  | 0,058 | 2      |

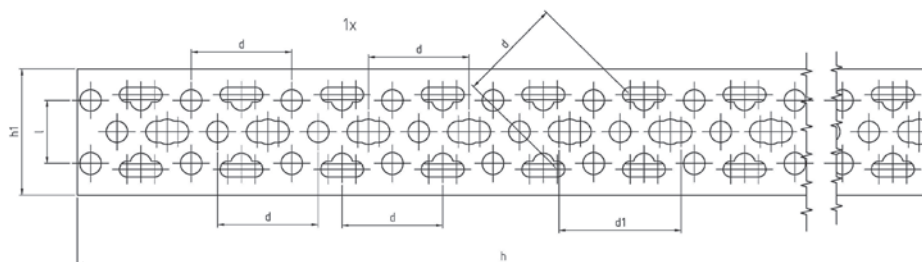


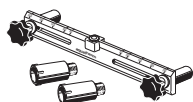
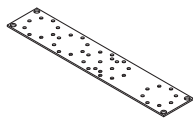
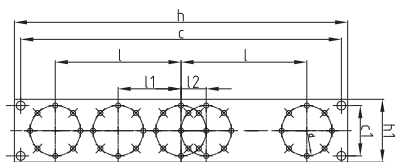
### Mounting plate galvanised

to fix back plate elbows as double connection including 2 fixing plates and 4 screws

Material: Iron / galvanised  
Colour: brass

| Article no. | d  | d1   | l  | l1 | h   | h1 | h2 | kg    | PU [m] |
|-------------|----|------|----|----|-----|----|----|-------|--------|
| 7050000016  | 40 | 50,0 | 25 | 28 | 560 | 50 | 70 | 0,546 | 1      |





### Mounting plate galvanised

to fix back plate elbows as double connection

Material:  
Colour:

Iron / galvanised  
zinc

| Article no. | d  | l   | l1 | l2 | c   | c1 | h   | h1 | kg    | PU [m] |
|-------------|----|-----|----|----|-----|----|-----|----|-------|--------|
| 7050000020  | 40 | 100 | 50 | 20 | 255 | 40 | 265 | 50 | 0,221 | 1      |

This item cannot be used in conjunction with the soundproof decoupling plate, item no. 7020000015.

For this purpose, we recommend the mounting rail, item no. 7050000016.

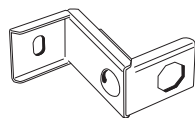
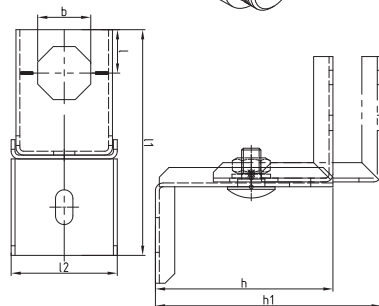
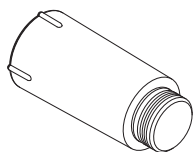
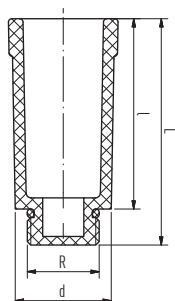
### Assembling jig

as water level with 2 plugs 1/2"

Material:  
Colour:

fusiolen® PP-R  
green

| Article no. | kg    | PU [m] |
|-------------|-------|--------|
| 9800050700  | 0,252 | 1      |



### Plug for pressure tests

with gasket

Material:  
Colour:

fusiolen® PP-R  
green

| Article no. | d  | l    | L    | R    | kg    | PU [m] |
|-------------|----|------|------|------|-------|--------|
| 9800050708  | 28 | 55,5 | 66,0 | 1/2" | 0,022 | 10     |
| 9800050710  | 34 | 55,5 | 66,0 | 3/4" | 0,027 | 10     |

### Mounting unit, single

Material:  
Colour:

Iron / galvanised  
zinc

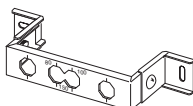
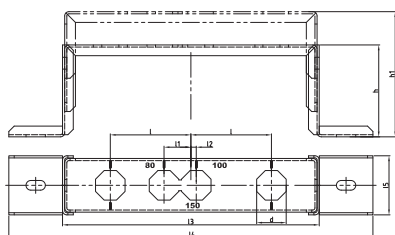
| Article no. | b    | l   | l1   | l2 | h    | h1    | kg    | PU [m] |
|-------------|------|-----|------|----|------|-------|-------|--------|
| 7050000002  | 27,5 | 118 | 22,5 | 55 | 92,5 | 122,5 | 0,278 | 1      |

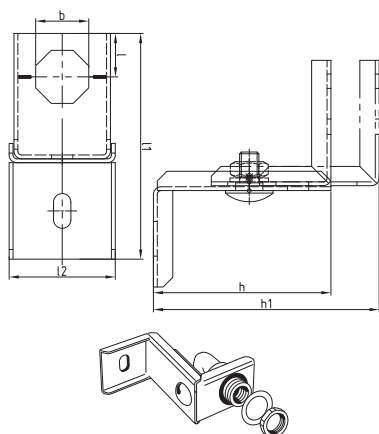
### Mounting unit, double

Material:  
Colour:

Iron / galvanised  
zinc

| Article no. | b    | l  | l1 | l2 | h    | h1    | l3  | l4  | l5 | kg    | PU [m] |
|-------------|------|----|----|----|------|-------|-----|-----|----|-------|--------|
| 7050000001  | 27,5 | 75 | 25 | 5  | 92,5 | 122,5 | 239 | 339 | 55 | 0,630 | 1      |



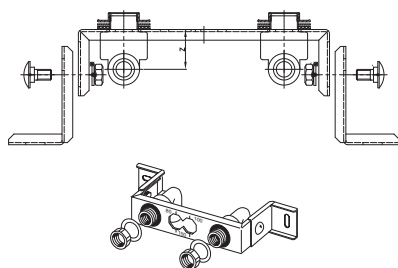


### Mounting unit with one aquatherm green transition elbow

Material: fusiolen® PP-R, brass  
Iron, galvanised  
Colour: green, galvanised

| Article no. | b    | l    | l1  | l2 | h    | h1    | kg    | PU [m] |
|-------------|------|------|-----|----|------|-------|-------|--------|
| 7050000004  | 27,5 | 22,5 | 118 | 55 | 92,5 | 122,5 | 0,434 | 1      |

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of >0.1% (w/w).

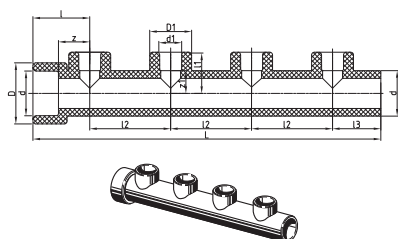


### Mounting unit with two aquatherm green transition elbows

Material: fusiolen® PP-R, brass  
Iron, galvanised  
Colour: green, galvanised

| Article no. | b    | l  | l1 | l2 | z    | h    | h1    | kg    | PU [m] |
|-------------|------|----|----|----|------|------|-------|-------|--------|
| 7050000003  | 27,5 | 75 | 25 | 5  | 37,5 | 92,5 | 122,5 | 0,942 | 1      |

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of >0.1% (w/w).



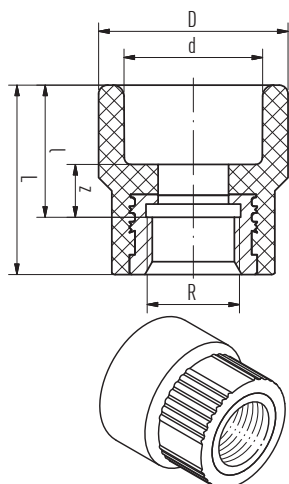
### Four-port manifold

length: 246 mm, with 4 branches — SDR 6 / 7,4 / 9 / 11

Material: fusiolen® PP-R  
Colour: green

| Article no.    | d  | d1   | l  | l1 | l2 | l3 | D    | D1   | L     | z    | z1   | kg    | PU [m] |
|----------------|----|------|----|----|----|----|------|------|-------|------|------|-------|--------|
| socket welding |    |      |    |    |    |    |      |      |       |      |      |       |        |
| 1090032032     | 32 | 16,0 | 40 | 29 | 57 | 36 | 43,0 | 29,5 | 245,0 | 22,0 | 16   | 0,148 | 1      |
| 1090032033     | 32 | 20,0 | 40 | 29 | 57 | 36 | 43,0 | 29,5 | 245,0 | 22,0 | 14,5 | 0,134 | 1      |

The four-port manifold can be shortened or extended by fusion with further four-port manifolds, if required.



### Manifold end piece with female thread

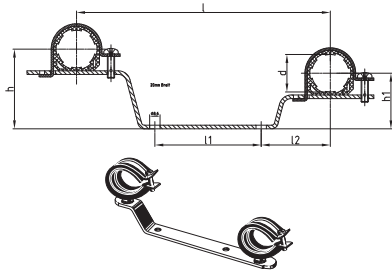
SDR 6 / 7,4 / 9 / 11

Material: fusiolen® PP-R / brass  
Standards: DIN 16962, DIN EN ISO 15874  
Colour: green

| Article no.             | d  | l    | D    | L    | z    | R    | kg    | PU [m] |
|-------------------------|----|------|------|------|------|------|-------|--------|
| one side socket welding |    |      |      |      |      |      |       |        |
| 1090032034              | 32 | 30,0 | 43,0 | 43,0 | 12,0 | 1/2" | 0,073 | 1      |

Transition piece as manifold endpiece with female thread.

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of >0.1% (w/w).



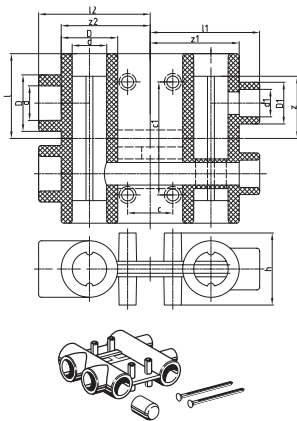
### Supporting strap for four-port manifold

with clamps, galvanised, double

Material:  
Colour:

steel galvanised  
zinc

| Article no. | d  | l     | l1   | l2   | h    | h1   | kg    | PU [m] |
|-------------|----|-------|------|------|------|------|-------|--------|
| 9600060211  | 32 | 210,0 | 80,0 | 57,0 | 66,0 | 46,0 | 0,226 | 2      |



### Distribution block plumbing

SDR 6 / 7,4 / 11

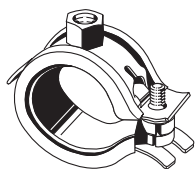
Material:  
Colour:

fusiolen® PP-R  
green

| Article no.                      | d  | d1   | l  | l1   | l2 | D    | D1   | z    | z1 | z2   | c  | c1 | cl  | l3 | h  | kg    | PU [m] |
|----------------------------------|----|------|----|------|----|------|------|------|----|------|----|----|-----|----|----|-------|--------|
| 1050025016                       | 25 | 20,0 | 60 | 77,5 | 79 | 40,0 | 29,5 | 44,0 | 63 | 63,0 | 32 | 80 | 100 | 36 | 51 | 0,273 | 1      |
| socket welding                   |    |      |    |      |    |      |      |      |    |      |    |    |     |    |    |       |        |
| including 1 plug and 2 fasteners |    |      |    |      |    |      |      |      |    |      |    |    |     |    |    |       |        |

### Adhesive tape to protect against UV-radiation

| Article no. | Dimension              | kg    | PU [m] |
|-------------|------------------------|-------|--------|
| 9700010871  | Dimension 50 mm x 10 m | 0,133 | 1      |



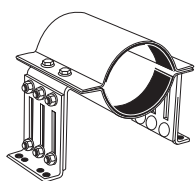
## Pipe clamps

Material: steel

| Article no. | for pipe diameters | kg    | PU [m] |
|-------------|--------------------|-------|--------|
| 9600060516  | 16                 | 0,045 | 50     |
| 9600060520  | 20                 | 0,048 | 50     |
| 9600060525  | 25                 | 0,051 | 50     |
| 9600060532  | 32                 | 0,060 | 50     |
| 9600060540  | 40                 | 0,067 | 50     |
| 9600060550  | 50                 | 0,079 | 50     |
| 9600060563  | 63                 | 0,091 | 25     |
| 9600060575  | 75                 | 0,105 | 25     |
| 9600060590  | 90                 | 0,128 | 25     |
| 9600060594  | 110                | 0,155 | 25     |
| 9600060595  | 125                | 0,212 | 25     |
| 9600060597  | 160                | 0,342 | 25     |
| 9600060650  | 200                | 1,014 | 1      |
| 9600060654  | 250                | 1,193 | 1      |
| 9600060658  | 315                | 1,618 | 1      |
| 9600060660  | 355                | 1,920 | 1      |

Thread connection: M8 &amp; M10 for 16 – 125 mm | M10 for 160 mm | M16 for 200 – 355 mm

Information in accordance with Article 33 of Regulation (EC) No 1907/2006 (REACH): Our products containing brass components may contain lead in concentrations of &gt;0.1% (w/w).



## Pipe clamps suitable for fixed point installation

Material: steel

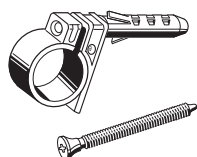
| Article no. | for pipe diameters | kg     | PU [m] |
|-------------|--------------------|--------|--------|
| 9600060768  | 160                | 8,548  | 1      |
| 9600060770  | 200                | 9,449  | 1      |
| 9600060774  | 250                | 19,367 | 1      |
| 9600060778  | 315                | 22,753 | 1      |
| 9600060780  | 355                | 24,840 | 1      |
| 9600060782  | 400                | 43,642 | 1      |
| 9600060784  | 450                | 46,253 | 1      |
| 9600060786  | 500                | 48,865 | 1      |
| 9600060790  | 630                | 55,659 | 1      |



## Pipe fastening bow 16-32 mm

Material: PA

| Article no. | for pipe diameters         | kg    | PU [m] |
|-------------|----------------------------|-------|--------|
| 7020016005  | for pipes 16-32 mm L=45 mm | 0,005 | 50     |
| 7020016006  | for pipes 16-32 mm L=75 mm | 0,007 | 50     |
| 7020016007  | for pipes 16-32 mm L=45 mm | 0,007 | 50     |
| 7020016008  | for pipes 16-32 mm L=75 mm | 0,009 | 50     |



## Plastic pipe clamps 16-40 mm

Material: fusiolen® PP-R

| Article no. | for pipe diameters | kg    | PU [m] |
|-------------|--------------------|-------|--------|
| 7090016010  | for pipes 16 mm    | 0,007 | 50     |
| 7090020011  | for pipes 20 mm    | 0,008 | 50     |
| 7090025012  | for pipes 25 mm    | 0,016 | 50     |
| 7090032013  | for pipes 32 mm    | 0,017 | 50     |
| 7040040014  | for pipes 40 mm    | 0,020 | 50     |

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Germany



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