aquatherm®

Specialist for air conditioning, heating, compressed air and plant technology

aquatherm **blue**

Part of the Solution
www.aquatherm.de

Technical details are subject to change.
With the edition of this catalogue, all former ones become void.

Our sales and delivery conditions (January 2014) and the contacts of our technical sales and distribution see on our homepage **www.aquatherm.de**

History

1973 aquatherm founded by Gerhard Rosenberg

1981 development of the first pipe system made of polypropylene; the colour green becomes a characteristic feature of aquatherm

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

2015 foundation of the sales company in North America

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

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AQUATHERM BLUE

Plastic piping systems made of polypropylene

aquatherm is the world's leading manufacturer of plastic piping systems made from polypropylene for plant construction and building services. The areas of application include drinking water applications, heating systems, fire protection sprinkler systems, air-conditioning and refrigeration technology, as well as surface cooling systems. The product range comprises more than 17,000 articles in six product lines.

To guarantee the worldwide availability of the products and to offer local service, aquatherm works closely with long-standing partners in more than 70 countries. The company employs approx. 500 people in Germany, Italy, England, USA and Canada.

Production is carried out exclusively at the German sites in Attendorn (headquarters), Radeberg and Ennest. Customers all over the world can therefore rely on innovative and safe PP-R piping systems of the highest quality, „100% Made in Germany". The family business is now managed in the second generation by brothers Christof, Dirk and Maik Rosenberg.

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AQUATHERM BLUE

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


Connection to heating and cooling


Heating system construction


Industrial floor heating


Refrigeration


Maritime applications


Swimming pool technology


Sports floor heating and cooling

Abbreviations pipe structure:

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

Fields of applications:

- fire protection sprinkler-systems
- heating and cooling networks
- refrigeration
- connection heating and cooling
- ceiling heating and cooling
- surface heating and cooling
- heating system construction
- industrial floor heating
- maritime applications
- swimming pool technology
- sports floor heating and cooling
- potable water application

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

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 blue

Diameter in mm	16	17	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 green

Diameter in mm	16	17	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 energy green & blue

Diameter in mm	16	17	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 MF RP OT	·	·	·	·	○	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
SDR 11 MF RP	·	·	·	·	·	○	○	○	○	○	○	○	○	○	○	○	○	·	·	·	·
SDR 11 MF RP OT	·	·	·	·	·	○	○	○	○	○	○	○	○	○	○	·	·	·	·	·	·
SDR 17,6 MF RP	·	·	·	·	·	·	·	·	·	·	·	○	○	○	○	○	○	·	·	·	·

Fields of applications

Areas of application include heating system construction as well as refrigeration and air conditioning technology - you can find all areas of application here:

	refrigeration	connection heating and cooling	heating system construction	maritime applications	swimming pool technology	sports floor heating and cooling	potable water
aquatherm blue	○	○	○	○	○	○	
aquatherm green				○	○		○

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aquatherm blue
Product types

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AQUATHERM PRODUCT TYPES

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 leakproof 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 __

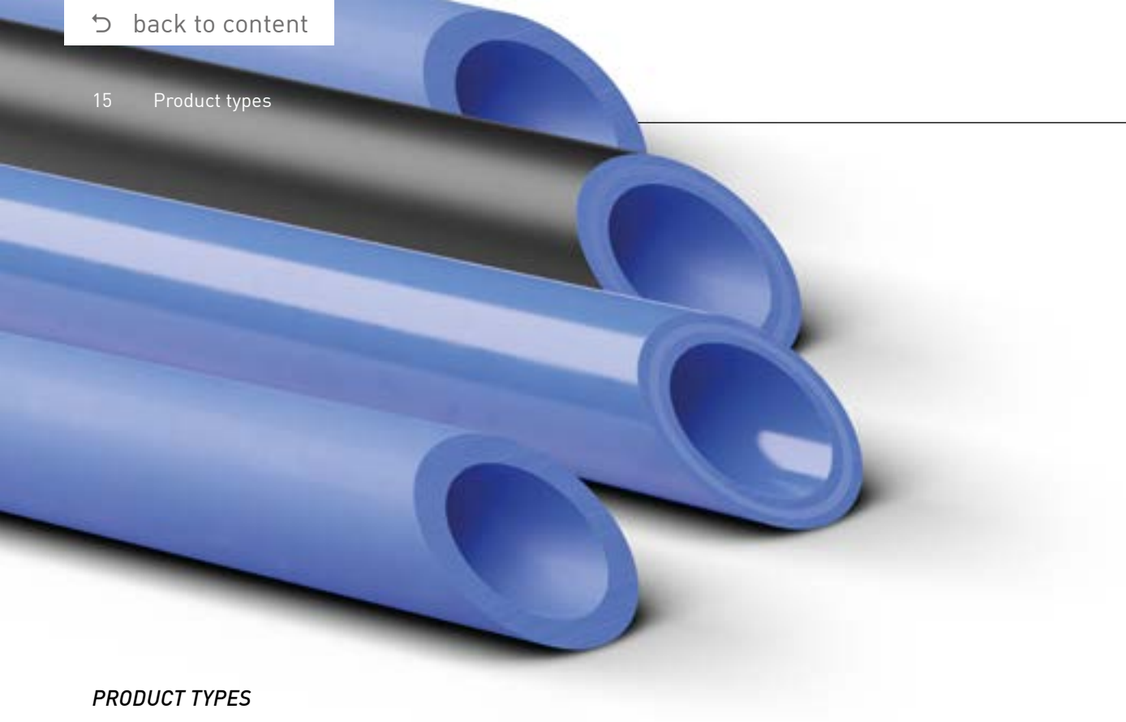
Quality is very important to aquatherm. This is not only reflected in the national and international certification marks, but also in the high satisfaction level of aquatherm customers, installers and engineers. You can find our international certificates here: Certificate

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.



PRODUCT TYPES

AQUATHERM BLUE __

Made of corrosion-resistant polypropylene, aquatherm blue is ideal for the transport of cooling and heating media in closed systems. It is particularly well suited for a wide variety of industrial applications. The physical properties of the plastic, such as its high temperature capacity and pressure resistance, are tailored to the specific needs of the heating and cooling sector. aquatherm blue is joined via reliable heat fusion, which produces a virtually leak-free and cohesive unit with excellent safety and durability.

Application areas __

- Connection to heating/cooling
- Refrigeration
- Heating system construction
- Maritime applications
- Swimming pool technology
- Sports floor heating/cooling

System components __

In combination with the aquatherm green pipe fittings, the system provides all components required for the piping installation of air conditioning, refrigeration, heating systems, and industrial applications. The dimensions range from 20 mm to 630 mm outside diameter.

- Pipes in straight lengths and/or coils
- Fittings
- Flanged joints
- Water point connections and accessories
- Welding devices and machines
- Weld-in and weld-on saddles
- Manifolds
- Shut-off devices
- Installation guide and fastenings
- Transition joints from polypropylene to metal, or from metal to polypropylene

AQUATHERM BLUE stops corrosion damages __

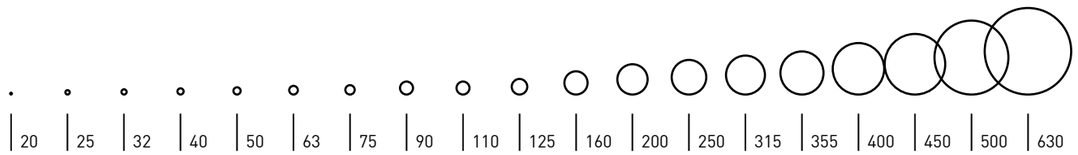
Steel pipes used in air conditioning systems are particularly susceptible to corrosion on the outside of the pipe. Condensed water that forms between the insulation and the pipe attack the pipe surface and causes it to corrode. aquatherm blue is made from 100% corrosion-resistant fusiolen® PP-RCT, which considerably extends the life of the air conditioning system.

Insulation against energy loss __

Due to their excellent thermal insulation properties, aquatherm blue pipes compared to metal pipes require a considerably thinner insulation.

Diameter __

The diameter of the PP pipe determines its location and intended use. In order to be able to lay a pipeline from the connection to the outlet, the pipe diameter of the individual pipes and fittings must be compatible with each other. aquatherm blue is available in the following diameters:
20, 25, 32, 40, 50, 63, 75, 90, 110, 125, 160, 200, 250, 315, 355, 400, 450, 500 and 630 mm.



Standard dimention ratio (SDR) __

The SDR (Standard Dimension Ratio) is a ratio indicating the resistance to pressure. In order to guarantee a certain pressure resistance, a certain maximum SDR number is necessary, depending on the type of material. The following applies: the greater the wall thickness, the smaller the SDR number and the more pressure-resistant the plastic pipe. The unit indicates the ratio between outer diameter and wall thickness of a pipe. aquatherm blue is available in the following SDR sizes:

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

PRODUCT TYPES

AQUATHERM BLUE – Overview __

We offer aquatherm blue in different pipe constructions.

	SDR 7,4	SDR 9,0	SDR 11,0	SDR 17,6
aquatherm blue S S = single			○ ø: 20–32 mm	
aquatherm blue MF MF = multi-layer and fibre-reinforced composite pipe	○ ø: 20–25 mm			
aquatherm blue MF UV MF UV = multi-layer and fibre-reinforced and composite pipe, UV-resistant	○ ø: 20–25 mm			
aquatherm blue MF OT MF OT = multi-layer and fibre-reinforced composite pipe with diffusion barrier - oxygen tight	○ ø: 20–25 mm			
aquatherm blue MF RP multi-layer and fibre-reinforced composite pipe, raised pressure resistance		○ ø: 32 mm	○ ø: 40–450 mm	○ ø: 125–630 mm
aquatherm blue MF RP UV multi-layer and fibre-reinforced and composite pipe, UV-resistant, raised pressure resistance		○ ø: 32 mm	○ ø: 40–450 mm	○ ø: 160–630 mm
aquatherm blue MF RP OT multi-layer and fibre-reinforced and composite pipe, oxygen tight, raised pressure resistance		○ ø: 32 mm	○ ø: 40–250 mm	

AQUATHERM BLUE S __

aquatherm blue S is single-layered. Single-layer pipes are particularly suitable for use in installations with a medium temperature of up to 25°C.

AQUATHERM BLUE UV __

aquatherm blue is UV-resistant. Fusiolen® pipes are normally not exposed to the effects of UV rays when installed. To bridge the transport and assembly time, aquatherm polypropylene pipes and fittings are packaged UV-protected. The maximum outdoor storage time is 6 months.

For outdoor pipe installation, aquatherm offers polypropylene composite pipes with a UV layer of polyethylene. Damaging influences caused by the sun's rays are then excluded.

UV adhesive tape __

As an alternative to our polyproplylene 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 resistance 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 BLUE OT __

aquatherm blue OT is an fibre reinforced, oxygen-tight pipe that is equipped with an oxygen barrier and thus meets the requirements of DIN 4726.

Easy and quick installation technology

aquatherm blue OT also convinces by its easy but effective installation and connection technology. The pipe end and the connecting part are heated up. After joining, the two elements create a permanent bond. aquatherm blue OT has to be peeled with peeling tools (art. no. 9800050479–9800050488) before processing.

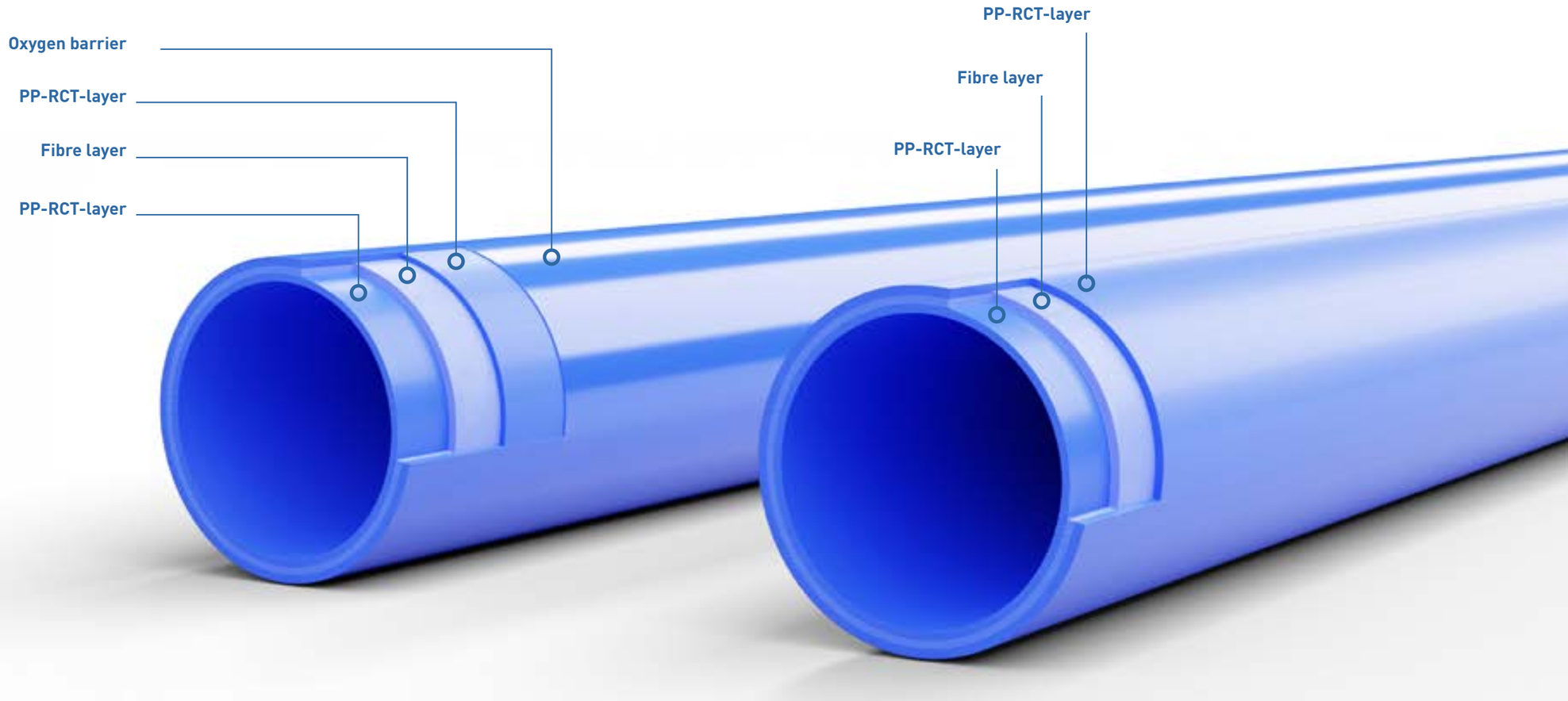
- Oxygen-tight by diffusion barrier
- Certified according to DIN 4726
- Absolutely corrosion resistant
- Less pipe friction
- High stability
- High heat-stability
- High environmental compatibility
- High impact rate
- Resistant against chemicals
- Heat and sound insulating characteristics
- Very good welding properties
- Considerably thinner insulation

AQUATHERM BLUE MF __

aquatherm blue 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 common plastic pipes the support intervals can be extended and the number of clamps can be reduced.
- Optimum cost-performance ratio
- Lower weight
- High impact rate
- Simply cut and weld



Permissible working pressure
for general pressure pipe applications in permanent operation __

Years of service	aquatherm blue SDR 17.6 MF RP	aquatherm blue SDR 11 MF RP	aquatherm blue SDR 11 S	aquatherm blue SDR 9 MF RP
at temperature up to 10 °C (50 °F)				
10	13.1 bar	25.3 bar	19.3 bar	27.5 bar
25	12.9 bar	24.7 bar	18.7 bar	27.1 bar
50	12.7 bar	24.1 bar	18.2 bar	26.7 bar
100	12.6 bar	23.5 bar	17.8 bar	26.3 bar
at temperature up to 15 °C (59 °F)				
10	12.3 bar	23.4 bar	17.8 bar	25.7 bar
25	12.1 bar	22.8 bar	17.2 bar	25.2 bar
50	11.9 bar	22.2 bar	16.8 bar	24.9 bar
100	11.7 bar	21.6 bar	16.3 bar	24.5 bar
at temperature up to 20 °C (68 °F)				
10	11.4 bar	21.4 bar	16.4 bar	23.9 bar
25	11.2 bar	21.0 bar	15.9 bar	23.5 bar
50	11.0 bar	20.4 bar	15.4 bar	23.1 bar
100	10.9 bar	19.9 bar	15.0 bar	22.8 bar
at temperature up to 30 °C (86 °F)				
10	9.8 bar	18.3 bar	13.9 bar	20.6 bar
25	9.6 bar	17.8 bar	13.4 bar	20.2 bar
50	9.5 bar	17.3 bar	13.0 bar	19.9 bar
100	9.4 bar	16.8 bar	12.7 bar	19.7 bar
at temperature up to 40 °C (104 °F)				
10	8.4 bar	15.5 bar	11.8 bar	17.7 bar
25	8.3 bar	15.0 bar	11.3 bar	17.3 bar
50	8.1 bar	14.6 bar	11.0 bar	17.1 bar
100	8.0 bar	14.1 bar	10.7 bar	16.8 bar
at temperature up to 50 °C (122 °F)				
10	7.2 bar	13.0 bar	9.9 bar	15.1 bar
25	7.0 bar	12.6 bar	9.5 bar	14.7 bar
50	6.9 bar	12.2 bar	9.2 bar	14.5 bar
100	6.8 bar	11.9 bar	9.0 bar	14.3 bar
at temperature up to 60 °C (140 °F)				
10	6.1 bar	10.9 bar	8.3 bar	12.7 bar
25	5.9 bar	10.6 bar	8.0 bar	12.4 bar
50	5.8 bar	10.3 bar	7.7 bar	12.2 bar
at temperature up to 70 °C (158 °F)				
10	5.1 bar	8.5 bar	7.0 bar	10.7 bar
25	5.0 bar	8.3 bar	6.0 bar	10.4 bar
50	4.9 bar	8.1 bar	5.1 bar	10.2 bar
at temperature up to 75 °C (167 °F)				
10	4.6 bar	7.7 bar	6.0 bar	9.7 bar
25	4.5 bar	7.6 bar	4.8 bar	9.5 bar
50	4.4 bar	7.3 bar	4.0 bar	9.3 bar
at temperature up to 80 °C (176 °F)				
5	4.3 bar	7.2 bar	5.7 bar	9.0 bar
10	4.2 bar	7.0 bar	4.8 bar	8.9 bar
25	4.1 bar	6.8 bar	3.9 bar	8.6 bar
at temperature up to 90 °C (194 °F)				
5	3.5 bar	5.9 bar	3.7 bar	7.4 bar
10	3.4 bar	5.8 bar	3.2 bar	7.3 bar

SDR = Standard Dimension Ratio (diameter/wall thickness ratio)
S = single-layer
MF = multi-layer fibre
MF RP = multi-layer fibre – raised pressure resistance

For fittings of butt-welded pipe segments a reduction factor of 0.75 (reduction of the table values by 25 %) is effective.

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aquatherm blue
Characteristics and special features

AQUATHERM CHARACTERISTICS AND SPECIAL FEATURES

Material **fusiolen®** __

aquatherm blue is made of corrosion-resistant material. This considerably extends the service life of the pipeline, for example for an air conditioning system. The material of aquatherm is characterized among other things by its special high heat and extraction stability. The physical and chemical properties are adapted to the special needs of the heating and cooling sector. Due to the exceptionally good welding properties, pipe and fitting fuse to form a homogeneous, materially bonded unit; this has made the material fusiolen® famous worldwide.

The advantages of aquatherm pipes and fusiolen® **polypropylene** __

- corrosion resistant
- resistant against many chemicals
- high environmental compatibility
- less pipe roughness
- heat and sound insulating characteristics
- very good welding properties
- high heat-stabilised
- high mechanical stability
- lighter in weight than steel and copper
- easy processing
- well-priced
- installation aids and fixings

Our material **fusiolen® Polyproylene** __

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, in air-conditioning and refrigeration technology, in industrial applications and agriculture, in shipbuilding, and in fire protection. Successful results of this research are fusiolen® PP-R, fusiolen® PP-RCT and fusiolen® PP-R FS.

Environment __

The environmentally friendly material polypropylene fusiolen® PP-R/PP-RCT is recyclable and can be ground, melted and reutilised for various applications e.g. motor-protections, wheel linings, laundry baskets and other kinds of transport boxes. There are no polluting substances with PP-R/PP-RCT either in its processing or in its disposal.

Use of metal **deactivators** __

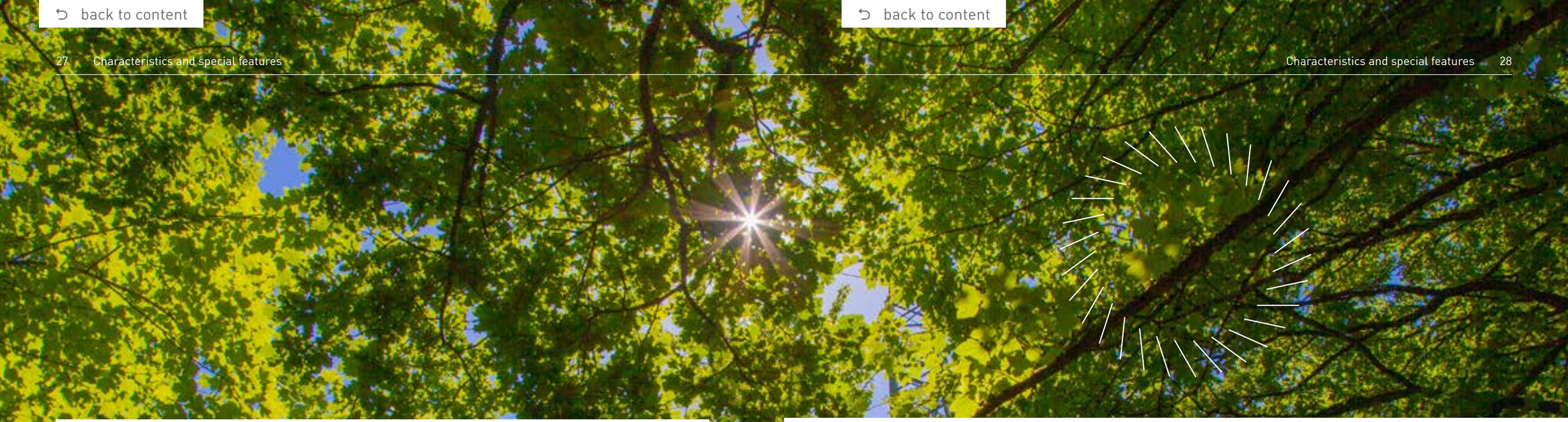
By adding suitable food-approved additives the risk of material damage caused by metal ions under extreme operating conditions is reduced.

Higher **long-term heat stabilisation** __

The long-term heat stabilisation has been increased to resist to the potential effects of peak temperatures within higher safety parameters.

Material properties __

The extrapolated service life of aquatherm PP-RCT 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”, page 21).



AQUATHERM CHARACTERISTICS AND SPECIAL FEATURES

This is how aquatherm is **committed** __

17 goals to change the world: In 2015, the global community developed the „Agenda 2030“, a roadmap for the future.

This is intended to enable a dignified life worldwide and to preserve the natural foundations of life in the long term. We at aquatherm would like to contribute to the achievement of these goals with all our actions. Our sustainable products, our comprehensive service and our leading expert knowledge are part of the solution on the way to a climate-neutral life.

We are also a member of the German Sustainable Building Council (DGNB e.V.) and work with the non-profit organisation to find ways and solutions to build for tomorrow today.

Climate change __

Climate change is one of the greatest challenges of our time. Released CO_2 is the main problem: it enters the atmosphere and intensifies the greenhouse effect - the earth continues to heat up.

We are convinced that we humans will find solutions to meet this challenge and thus also significantly reduce CO_2 emissions in all sectors.

Construction industry __

The construction industry is responsible for 36% of global energy consumption and 39% of energy- and process-related CO_2 emissions.*

The construction industry has already begun to face up to this responsibility. In order to achieve the final goal of a “net zero building” over the entire life cycle, the but the steps are still too small.

More courageous and visionary pioneers are needed, who will show the right way and set an example for the entire industry.

Exceptionally **environmentally friendly** __

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 have excellent environmental performance in various areas of application, leaving a smaller ecological footprint than pipe systems made of other materials.

A pipe system made of polypropylene (25 mm, SDR 7.4), for example, has approximately seven times lower CO_2 emissions than a comparable steel pipe.

Success through consistent **environmental protection** __

We live environmental protection – and do so consistently. All corporate processes are geared to conserving valuable resources, minimising energy use, and avoiding or recycling waste.

We developed the first fibre composite pipe as early as 1999. This required significantly less energy in the production process than the conventional aluminium composite pipe.

Technical data sheet __

Technical properties	fusiolen® PP-R	fusiolen® PP-R/ 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/mm²	1200 N/mm²
Yield stress	25 N/mm²	30 N/mm²
Density	0,9 g/cm³	1,0 g/cm³
Tensile strength	25 MPa	35 MPa
Inflammation temperature	430–450 °C	490–500 °C
Thermal expansion coefficient	1,5 *10^{-4} K^{-1}	0.35 *10^{-4} K^{-1}
Coefficient of thermal conduction	0,15 W/mK (measured at pipe)	0,15 W/mK (measured at pipe)
Coefficient of friction in pipes	0,007	0,007
Bending radius	6 x d	
Water absorption	< 0,02 %	< 0,02 %

Electrical properties	fusiolen® PP-R	fusiolen® PP-R/ 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^{17} Ω cm	> 10^{17} Ω cm
Surface resistance	10^{14} Ω	10^{14} Ω
Dissipation coefficient	0.0002 (in case of 50 Hertz)	0.0002 (in case of 50 Hertz)

AQUATHERM CHARACTERISTICS AND SPECIAL FEATURES

aquatherm **Environmental Product Declaration** __

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.

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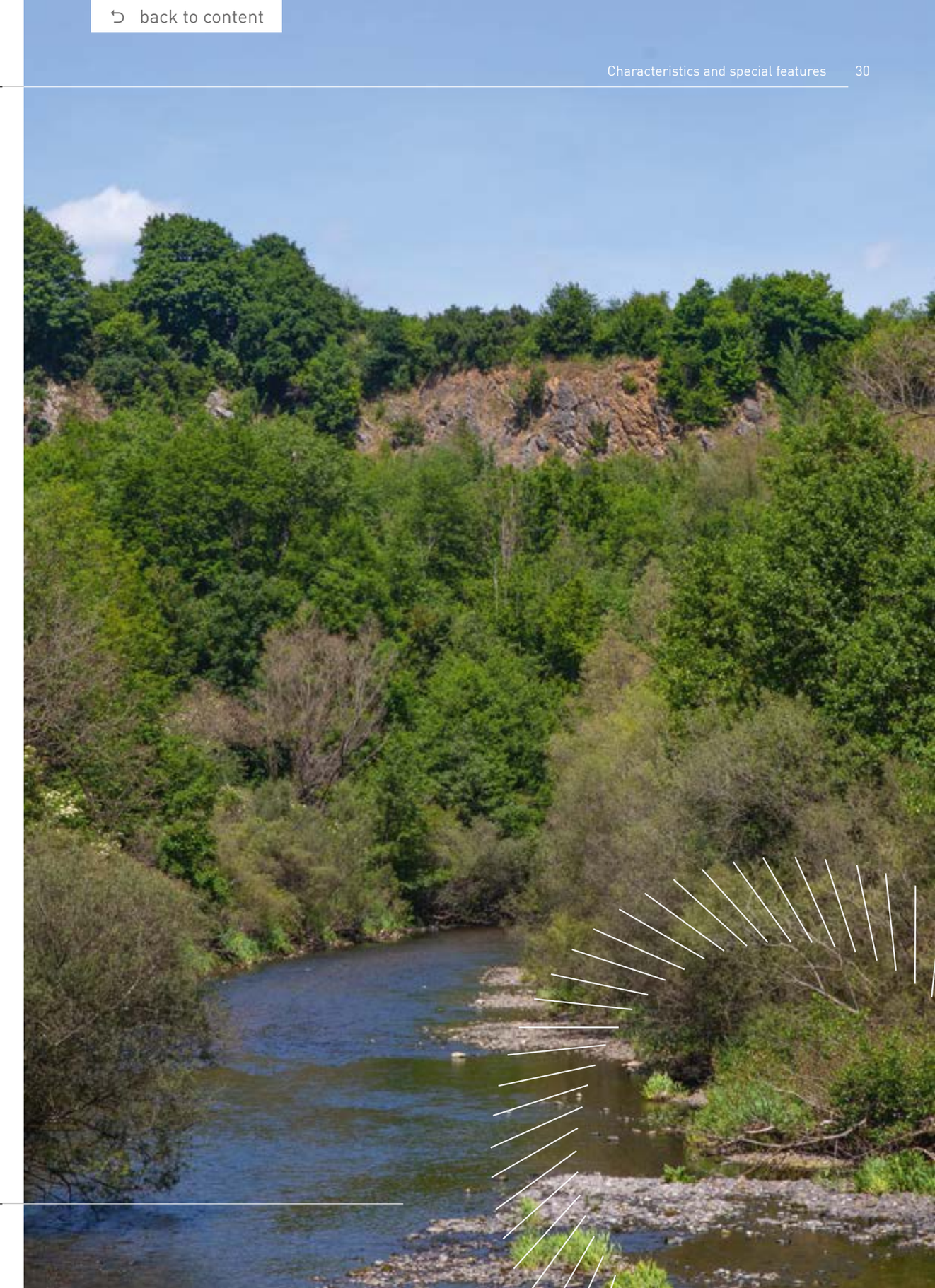
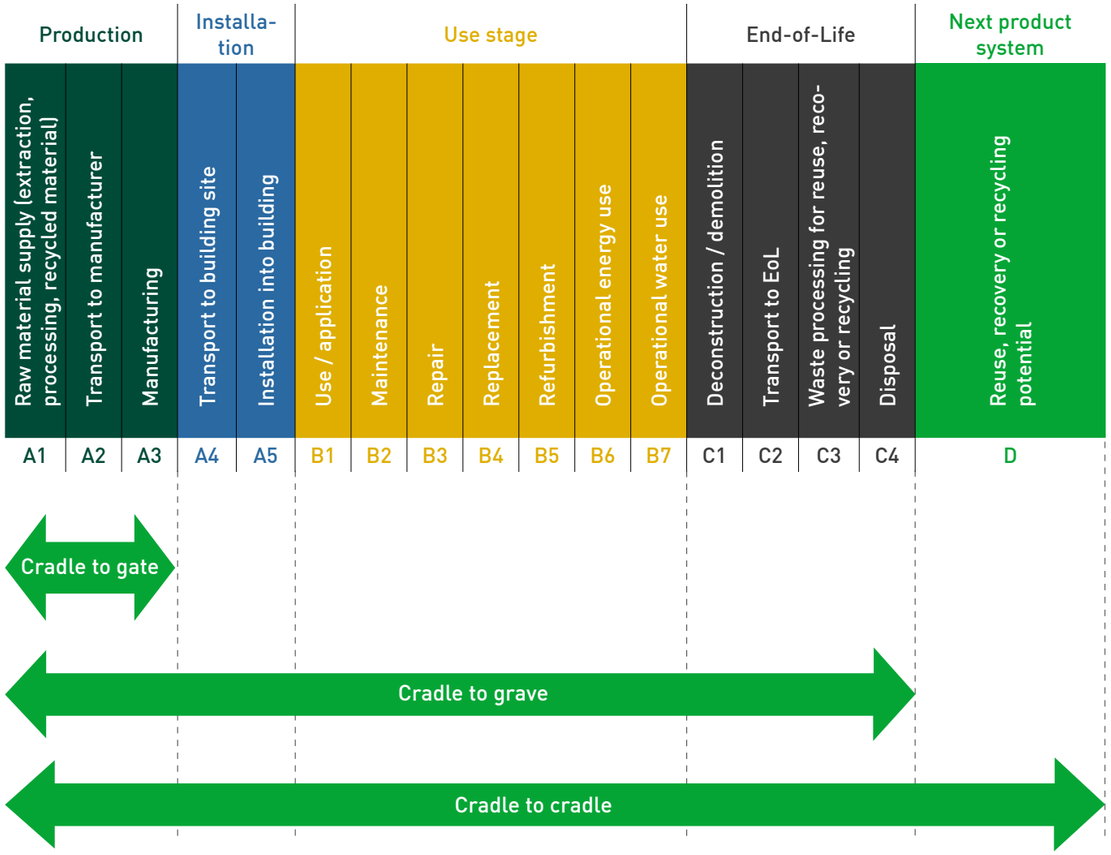


What does the **Product life cycle include?** __

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:



What are the **environmental impact indicators**?__

Life Cycle Assessments provide information on the potential impact of a product (or service) on the environment. EN 15804+A2 describes 13 core Environmental Impact Indicators to be reported for an Environmental Product Declaration and 6 additional optional Environmental Impact Indicators.

Core indicators according to EN 15804+A2:

Core indicator	Unit
GWP-total	kg CO_2-Äq.
GWP-fossil	kg CO_2-Äq.
GWP-biogenic	kg CO_2-Äq.
GWP-luluc	kg CO_2-Äq.
ODP	kg CFC11- Äq.
AP	mol H^+-Äq.
EP-freshwater	kg PO_4-Äq.
EP-marine	kg N-Äq.
EP-terrestrial	mol N-Äq.
POCP	kg NMVOC-Äq.
ADPE	kg Sb-Äq.
ADPF	MJ
WDP	m3 World-Äq. withdrawn

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)

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

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

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 ecosystems
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

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.

What advantages does the **Environmental Product Declaration offer me?** __

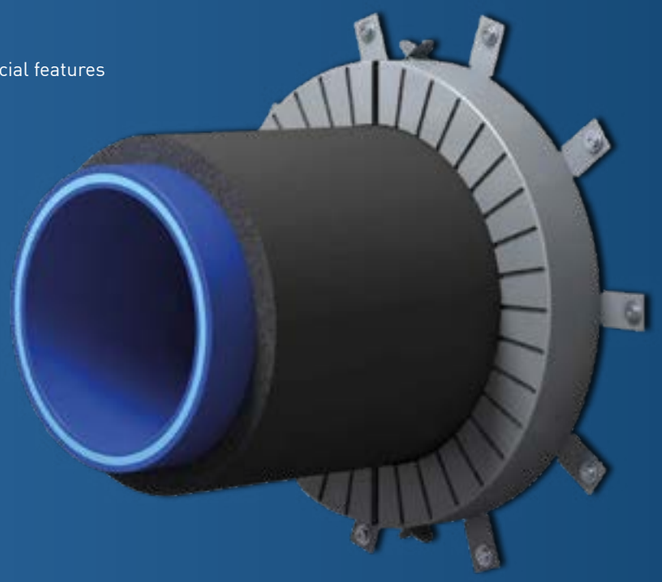
Environmental Product Declarations enable companies, for example, to participate in public tenders or investors to have their building's sustainability systems, such as BREEAM, LEED or DGNB, in place. In addition, an Environmental Product Declaration forms the basis for the development and optimisation 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
Sustainability
are available for the following product group:

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



AQUATHERM CHARACTERISTICS AND SPECIAL FEATURES

Fire protection __

The aquatherm polypropylene pipe systems comply with the requirements of the fire classification B2 DIN 4102 (normal inflammable). 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.

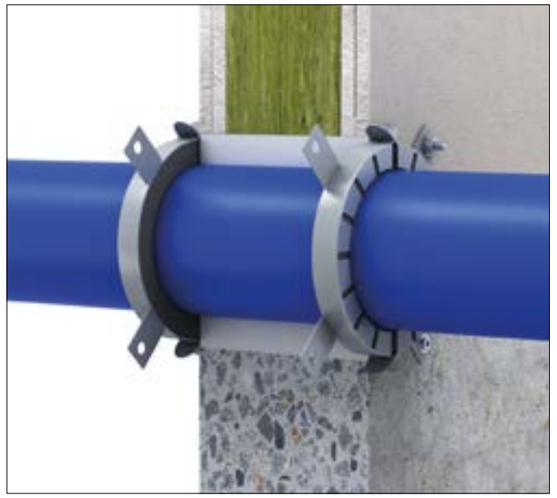
The following companies offer **suitable fire protecion solutions: __**

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

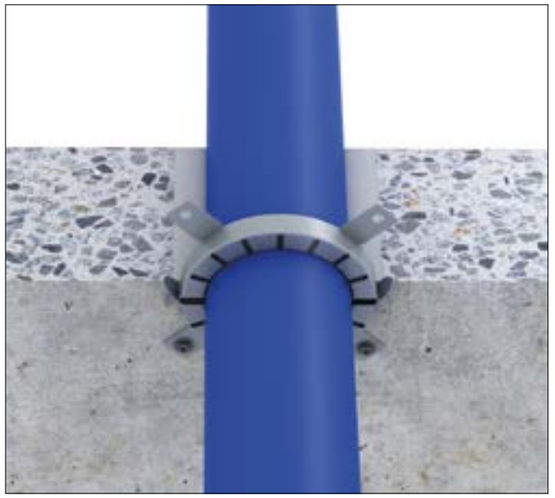
Fire protection sleeve AWM II:
Flamro Brandschutz
Vertriebs GmbH
Am Sportplatz 2
56291 Leiningen
Tel. +49 6746 9410-0
Mail: info@flamro.com
www.flamro.de

Hilti Deutschland AG
Hiltistrasse 2 · 86916 Kaufering
Tel: +49 800 888 · www.hilti.de

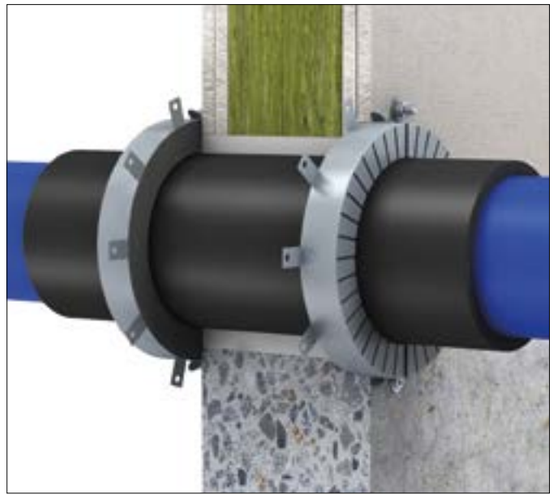
Roku System AWM II in the wall



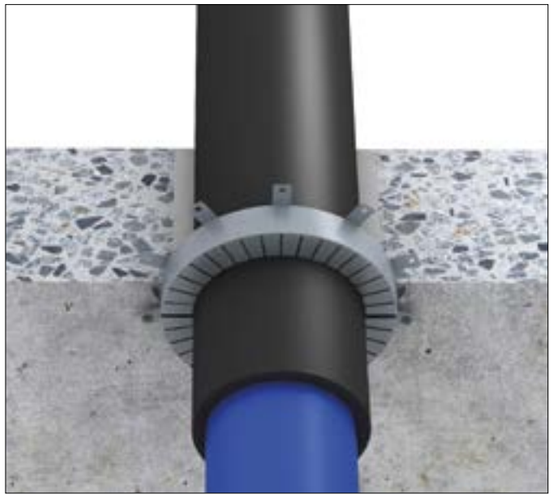
Roku System AWM II in the ceiling



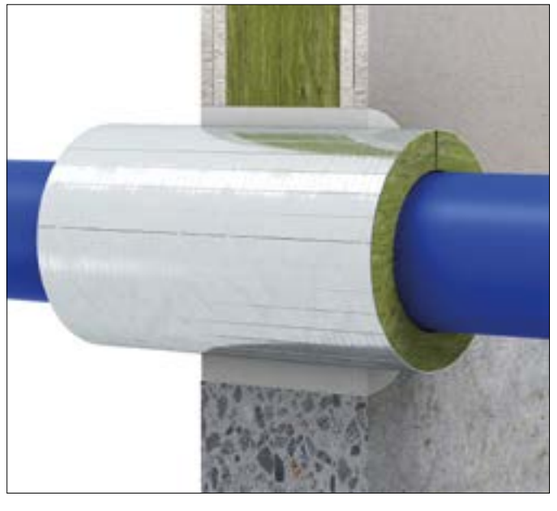
Roku System AWM II with synthesis rubber in the wall



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- to R 90 pipe penetrations for the aquatherm installation systems with non-combustible media, such as drinking water, heating and cooling

Product name/ Material:

aquatherm green
PP-R
SDR 6 S
SDR 7,4 S
SDR 7,4 MF
SDR 7,4 MF UV
SDR 11 S

aquatherm green
PP-RCT
SDR 9 MF RP
SDR 9 MF RP UV

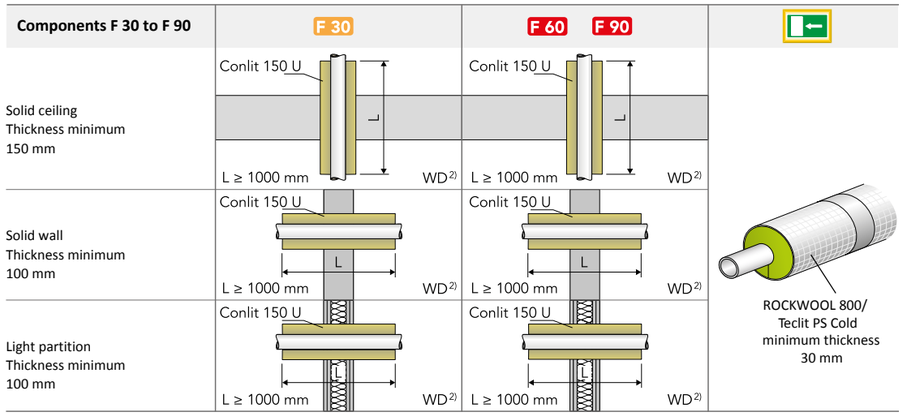
aquatherm blue
PP-R
SDR 7,4 MF
SDR 7,4 MF OT
SDR 7,4 MF UV
SDR 11 S

aquatherm 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

aquatherm red
PP-R (B1)
SDR 7,4 MF HI

aquatherm black
grid connection
pipe

aquatherm orange
PE-RT



Variant according to ROCKWOOL abP P3726/4140MPA BS

System	Pipe dimension	Conlit 150 U			ROCKWOOL 800 [1), 2), 3)] TECLIT PS Cold [1), 2), 3)]		
	Outer diameter Da [mm]	Type [3)]	Insulation thickness [4)] s [mm]	Core drilling DK [mm]	EnEV 100 % hot, type	EnEV 50 % hot, type	DIN 1988-200 cold, type[3)]
pipes without OT or UV layer aquatherm green aquatherm blue aquatherm red aquatherm grey aquatherm black aquatherm orange	14,0	12/24	24,0	60	15/20	15/20	15/20
	16,0	16/22	22,0	60	18/20	18/20	18/20
	17,0	17/21,5	21,5	60	18/20	18/20	18/20
	20,0	20/20	20,0	60	22/20	22/20	22/20
	25,0	25/17,5	17,5	60	28/20	28/20	28/20
	26,0	26/17	17,0	60	28/20	28/20	28/20
	32,0	32/24	24,0	80	35/30	35/20	35/30
	40,0	40/20	20,0	80	42/40	42/20	42/40
	50,0	50/25	25,0	100	54/40	54/30	54/40
	63,0	63/33,5	33,5	130	64/50	64/30	64/50
	75,0	75/52,5	52,5	180	76/70	76/40	76/70
	90,0	90/65	65,0	220	102/80	102/40	102/80
	110,0	110/70	70,0	250	114/100	114/50	114/100
pipes without OT or UV layer aquatherm green UV aquatherm blue OT + UV	16,0	18/21	21,0	60	18/20	18/20	18/20
	20,0	22/19	19,0	60	22/20	22/20	22/20
	25,0	27/16,5	16,5	60	28/20	28/20	28/20
	32,0	34/23	23,0	80	35/30	35/20	35/30
	40,0	42/19	19,0	80	42/40	42/20	42/40
	50,0	52/24	24,0	100	54/40	54/30	54/40
	63,0	65/57,5	57,5	180	76/50	76/30	76/50
	75,0	77/51,5	51,5	180	89/70	89/40	89/70
	90,0	90/65	65,0	220	102/80	102/40	102/80
	110,0	113/53,5	53,5	220	114/100	114/50	114/100

Notes/special installation conditions
1) In some cases, the available minimum insulation thickness is specified.
2) For further insulation, the insulation ROCKWOOL 800 or TECLIT PS Cold can be used.
3) For cold pipes, a vapor barrier must be available according to DIN 1988-200, therefore only use fire protection pipe shell Conlit 150U/ Insulating shell ROCKWOOL 800 or TECLIT PS Cold.
4) Insulation thickness according to EnEV 50% and according to DIN 1988-200 suitable for the core bore diameter DK.

All basic conditions of the specified general building inspectorate test certificates must be considered.

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 Hu = 12.2 kWh/kg (as per DIN V 18230 T1) in conjunction with the mass of material mpipe [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 mfactor and is taken as 0.8 for polypropylene.

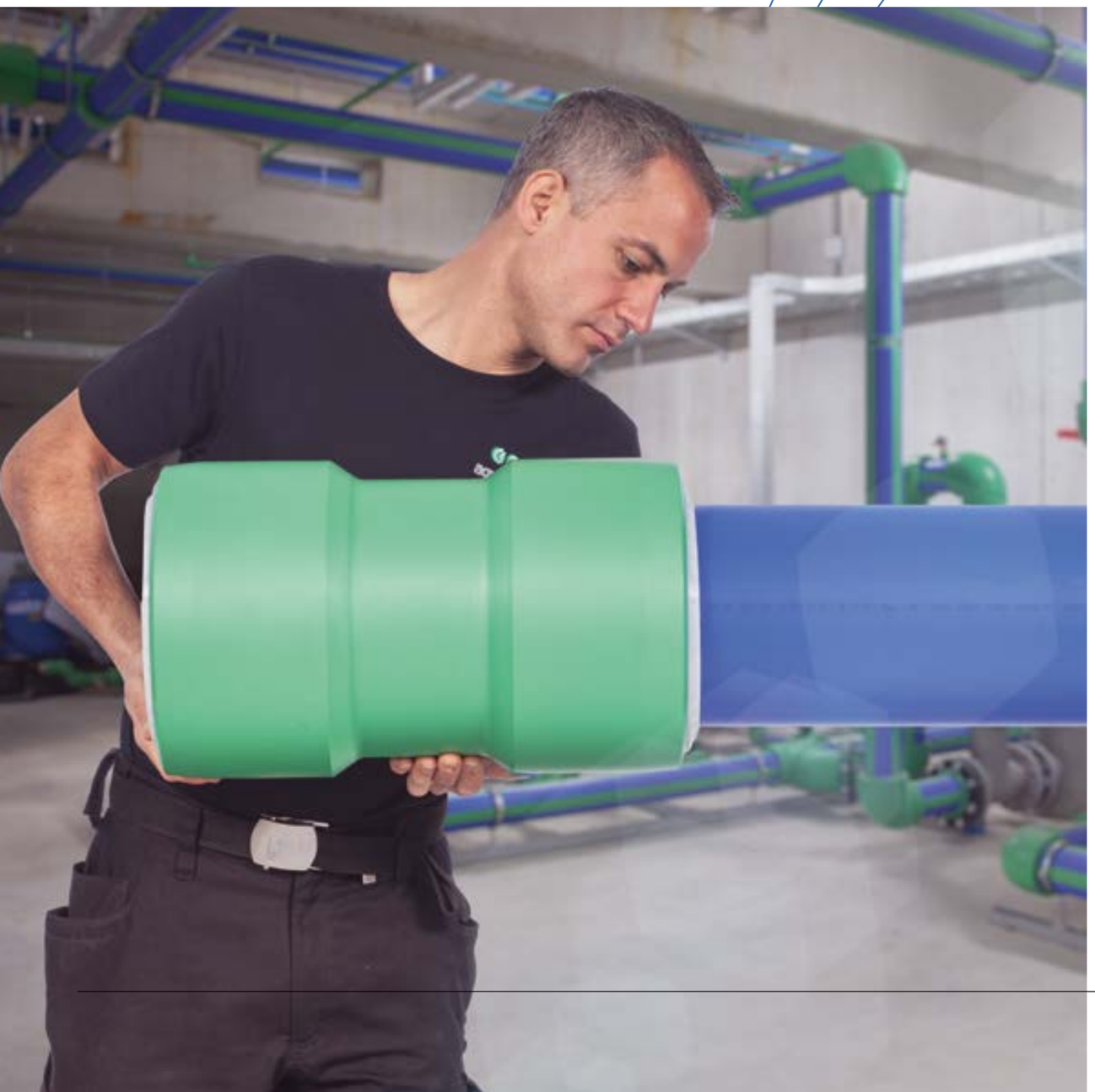
Combustion values V [kWh/m] for aquatherm blue

Dimension mm	aquatherm blue SDR 7,4 MF/OT	aquatherm blue SDR 9 MF/OT	aquatherm blue SDR 11 MF/OT	aquatherm blue SDR 17,6 MF
20	1,76	-	-	-
25	2,74	-	-	-
32	-	4,39	3,14	-
40	-	-	4,83	-
50	-	-	7,48	-
63	-	-	11,82	-
75	-	-	16,48	-
90	-	-	23,86	-
110	-	-	35,33	-
125	-	-	45,83	30,03
160	-	-	74,88	48,53
200	-	-	116,64	75,68
250	-	-	181,42	117,64
315	-	-	285,82	186,32
355	-	-	362,93	236,07
400	-	-	460,78	299,73
450	-	-	583,21	378,64
500	-	-	-	468,24
630	-	-	-	740,59

AQUATHERM CHARACTERISTICS AND SPECIAL FEATURES

Processing __

There are many possibilities for the connection of aquatherm blue piping systems. Whether welding or plugging: With the fusion techniques of aquatherm you quickly create a permanently tight connection.



Welding techniques __

Due to their exceptionally good welding properties, 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

Welding techniques for aquatherm blue OT __

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 technique __

Push-fit fittings
Highest safety in a few minutes: This is offered by the new aquatherm push-fit fittings. Compared to the electro socket welding process, pipe connections can be made up to 40 % faster with the aquatherm push-in socket. In addition, the tooling requirement is significantly lower.

View video

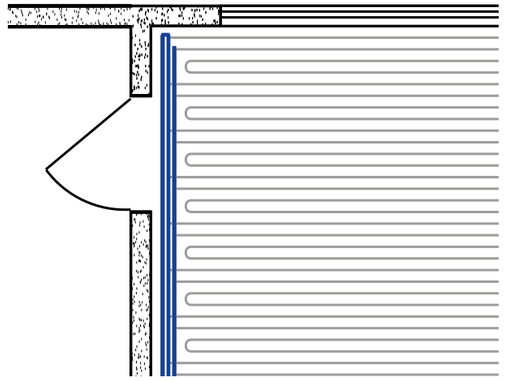
AQUATHERM CHARACTERISTICS AND SPECIAL FEATURES

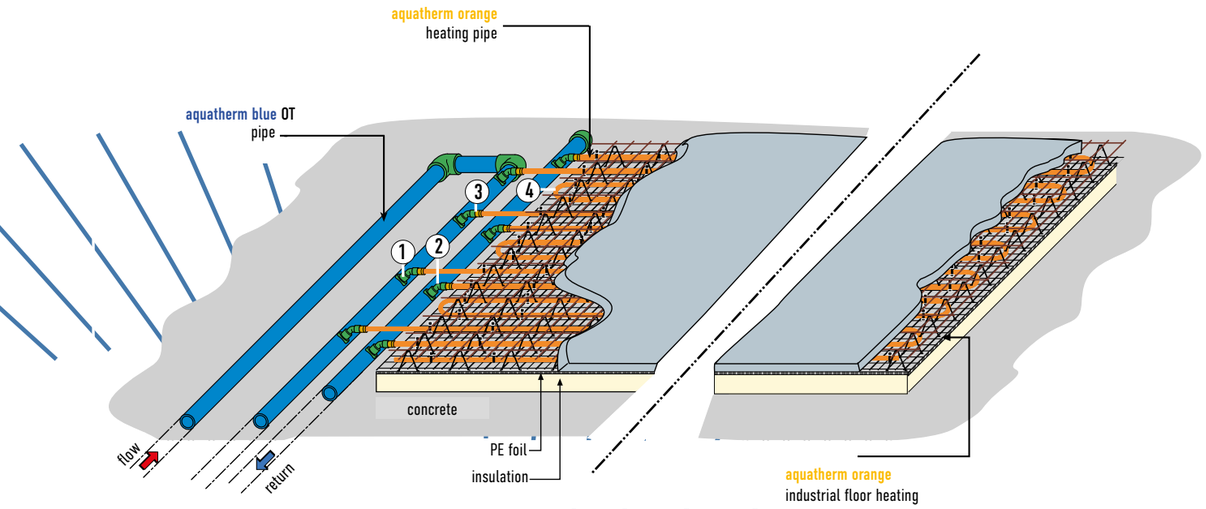
Connection __

Reverse return technique (Tichelmann-principle) __

The weld-in saddle technique, developed by aquatherm orange provides the connection of the heating pipes to a continuous manifold pipe according to reverse return. This technique is applied for the double swing floor design a+b and industrial floor heating.

On applying the reverse return technique, all heating circuits have the same length. Therefore the pipe layout ensures the same pressure loss for all heating circuits. A hydraulic balancing of the heating circuits is not required.





1. aquatherm weld-in saddle
2. aquatherm elbow 45°
3. aquatherm transition adapter
4. heating pipe

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 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 aquatherm pipe with other piping systems in conditions that will cause the other system or components to fail.

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aquatherm blue
Fields of application

Fields of application __

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

back to content

AQUATHERM BLUE FIELDS OF APPLICATION

Heating system construction __

Smooth operation over many decades: this is a simply formulated, although not always easy to realise, wish in the field of heating, ventilation and air conditioning technology. Steel pipes used in air conditioning systems, for example, are particularly susceptible to corrosion on the outside of the pipe. Condensation that forms between the insulation and the pipe attacks the pipe surface and breaks it down. In heating systems, corrosion inside the pipe is a big problem: it leads to pressure losses as well as increased energy consumption for the pumps used.

With aquatherm blue, corrosion damage is a thing of the past, because it consists of the 100% corrosion-resistant material polypropylene. This considerably extends the service life of the air-conditioning or heating system.

Due to its heat and sound insulating properties, aquatherm blue requires significantly less insulation against heat and cold loss or condensation when the temperature falls below the dew point compared to metallic pipes, making it ideal for heating and cooling systems from commercial buildings to single-family homes. Its light weight also facilitates installation and brings significant time benefits.

AQUATHERM BLUE FIELDS OF APPLICATION

Swimming pool technology

aquatherm blue ensures, among other things, that perfectly cleaned water remains perfectly clean during transport - thanks to the material polypropylene, which is not only self-insulating and corrosion-resistant, but also particularly temperature and pressure-resistant. The system is rounded off by its exceptionally good welding properties, which ensure strong connections, a long service life and maximum safety.

And as a swimming pool operator, you can also rely on us above water: aquatherm not only offers you piping systems for water management and transport, but also for all needs in the area of heating, ventilation and cooling - for example as surface heating.

AQUATHERM BLUE FIELDS OF APPLICATION

Refrigeration

The product for piping refrigerant circuits in refrigeration systems

Regardless of whether you want to bring a server room to a specific temperature, or to cool food, drinks, or medicines, we will work with you to find an outstanding solution for your refrigeration system's pipework. aquatherm blue, made of corrosion-resistant and diffusion-proof polypropylene, is ideal for the transport of cooling media in closed systems and is therefore particularly well-suited for a wide variety of refrigeration applications.

Industry	Industrial refrigeration		Comfort refrigeration
Type of cooling	gree cooling, cooling towers	Compression chillers	Compression chillers
Temperature range	> 20 °C	-40 °C bis +10 °C	6 °C bis 20 °C
Circuit types and cold carrier means	open and closed water circuits, including those contaminated with chemicals	refrigerant circuits (all known water-glycol mixtures, water-alcohol mixtures, brine) Re-cooling circuits of condenser cooling and oil cooling (water-glycol mixtures)	refrigerant circuits in air conditioning systems (water) Re-cooling circuits of condenser cooling (water-glycol mixtures)

Free cooling

Common problem with open recooling circuits:

- strong corrosion due to strong oxygen enrichment in the cooling water
- severe corrosion due to chemical additives in the cooling water

Compression chillers for industrial refrigeration

Common problem with compression chillers:

- increasing incrustation of steel pipes
- therefore increased energy consumption and costs

Compression chillers for comfort cooling

Common problem with open recooling circuits:

- strong corrosion due to strong oxygen enrichment in the cooling water
- severe corrosion due to chemical additives in the cooling water

Prefabrication

back to content

AQUATHERM BLUE FIELDS OF APPLICATION

Maritime applications __

Sustainable and weight-saving piping systems for shipbuilding. The global shipbuilding market has been growing steadily for many years and at the same time is experiencing a profound change due to the raising of environmental standards. With our sustainable and weight-saving piping systems that help to reduce fuel consumption, we support you in solving emerging technical, operational and environmental challenges.

Corrosion resistance to aggressive media and seawater with low pH values make aquatherm blue the ideal piping system in ship-building. For example, for ballast and cooling systems or exhaust gas scrubbers.

A major advantage of the saltwater-resistant piping systems is the easy and quick processing, as well as easy repair work, even at sea.

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aquatherm blue
Quality assurance

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AQUATHERM 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 (Instituto 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 as well as our satisfied customers confirm again and again the high quality of our products.

Since 1996 aquatherm fulfills the requirements of the quality management system according to DIN ISO 9001.

This success is another step towards strengthening our competitive position and to meet the high requirements and the responsibility for our customers, partners and the environment.

See for yourself!

TÜVRheinland® ZERTIFIZIERT
Management System
ISO 9001:2015
ISO 14001:2015
ISO 50001:2018
www.tuv.com
ID 0091005348

Made in Germany

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 contain neither express nor imply warranties of aquatherm GmbH or its affiliates.

You can find the overview of our international certificates here: Certificate

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aquatherm blue
Planning services

AQUATHERM 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

AQUATHERM PLANNING SERVICES

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.

AQUATHERM PLANNING SERVICES

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

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aquatherm blue
References

AQUATHERM BLUE REFERENCES

Refrigeration systems__

Project
Novva Data Center

Location
Salt Lake City, Utah (USA)

Completion
2021, extension follows

Application
Refrigeration systems

The challenge
For the piping of the cooling system in the Novva data centre, a piping system was required that was not only corrosion-resistant but could also be easily integrated into the underfloor structure.

The solution
aquatherm blue met the high demands of the client. Furthermore, aquatherm aided with the scan-to-fab service.

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AQUATHERM BLUE REFERENCES

Refrigeration systems__

Project
AFAS Clubhouse

Location
Leusden, Netherlands

Completion
2021

Application
Refrigeration systems

The challenge
For the new headquarters of software company AFAS, the clients were looking for a chilled water system that would fit into the building's sustainability concept.

The solution
aquatherm blue made of the corrosion resistant plastic polypropylene (PP-R) was installed over 6,532 metres. Its significantly lower CO^2 emissions compared to steel pipes and its very good recyclability were decisive for the choice of the system.

AQUATHERM BLUE REFERENCES

Refrigeration systems__

Project
Kunst-Depot Boijmans Van Beuningen

Location
Rotterdam, Netherlands

Completion
2021

Application
Refrigeration systems

The challenge
The Kunst-Depot focuses on sustainability in numerous areas. Accordingly, the cooling water system also had to fit into the building's sustainability concept.

The solution
aquatherm blue made of the plastic polypropylene (PP-RP) convinced the designers with its significantly lower CO^2 emissions compared to steel pipes. Due to its technical properties, the piping system is also optimally suited for refrigeration installation.

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AQUATHERM BLUE REFERENCES

Technical water __

Project
Hybrid superyacht "Artefact"

Location
Nobiskrug Shipyard
Rendsburg, Germany

Completion
2020

Application
Potable water
Waste water
Technical water

The challenge
Highest quality in all areas - this should also apply to the piping systems used on the hybrid superyacht „Artefact“ for drinking water, waste water and technical water.

The solution
Products from aquatherm are not only corrosion- resistant, but were also ideal in the context of the new construction of the “Artefact” for, among other things, their insulating effect and secure connection technology.

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aquatherm blue
Chemical resistance

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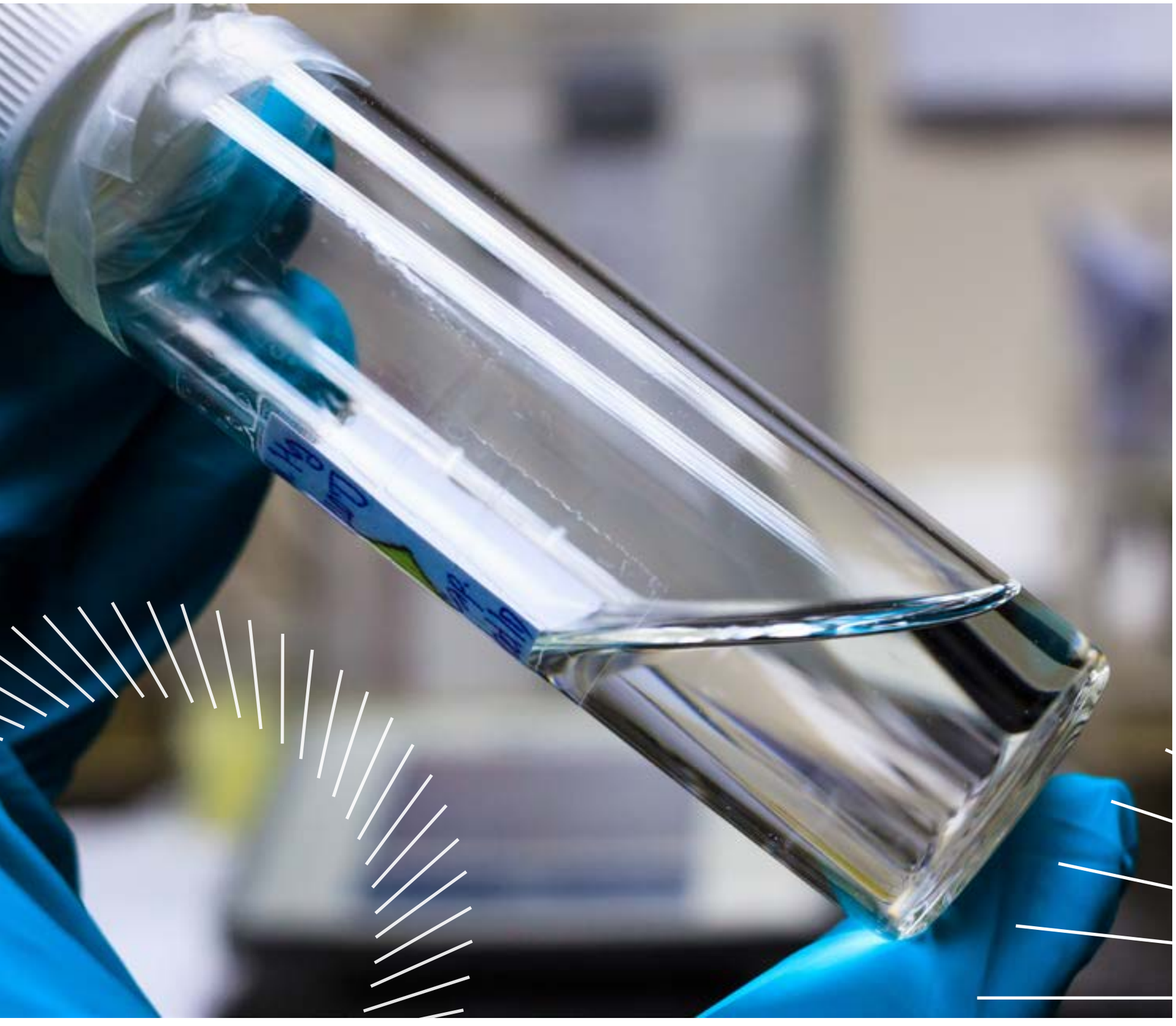

AQUATHERM CHEMICAL RESISTANCE

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“

Formular „Chemical resistance request“

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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 nearly 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 moulded, 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 pipe (fusiotherm und aquatherm ISO)
- aquatherm blue pipe (climatherm und aquatherm ISO)
- aquatherm red pipe (firestop)
- aquatherm black system (climasystem)
- aquatherm lilac pipe (aquatherm lilac)
- aquatherm orange system (aquatherm heating systems)
- 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 knowlegde 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 jeopardise 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 enquiries 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 2023
aquatherm GmbH, Biggen 5, 57439 Attendorn, Germany

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AQUATHERM TRANSPORT AND STORAGE

Careful **storage**

aquatherm polypropylene pipes may be stored outside at any temperature. A solid base for the pipe is very important to avoid a deformation of the pipes while in transport and storage.

At temperatures below 0 °C it is possible to damage the pipes through strong impacts. The material has to be treated with caution at low temperatures. In spite of its high resistance, aquatherm pipes should be treated with care. UV-radiation has effects on all high polymer plastics. Do not store permanently outdoor. The maximum permissible storage time outdoors is 6 months.

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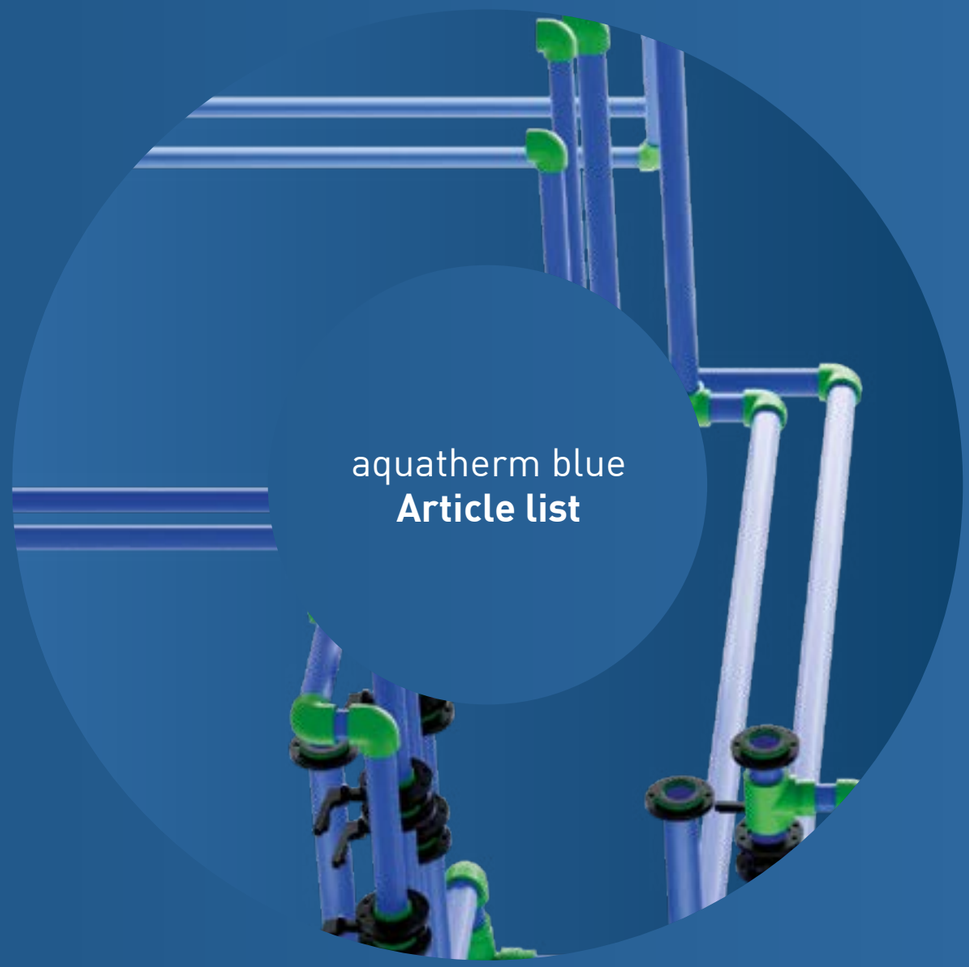


aquatherm blue
Article list

Pipes / basic elements

aquatherm blue SDR 7,4 MF

MF = multi-layer, fibre-reinforced

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

Article no.	d	s	di	l/m	kg/m	DN	PU [m]
socket welding							
2012020006	**20**	**2,8**	**14,4**	**0,163**	**0,157**	**15**	**100**
2012025008	**25**	**3,5**	**18,0**	**0,254**	**0,244**	**20**	**100**

aquatherm blue 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
Colour: outside: black / inside: blue
Packing unit: 4 m straight lengths

Article no.	d	s	di	l/m	kg/m	DN	PU [m]
socket welding							
2212020006	**20**	**2,8**	**14,4**	**0,163**	**0,210**	**15**	**100**
2212025008	**25**	**3,5**	**18,0**	**0,254**	**0,314**	**20**	**100**

aquatherm blue SDR 7,4 MF OT

MF = multi-layer, fibre-reinforced
OT = oxygen-tight

Material: fusiolen® PP-R
Pipe series: SDR 7,4 / S 3,2
Standards: DIN 8077 / 78, DIN EN ISO 15874, ASTM F 2389, CSA B 137.11, ISO 21003
Colour: blue
Packing unit: 4 m straight lengths

Article no.	d	s	di	l/m	kg/m	DN	PU [m]
socket welding							
2112020006	**20**	**2,8**	**14,4**	**0,163**	**0,211**	**15**	**100**
2112025008	**25**	**3,5**	**18,0**	**0,254**	**0,316**	**20**	**100**

Legend table abbreviations: (Units in mm unless otherwise specified)

d	diameter in mm	**l/m**	water content in litres/metre	**SDR**	standard dimension ratio (Diameter/wall thickness ratio)
D	diameter in mm	**kg/m**	weight data in kg per metre		
s	wall thickness in mm	**DN**	diameter nominal		
di	internal diameter in mm	**PU**	packing unit in metre		

Pipes / basic elements

aquatherm blue 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, CSA B 137.11,ISO 21003
Colour: blue
Packing unit: 4 m straight lengths

Article no.	d	s	di	l/m	kg/m	DN	PU [m]
socket welding							
2013032010	**32**	**3,6**	**24,8**	**0,539**	**0,334**	**25**	**40**

aquatherm blue SDR 9 MF RP UV

MF = multi-layer, fibre-reinforced
RP = raised pressure resistance
UV = UV-resistant

Material: fusiolen® PP-RCT
Pipe series: SDR 9 / S 4
Standards: SKZ HR 3.28, ASTM F 2389, CSA B 137.11,ISO 21003
Colour: outside: black / inside: blue
Packing unit: 4 m straight lengths

Article no.	d	s	di	l/m	kg/m	DN	PU [m]
socket welding							
2213032010	**32**	**3,6**	**24,8**	**0,483**	**0,328**	**25**	**40**

aquatherm blue SDR 9 MF RP OT

MF = multi-layer, fibre-reinforced
RP = raised pressure resistance
OT = oxygen-tight

Material: fusiolen® PP-RCT
Pipe series: SDR 9 / S 4
Standards: DIN 8077 / 78, DIN EN ISO 15874, ASTM F 2389, CSA B 137.11, ISO 21003
Colour: blue
Packing unit: 4 m straight lengths

Article no.	d	s	di	l/m	kg/m	DN	PU [m]
socket welding							
2113032010	**32**	**3,6**	**24,8**	**0,483**	**0,328**	**25**	**0,328**

Pipes / basic elements

aquatherm blue SDR 11 S

S = single-layer

Material: fusiolen® PP-R
Pipe series: SDR 11 / S 5
Standards: DIN 8077 / 78, DIN EN ISO 15874, ASTM F 2389, CSA B 137.11, NSF 14
Colour: blue
Packing unit: 4 m straight lengths

Article no.	d	s	di	l/m	kg/m	DN	PU [m]
socket welding							
2014020006	20	1,9	16,2	0,206	0,108	15	100
2014025008	25	2,3	20,4	0,327	0,165	20	100
2014020306 *	20	1,9	16,2	0,206	0,108	15	100
2014025308 *	25	2,3	20,4	0,327	0,165	20	100
2014032310 *	32	2,9	26,2	0,539	0,261	25	50

*Packing unit: in coils

aquatherm blue SDR 11 MF RP

MF = multi-layer, fibre-reinforced
RP = raised pressure resistance

Material: fusiolen® PP-RCT
Pipe series: SDR 11 / S 5
Standards: SKZ HR 3.28, ASTM F 2389, CSA B 137.11,ISO 21003
Colour: blue
Packing unit: ø 20 – 125 mm straight lengths 4 m
ø 160 – 630 mm straight lengths 5.8 m

Article no.	d	s	di	l/m	kg/m	DN	PU [m]
socket welding							
2014040012	40	3,7	32,6	0,834	0,430	32	40
2014050014	50	4,6	40,8	1,307	0,651	40	20
2014063016	63	5,8	51,4	2,074	1,062	50	20
2014075018	75	6,8	61,4	2,959	1,494	65	20
2014090020	90	8,2	73,6	4,252	2,141	80	12
2014110022	110	10,0	90,0	6,359	3,239	-	8
2014125024	125	11,4	102,2	8,199	4,092	100	4
butt welding							
2014160026	160	14,6	130,8	13,430	6,710	125	5,8
2014200028	200	18,2	163,6	21,010	10,442	150	5,8
2014250030	250	22,7	204,6	32,861	16,579	200	5,8
2014315032	315	28,6	257,8	52,172	26,223	250	5,8
2014355034	355	32,2	290,6	66,290	33,276	300	5,8
2014400036	400	36,3	327,6	84,290	42,266	300	5,8
2014450038	450	40,9	368,2	106,470	53,566	400	5,8

Pipes / basic elements

aquatherm blue SDR 11 MF RP UV

MF = multi-layer, fibre-reinforced
RP = raised pressure resistance
UV = UV-resistant

Material: fusiolen® PP-RCT
Pipe series: SDR 11
Standards: SKZ HR 3.28, ASTM F 2389, CSA B 137.11,ISO 21003
Colour: outside: black / inside: blue
Packing unit: ø 20 – 125 mm straight lengths 4 m
ø 160 – 630 mm straight lengths 5.8 m

Article no.	d	s	di	l/m	kg/m	DN	PU [m]
socket welding							
2214040012	40	3,7	32,6	0,834	0,555	32	40
2214050014	50	4,6	40,8	1,307	0,827	40	20
2214063016	63	5,8	51,4	2,074	1,260	50	20
2214075018	75	6,8	61,4	2,959	1,712	65	20
2214090020	90	8,2	73,6	4,252	2,480	80	12
2214110022	110	10,0	90,0	6,359	3,693	-	8
2214125024	125	11,4	102,2	8,199	4,774	100	4
butt welding							
2214160026	160	14,6	130,8	13,430	7,181	125	5,8
2214200028	200	18,2	163,6	21,010	11,029	150	5,8
2214250030	250	22,7	204,6	32,861	17,312	200	5,8
2214315032	315	28,6	257,8	52,172	26,223	250	5,8
2214355034	355	32,2	290,6	66,292	34,315	300	5,8
2214400036	400	36,3	327,4	84,145	43,437	300	5,8
2214450038	450	40,9	368,2	106,423	54,883	400	5,8

aquatherm blue SDR 11 MF RP OT

MF = multi-layer, fibre-reinforced
RP = raised pressure resistance
OT = oxygen-tight

Material: fusiolen® PP-RCT
Pipe series: SDR 11/ S 5
Standards: DIN 8077 / 78, DIN EN ISO 15874, ASTM F 2389, CSA B 137.11, ISO 21003
Colour: blue
Packing unit: ø 20 – 125 mm straight lengths 4 m
ø 160 – 250 mm straight lengths 5,8 m

Article no.	d	s	di	l/m	kg/m	DN	PU [m]
socket welding							
2114040012	40	3,7	32,6	0,834	0,562	32	40
2114050014	50	4,6	40,8	1,307	0,695	40	20
2114063016	63	5,8	51,4	2,074	1,279	50	20
2114075018	75	6,8	61,4	2,959	1,739	65	20
2114090020	90	8,2	73,6	4,252	2,533	80	12
2114110022	110	10,0	90,0	6,359	3,752	-	8
2114125024	125	11,4	102,2	8,199	4,201	100	4
butt welding							
2114160026	160	14,6	130,8	13,430	6,847	125	5,8
2114200028	200	18,2	163,6	21,010	10,520	150	5,8
2114250030	250	22,7	204,6	32,861	16,226	200	5,8

Pipes / basic elements

aquatherm blue SDR 17,6 MF RP

MF = multi-layer, fibre-reinforced
RP = raised pressure resistance

Material: fusiolen® PP-R / PP-RCT
Pipe series: SDR 17,6 / S5
Standards: SKZ HR 3.28, ASTM F 2389, CSA B 137.11, ISO 21003
Colour: blue
Packing unit: 5.8 m straight lengths

Article no.	d	s	di	l/m	kg/m	DN	PU [m]
socket welding							
2017125224	**125**	**7,1**	**110,8**	**9,637**	**2,666**		**4**
butt welding							
2017160026	**160**	**9,1**	**141,8**	**15,792**	**4,390**		**5,8**
2017200028	**200**	**11,4**	**177,2**	**24,661**	**6,927**		**5,8**
2017250030	**250**	**14,2**	**221,6**	**38,568**	**10,636**		**5,8**
2017315032	**315**	**17,9**	**279,2**	**61,223**	**16,606**		**5,8**
2017355034	**355**	**20,1**	**314,8**	**77,832**	**21,589**		**5,8**
2017400036	**400**	**22,7**	**354,6**	**98,756**	**27,468**		**5,8**
2017450038	**450**	**25,5**	**399,0**	**125,036**	**34,716**		**5,8**
2017500040	**500**	**28,4**	**443,2**	**154,272**	**42,955**		**5,8**
2017630042	**630**	**35,7**	**558,6**	**245,070**	**68,044**		**5,8**

aquatherm blue SDR 17,6 MF RP UV

MF = multi-layer, fibre-reinforced
RP = raised pressure resistance
UV = UV-resistant

Material: fusiolen® PP-RCT
Pipe series: SDR 17,6 / 8,3
Standards: SKZ HR 3.28, ASTM F 2389, CSA B 137.11, ISO 21003
Colour: outside: black / inside: blue
Packing unit: 5.8 m straight lengths

Article no.	d	s	di	l/m	kg/m	DN	PU [m]
butt welding							
2217160026	**160**	**9,1**	**141,8**	**15,784**	**4,860**	**150**	**5,8**
2217200028	**200**	**11,4**	**177,2**	**24,649**	**7,514**	**200**	**5,8**
2217250030	**250**	**14,2**	**221,6**	**38,549**	**11,369**	**250**	**5,8**
2217315032	**315**	**17,9**	**279,2**	**61,193**	**17,529**	**300**	**5,8**
2217355034	**355**	**20,1**	**314,8**	**77,793**	**22,628**	**350**	**5,8**
2217400036	**400**	**22,7**	**354,6**	**98,707**	**28,639**	**350**	**5,8**
2217450038	**450**	**25,5**	**399,0**	**124,973**	**36,033**	**400**	**5,8**
2217500040	**500**	**28,4**	**443,2**	**154,195**	**44,418**	**450**	**5,8**
2217630042	**630**	**35,7**	**558,6**	**245,947**	**69,887**	**500**	**5,8**

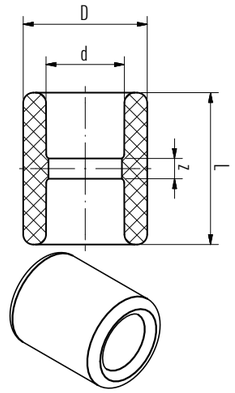
Socket

Socket

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

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

Article no.	d	D	L	z	kg	PU
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**



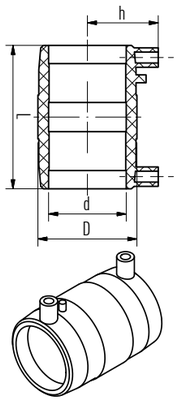
Electrofusion socket

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

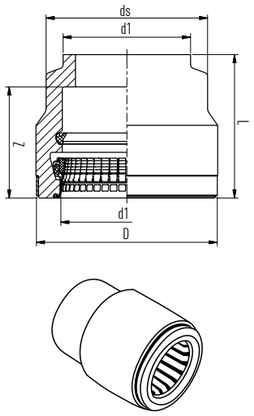
Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

Article no.	d	D	L	h	kg	PU
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**

do not use with 160 – 250 mm fittings
*do not use with aquatherm blue MF OT



Socket

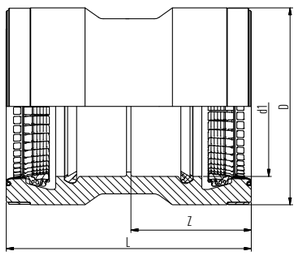


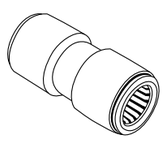
Push-fit adapter

Material: fusiolen® PP-RP / EPDM
Standards: DIN EN ISO 15874
Colour: green

Article no.	d1	ds	D	L	z	kg	PU
SDR 11							
2054090000	**90**	**112**	**152,0**	**170,0**	**140,0**	**1,200**	**1**
2054110001	**110**	**140**	**175,0**	**205,0**	**170,0**	**2,000**	**1**
2054125002	**125**	**161**	**190,0**	**210,0**	**172,0**	**2,300**	**1**
2054160004	**160**	**202**	**234,0**	**227,0**	**183,0**	**3,800**	**1**
2054200006	**200**	**250**	**285,0**	**285,0**	**231,0**	**6,500**	**1**
2054250008	**250**	**317**	**375,0**	**315,0**	**243,0**	**15,000**	**1**
2054315010	**315**	**400**	**450,0**	**355,0**	**275,0**	**24,000**	**1**
2054355012	**355**	**450**	**492,0**	**370,0**	**283,0**	**28,000**	**1**
2054400014	**400**	**500**	**540,0**	**390,0**	**300,0**	**34,000**	**1**
2054450016	**450**	**560**	**600,0**	**415,0**	**318,0**	**44,000**	**1**
SDR 17,6							
2057125003	**125**	**161**	**190,0**	**210,0**	**172,0**	**2,300**	**1**
2057160005	**160**	**202**	**234,0**	**227,0**	**183,0**	**3,800**	**1**
2057200007	**200**	**250**	**285,0**	**285,0**	**231,0**	**6,500**	**1**
2057250009	**250**	**295**	**355,0**	**315,0**	**243,0**	**11,500**	**1**
2057315011	**315**	**370**	**425,0**	**345,0**	**275,0**	**16,300**	**1**
2057355013	**355**	**415**	**470,0**	**360,0**	**283,0**	**20,000**	**1**
2057400015	**400**	**465**	**510,0**	**390,0**	**300,0**	**23,800**	**1**
2057450017	**450**	**520**	**565,0**	**400,0**	**318,0**	**27,800**	**1**

Do not use for aquatherm blue MF RP OT
Fittings and connecting parts e.g. elbows (45°/90°), T-pieces, Red. T-pieces etc. on request





Push-fit coupling

SDR 11 / 17,6

Material: fusiolen® PP-RP / EPDM
Standards: DIN EN ISO 15874
Colour: green

Article no.	d1	D	L	z	kg	PU
2054090020	**90**	**152,0**	**285,0**	**140,0**	**2,300**	**1**
2054110021	**110**	**175,0**	**345,0**	**170,0**	**3,700**	**1**
2054125022	**125**	**190,0**	**350,0**	**172,0**	**4,300**	**1**
2054160023	**160**	**234,0**	**372,0**	**183,0**	**6,600**	**1**
2054200024	**200**	**285,0**	**470,0**	**231,0**	**11,000**	**1**
2054250025	**250**	**375,0**	**496,0**	**243,0**	**20,420**	**1**
2054315026	**315**	**450,0**	**560,0**	**275,0**	**40,200**	**1**
2054355027	**355**	**492,0**	**576,0**	**283,0**	**45,700**	**1**
2054400028	**400**	**540,0**	**610,0**	**300,0**	**54,800**	**1**
2054450029	**450**	**600,0**	**646,0**	**318,0**	**69,600**	**1**

Do not use for aquatherm blue MF RP OT

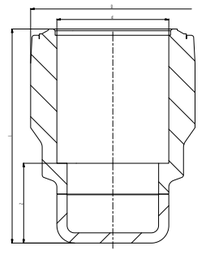
Elbow

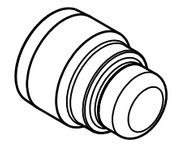
End cap with push-fit adapter

Material: fusiolen® PP-RP / EPDM
Standards: DIN EN ISO 15874
Colour: green

Article no.	d	l	D	z	kg	PU
SDR 11						
2054090030	**90**	**236,5**	**152,0**	**87,5**	**1,647**	**1**
2054110031	**110**	**269**	**175,0**	**90,0**	**2,771**	**1**
2054125032	**125**	**291**	**190,0**	**110,0**	**3,368**	**1**
2054160033	**160**	**306**	**235,0**	**114,0**	**4,431**	**1**
2054200034	**200**	**374**	**285,0**	**134,0**	**7,570**	**1**
2054250035	**250**	**405**	**375,0**	**162,0**	**16,989**	**1**
2054315036	**315**	**425**	**450,0**	**150,0**	**28,200**	**1**
2054355037	**355**	**450**	**492,0**	**167,0**	**34,410**	**1**
2054400038	**400**	**460**	**540,0**	**160,0**	**41,190**	**1**
2054450039	**450**	**495**	**600,0**	**177,0**	**54,500**	**1**
SDR 17,6						
2057160040	**160**	**306**	**235,0**	**114,0**	**4,479**	**1**
2057200041	**200**	**374**	**285,0**	**134,0**	**7,425**	**1**
2057250042	**250**	**405**	**355,0**	**162,0**	**12,805**	**1**
2057315043	**315**	**415**	**425,0**	**140,0**	**20,800**	**1**
2057355044	**355**	**430**	**470,0**	**147,0**	**25,540**	**1**
2057400045	**400**	**465**	**510,0**	**165,0**	**29,800**	**1**
2057450046	**450**	**470**	**565,0**	**152,0**	**36,320**	**1**

Do not use for aquatherm blue MF RP OT



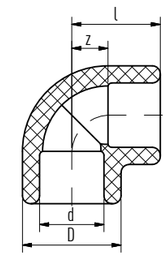


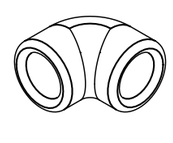
Elbow 90° socket welding

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

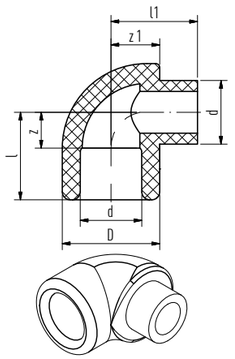
Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

Article no.	d	l	D	z	kg	PU
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

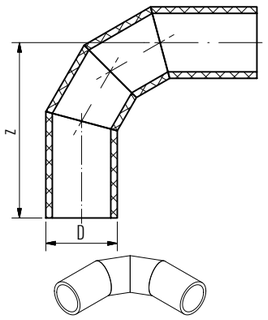


Elbow 90° female/male

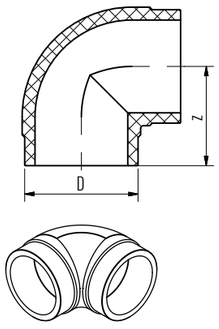
SDR 6 / 7,4 / 9 / 11

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

Article no.	d	l	l1	D	z	z1	kg	PU
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**



Segment welded article



Injection moulded part

Elbow 90° butt welding

pipe segment

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

Article no.	D	z	kg	PU
butt welding				
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**
2084315028	**315,0**	**773,0**	**37,300**	**1**
2084355032	**355,0**	**833,0**	**57,074**	**1**
2084400036	**400,0**	**900,0**	**74,500**	**1**
2084450040	**450,0**	**975,0**	**89,080**	**1**
SDR 17,6				
2087160021 *	**160,0**	**145,0**	**1,512**	**1**
2087200023 *	**200,0**	**209,0**	**3,640**	**1**
2087250025 *	**250,0**	**240,0**	**6,011**	**1**
2087315029	**315,0**	**773,0**	**24,000**	**1**
2087355033	**355,0**	**833,0**	**32,000**	**1**
2087400037	**400,0**	**900,0**	**42,549**	**1**
2087450041	**450,0**	**975,0**	**62,200**	**1**
2087500043	**500,0**	**1.100,0**	**91,000**	**1**
2087630045	**630,0**	**1.295,0**	**164,600**	**1**

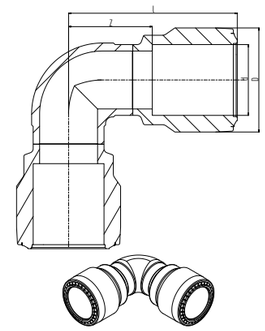
*Injection moulded fitting

Please note! Electrofusion sockets can not be processed directly with injection moulded fittings. When using electrofusion sockets either segment welded special fittings must be used or pipe pieces must be welded to the injection moulded fittings.

Elbow

Elbow 90° with push-fit adapter

Material: fusiolen® PP-RP / EPDM
Standards: DIN EN ISO 15874
Colour: green



Article no.	d	l	D	z	kg	PU
SDR 11						
2054090100	**90**	**248**	**152,0**	**99,0**	**3,290**	**1**
2054110101	**110**	**297**	**175,0**	**118,0**	**4,907**	**1**
2054125102	**125**	**324,5**	**190,0**	**143,5**	**6,996**	**1**
2054160103	**160**	**381**	**235,0**	**189,0**	**9,556**	**1**
2054200104	**200**	**503**	**285,0**	**263,0**	**17,575**	**1**
2054250105	**250**	**555**	**375,0**	**312,0**	**37,180**	**1**
2054315106 *	**315**	**875**	**450,0**	**600,0**	**85,850**	**1**
2054355107 *	**355**	**940**	**492,0**	**658,0**	**105,000**	**1**
2054400018 *	**400**	**1020**	**540,0**	**720,0**	**130,800**	**1**
2054450109 *	**450**	**1104**	**600,0**	**786,0**	**177,500**	**1**
SDR 17,6						
2057160090	**160**	**381**	**235,0**	**189,0**	**9,111**	**1**
2057200091	**200**	**503**	**285,0**	**263,0**	**16,640**	**1**
2057250092	**250**	**555**	**355,0**	**312,0**	**29,011**	**1**
2057315093 *	**315**	**875**	**425,0**	**600,0**	**56,600**	**1**
2057355094 *	**355**	**940**	**470,0**	**658,0**	**72,000**	**1**
2057400095 *	**400**	**1020**	**510,0**	**720,0**	**90,150**	**1**
2057450096 *	**450**	**1104**	**565,0**	**786,0**	**117,800**	**1**

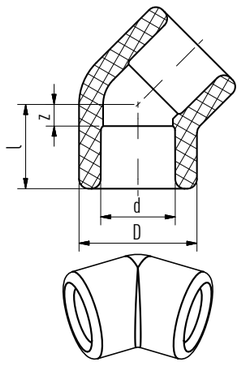
* pipe segment

Do not use for aquatherm blue MF RP OT

Elbow 45° socket welding

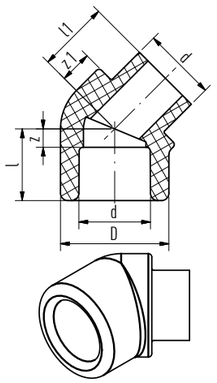
SDR 6 / 7,4 / 9 / 11 / 17,6

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



Article no.	d	l	D	z	kg	PU
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

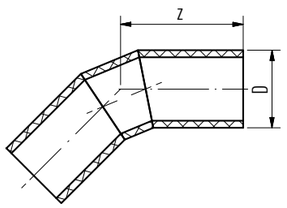


Elbow 45° female/male

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
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**

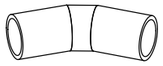


Elbow 45° butt welding

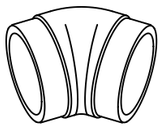
pipe segments (**or injection moulded fitting)

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

Article no.	D	z	kg	PU
butt welding				
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**
2084315026 *	**315,0**	**498,0**	**27,100**	**1**
2084355030 *	**355,0**	**520,0**	**38,158**	**1**
2084400034 *	**400,0**	**548,0**	**44,712**	**1**
2084450038 *	**450,0**	**580,0**	**60,260**	**1**
SDR 17,6				
2087160020 **	**160,0**	**95,0**	**1,080**	**1**
2087200022 **	**200,0**	**146,0**	**1,990**	**1**
2087250024 **	**250,0**	**182,0**	**3,875**	**1**
2087315027 *	**315,0**	**498,0**	**18,000**	**1**
2087355031 *	**355,0**	**520,0**	**22,058**	**1**
2087400035 *	**400,0**	**548,0**	**30,800**	**1**
2087450039 *	**450,0**	**580,0**	**39,123**	**1**
2087500042 *	**500,0**	**665,0**	**55,112**	**1**
2087630044 *	**630,0**	**741,0**	**97,148**	**1**



Segment welded article



Injection moulded part

*mechanically stabilised through a fibre mix integrated in the middle layer of the fusiolen® PP-RCT.
**Injection moulded fitting (green)

Please note! Electrofusion sockets can not be processed directly with injection moulded fittings. When using electrofusion sockets either segment welded special fittings must be used or pipe pieces must be welded to the injection moulded fittings.

T-piece

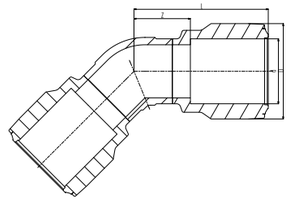
Elbow 45° with push-fit adapter

pipe segments

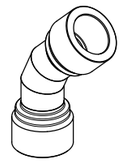
Material: fusiolen® PP-RCT / EPDM
Standards: DIN EN ISO 15874
Colour: green

Article no.	d	l	D	z	kg	PU
SDR 11						
2054090070 *	**90**	**221,5**	**152,0**	**72,5**	**5,419**	**1**
2054110071 *	**110**	**264,5**	**175,0**	**85,5**	**7,482**	**1**
2054125072 *	**125**	**276**	**190,0**	**95,0**	**6,321**	**1**
2054160073 *	**160**	**331**	**235,0**	**139,0**	**8,971**	**1**
2054200074 *	**200**	**440**	**285,0**	**200,0**	**16,310**	**1**
2054250075 *	**250**	**497**	**375,0**	**254,0**	**36,218**	**1**
2054315076	**315**	**607**	**450,0**	**332,0**	**75,300**	**1**
2054355077	**355**	**638**	**492,0**	**355,0**	**82,650**	**1**
2054400078	**400**	**675**	**540,0**	**375,0**	**112,900**	**1**
2054450079	**450**	**719**	**600,0**	**401,0**	**148,500**	**1**
SDR 17,6						
2057160080 *	**160**	**331**	**235,0**	**139,0**	**8,680**	**1**
2057200081 *	**200**	**440**	**285,0**	**200,0**	**14,990**	**1**
2057250082 *	**250**	**497**	**355,0**	**254,0**	**26,875**	**1**
2057315083	**315**	**597**	**425,0**	**322,0**	**50,600**	**1**
2057355084	**355**	**628**	**470,0**	**345,0**	**62,058**	**1**
2057400085	**400**	**675**	**510,0**	**285,0**	**78,400**	**1**
2057450086	**450**	**704**	**565,0**	**386,0**	**94,723**	**1**

*Injection moulded fitting (green)
Do not use for aquatherm blue MF RP OT



Injection moulded fitting



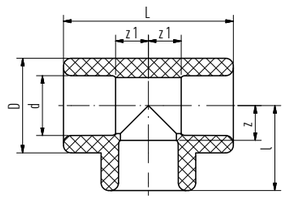
Fitting made of pipe segments

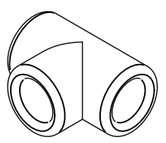
T-piece socket welding

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

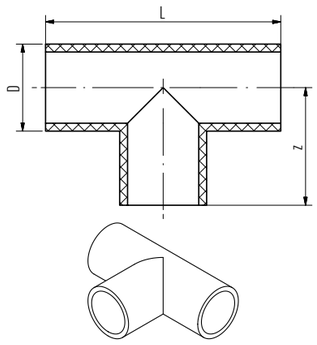
Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

Article no.	d	l	D	L	z	z1	kg	PU
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**

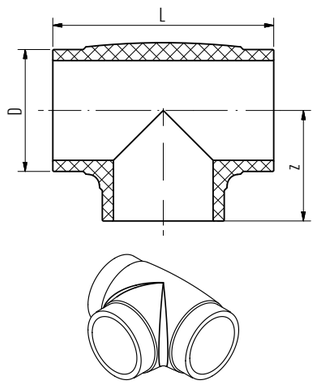




T-piece __



Segment welded article



Injection moulded part

T-piece butt welding

pipe segment

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

Article no.	D	L	z	kg	PU
butt welding					
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
2064315001	315,0	920,0	460,0	36,674	1
2064355002	355,0	960,0	480,0	40,000	1
2064400003	400,0	1.000,0	500,0	62,100	1
2064450004	450,0	1.050,0	525,0	82,792	1
SDR 17,6					
2067160010 *	160,0	290,0	145,0	2,348	1
2067200011 *	200,0	410,0	205,0	4,500	1
2067250012 *	250,0	486,0	243,0	8,868	1
2067315013	315,0	920,0	460,0	19,800	1
2067355014	355,0	960,0	480,0	27,500	1
2067400015	400,0	1.000,0	500,0	40,395	1
2067450016	450,0	1.050,0	525,0	45,400	1
2067500017	500,0	1.200,0	600,0	75,726	1
2067630018	630,0	1.330,0	665,0	122,500	1

*mechanically stabilised through a fibre mix integrated in the middle layer of the fusiolen® PP-RCT.
**Injection moulded fitting (green)

Please note! Electrofusion sockets can not be processed directly with injection moulded fittings. When using electrofusion sockets either segment welded special fittings must be used or pipe pieces must be welded to the injection moulded fittings.

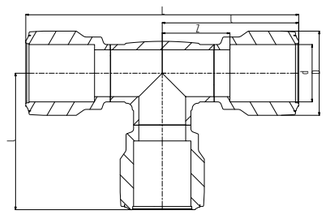
T-piece __

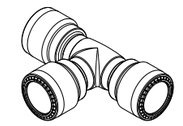
aquatherm T-piece with push-fit adapter

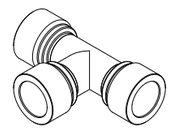
Material: fusiolen® PP-RCT / EPDM
Standards: DIN EN ISO 15874
Colour: green

Article no.	d	l	D	L	z	kg	PU
SDR 11							
2054090050	90	248	152,0	496,0	99,0	4,765	1
2054110051	110	325,5	175,0	651,0	118,0	8,006	1
2054125052	125	325,5	190,0	651,0	144,5	10,162	1
2054160053	160	381	235,0	762,0	189,0	14,340	1
2054200054	200	499	285,0	998,0	259,0	25,599	1
2054250055	250	558	375,0	1.116,0	315,0	55,710	1
2054315056 *	315	645	450,0	1.290,0	370,0	92,450	1
2054355057 *	355	685	492,0	1.370,0	402,0	129,072	1
2054400058 *	400	725	540,0	1.450,0	425,0	165,100	1
2054450059 *	450	775	600,0	1.550,0	457,0	215,300	1
SDR 17,6							
2057160060	160	381	235,0	762,0	189,0	13,747	1
2057200061	200	499	285,0	998,0	259,0	24,000	1
2057250062 *	315	558	355,0	1.116,0	315,0	43,368	1
2057315063 *	315	635	425,0	1.270,0	360,0	68,700	1
2057355064 *	355	675	470,0	1.350,0	392,0	87,500	1
2057400065 *	400	725	510,0	1.450,0	425,0	111,795	1
2057450066 *	450	760	565,0	1.520,0	442,0	128,800	1

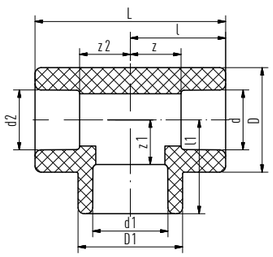
*pipe segments
Do not use for aquatherm blue MF RP OT

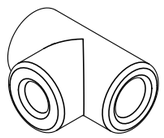






T-piece __





Red. T-piece socket welding

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

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

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

T-piece __

Red. T-piece, socket- & butt welding

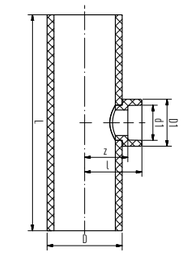
branch: socket welding

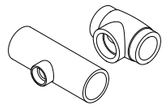
Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

Article no.	D	d1	l	D1	L	z	kg	PU
Departure: socket welding								
SDR 11								
1064160074	160,0	75,0	122,0	100,0	460,0	92,0	3,140	1
1064160076	160,0	90,0	125,0	120,0	460,0	92,0	3,176	1
1064160078 *	160,0	125,0	120,0	167,0	290,0	80,0	2,842	1

*Injection moulded fitting

Please note! Electrofusion sockets can not be processed directly with injection moulded fittings. When using electrofusion sockets either segment welded special fittings must be used or pipe pieces must be welded to the injection moulded fittings.





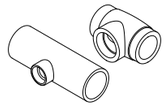
aquatherm blue red. T-piece, socket & butt welding

branch: socket welding, pipes with weld-in saddle

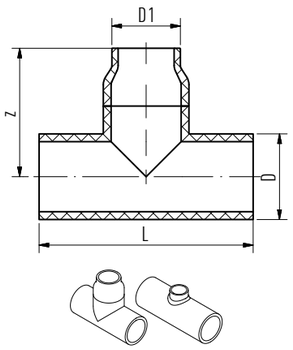
Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: blue / green

Article no.	D	d1	l	D1	L	z	kg	PU
Departure: socket welding								
SDR 11								
2064200020	200,0	75,0	142,0	100,0	500,0	112,0	5,460	1
2064200021	200,0	90,0	145,0	120,0	500,0	112,0	5,580	1
2064200022	200,0	110,0	149,0	147,0	500,0	112,0	5,810	1
2064200023	200,0	125,0	155,0	167,0	500,0	115,0	6,100	1
2064250025	250,0	75,0	167,0	100,0	750,0	137,0	12,440	1
2064250026	250,0	90,0	170,0	120,0	750,0	137,0	12,420	1
2064250027	250,0	110,0	174,0	147,0	750,0	137,0	12,760	1
2064250028	250,0	125,0	180,0	167,0	750,0	140,0	13,030	1
2064315031	315,0	125,0	213,0	167,0	920,0	173,0	25,000	1
2064355035	355,0	125,0	233,0	167,0	960,0	193,0	32,500	1
2064400040	400,0	125,0	255,0	167,0	1.000,0	215,0	42,100	1
2064450046	450,0	125,0	280,0	167,0	1.050,0	240,0	55,700	1
SDR 17,6								
2067160060	160,0	75,0	122,0	100,0	460,0	92,0	2,227	1
2067160061	160,0	90,0	125,0	120,0	460,0	92,0	2,364	1
2067160062 *	160,0	125,0	120,0	167,0	290,0	80,0	2,309	1
2067200063	200,0	75,0	142,0	100,0	500,0	112,0	3,620	1
2067200064	200,0	90,0	145,0	120,0	500,0	112,0	3,742	1
2067200065	200,0	110,0	149,0	147,0	500,0	112,0	3,976	1
2067200066	200,0	125,0	155,0	167,0	500,0	115,0	4,269	1
2067250068	250,0	75,0	167,0	100,0	750,0	137,0	8,149	1
2067250069	250,0	90,0	170,0	120,0	750,0	137,0	8,274	1
2067250070	250,0	110,0	174,0	147,0	750,0	137,0	8,504	1
2067250071	250,0	125,0	180,0	167,0	750,0	140,0	9,000	1
2067315074	315,0	125,0	213,0	167,0	920,0	173,0	17,570	1
2067355078	355,0	125,0	233,0	167,0	960,0	193,0	21,500	1
2067400083	400,0	125,0	255,0	167,0	1.000,0	215,0	27,690	1
2067450089	450,0	125,0	280,0	167,0	1.050,0	240,0	36,470	1
2067500096	500,0	125,0	305,0	167,0	1.200,0	265,0	51,250	1
2067630104	630,0	125,0	370,0	167,0	1.330,0	330,0	89,170	1

pipes with weld-in saddle / *injection moulded



T-piece __



aquatherm blue SDR 11 Red. T-piece butt welding

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

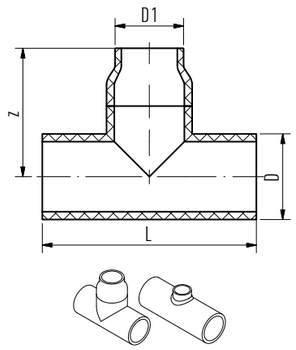
Article no.	D	D1	L	z	kg	PU
butt welding						
SDR 11						
2064200024	200,0	160	500,0	300,0	7,650	1
2064250029	250,0	160	750,0	375,0	19,030	1
2064250030	250,0	200	750,0	375,0	21,100	1
2064315032 *	315,0	160	920,0	237,5	25,000	1
2064315033	315,0	200	920,0	460,0	33,200	1
2064315034	315,0	250	920,0	460,0	31,500	1
2064355036 *	355,0	160	960,0	257,5	32,500	1
2064355037 *	355,0	200	960,0	267,5	30,200	1
2064355038	355,0	250	960,0	480,0	40,000	1
2064355039	355,0	315	960,0	480,0	40,000	1
2064400041 *	400,0	160	1.000,0	354,0	44,100	1
2064400042 *	400,0	200	1.000,0	318,0	44,100	1
2064400043 *	400,0	250	1.000,0	280,0	46,000	1
2064400044	400,0	315	1.000,0	500,0	57,790	1
2064400045	400,0	355	1.000,0	500,0	52,715	1
2064450047 *	450,0	160	1.050,0	379,0	57,900	1
2064450048 *	450,0	200	1.050,0	343,0	57,900	1
2064450049 *	450,0	250	1.050,0	305,0	57,900	1
2064450050 *	450,0	315	1.050,0	315,0	58,400	1
2064450051	450,0	355	1.050,0	525,0	62,491	1
2064450052	450,0	400	1.050,0	525,0	62,683	1

Pipe with reducer / *Pipe with weld-in saddle

T-piece __

aquatherm blue SDR 17,6 red. T-piece, butt welding

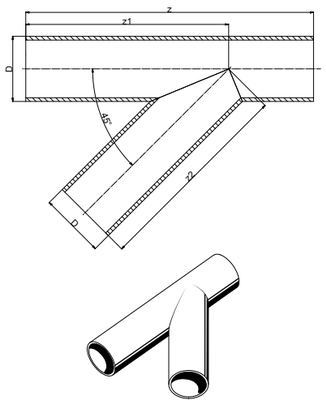
Material: fusiolen® PP-RCT
Standards: DIN 16962, DIN EN ISO 15874
Colour: blue/green



Article no.	D	D1	L	z	kg	PU
butt welding						
SDR 17,6						
2067200067	200,0	160	500,0	300,0	5,000	1
2067250072	250,0	160	750,0	375,0	11,600	1
2067250073	250,0	200	750,0	375,0	11,500	1
2067315075 *	315,0	160	920,0	237,5	16,500	1
2067315076	315,0	200	920,0	460,0	23,600	1
2067315077	315,0	250	920,0	460,0	22,600	1
2067355079 *	355,0	160	960,0	257,5	21,500	1
2067355080 *	355,0	200	960,0	267,5	21,900	1
2067355081	355,0	250	960,0	480,0	28,300	1
2067355082	355,0	315	960,0	480,0	30,500	1
2067400084 *	400,0	160	1.000,0	354,0	29,700	1
2067400085 *	400,0	200	1.000,0	318,0	29,700	1
2067400086 *	400,0	250	1.000,0	280,0	29,000	1
2067400087	400,0	315	1.000,0	500,0	30,667	1
2067400088	400,0	355	1.000,0	500,0	30,748	1
2067450090 *	450,0	160	1.050,0	379,0	37,000	1
2067450091 *	450,0	200	1.050,0	343,0	37,000	1
2067450092 *	450,0	250	1.050,0	305,0	37,000	1
2067450093 *	450,0	315	1.050,0	315,0	37,000	1
2067450094	450,0	355	1.050,0	525,0	50,500	1
2067450095	450,0	400	1.050,0	525,0	50,100	1
2067500097 *	500,0	160	1.200,0	404,0	53,400	1
2067500098 *	500,0	200	1.200,0	368,0	53,500	1
2067500099 *	500,0	250	1.200,0	330,0	53,500	1
2067500100	500,0	315	1.200,0	340,0	54,000	1
2067500101	500,0	355	1.200,0	600,0	57,039	1
2067500102	500,0	400	1.200,0	600,0	57,245	1
2067500103	500,0	450	1.200,0	600,0	57,365	1
2067630105 *	630,0	160	1.330,0	474,0	91,530	1
2067630106 *	630,0	200	1.330,0	438,0	91,500	1
2067630107 *	630,0	250	1.330,0	400,0	91,500	1
2067630108 *	630,0	315	1.330,0	405,0	92,350	1
2067630109	630,0	400	1.330,0	665,0	97,299	1
2067630110	630,0	450	1.330,0	665,0	97,703	1
2067630111	630,0	500	1.330,0	665,0	98,032	1

Pipe with reducer / *Pipe with weld-in saddle

Y-pieces/Cross/Cross over fitting



aquatherm blue Y-pieces

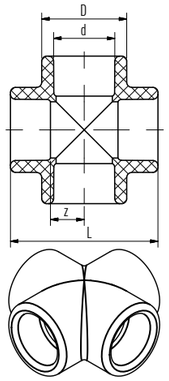
MF = multi-layer, fibre-reinforced

Material: fusiolen® PP-RCT / Glass fibre
Standards: DIN16962-2
Colour: blue

Article no.	D	z	z1	z2	kg	PU
socket welding						
SDR 11						
2084063001	**63,0**	**560,0**	**380,0**	**380,0**	**0,843**	**1**
2084075002	**75,0**	**570,0**	**405,0**	**405,0**	**1,210**	**1**
2084090003	**90,0**	**577,0**	**412,0**	**412,0**	**1,750**	**1**
2084110004	**110,0**	**610,0**	**435,0**	**435,0**	**2,730**	**1**
2084125005	**125,0**	**665,0**	**475,0**	**475,0**	**3,840**	**1**
butt welding						
2084160007	**160,0**	**782,0**	**551,0**	**551,0**	**7,300**	**1**
2084200009	**200,0**	**925,0**	**650,0**	**650,0**	**13,360**	**1**
2084250011	**250,0**	**1.105,0**	**780,0**	**780,0**	**24,780**	**1**
SDR 17,6						
socket welding						
2087125006	**125,0**	**665,0**	**475,0**	**475,0**	**2,470**	**1**
butt welding						
2087160008	**160,0**	**782,0**	**551,0**	**551,0**	**4,700**	**1**
2087200010	**200,0**	**925,0**	**650,0**	**650,0**	**8,640**	**1**
2087250012	**250,0**	**1.105,0**	**780,0**	**780,0**	**16,010**	**1**

Special fittings on demand. Mechanically stabilised through a fibre mix integrated in the middle layer of the fusiolen® PP-RCT

Attention – please note!
These branches are for special applications in unpressurszed areas, e.g. in vacuum dewatering within shipbuilding.

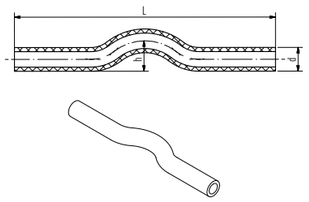


Cross

SDR 6 / 7,4 / 9 / 11

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

Article no.	d	D	L	z	kg	PU
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: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

Article no.	d	L	h	kg	PU
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**

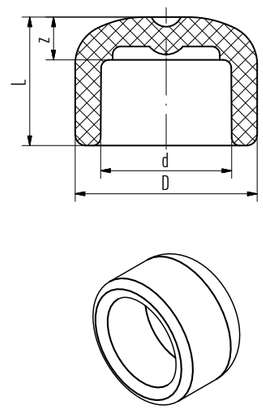
End cap

End cap

SDR 6 / 7,4 / 9 / 11

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

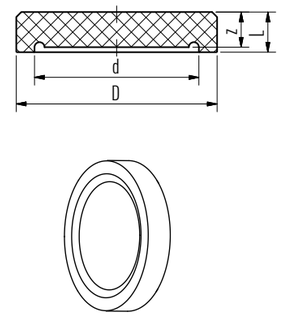
Article no.	d	D	L	z	kg	PU
socket welding						
1020020002	**20**	**29,5**	**24,0**	**9,5**	**0,009**	**10**
1020025003	**25**	**34,0**	**24,0**	**8,0**	**0,011**	**10**
1020032004	**32**	**43,0**	**29,0**	**11,0**	**0,023**	**5**
1020040005	**40**	**52,0**	**38,0**	**17,5**	**0,042**	**5**
1020050006	**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**



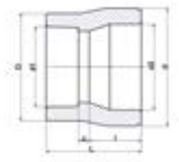
End cap butt-welding

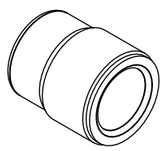
Material: fusiolen® PP-RP
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

Article no.	D	d	L	z	kg	PU
butt welding						
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**
SDR 17,6						
2027160001	**160,0**	**141,8**	**70,0**	**9,1**	**0,679**	**1**
2027200002	**200,0**	**177,2**	**80,0**	**11,4**	**0,925**	**1**
2027250003	**250,0**	**221,6**	**90,0**	**14,2**	**1,305**	**1**
2027315004	**315,0**	**279,2**	**70,0**	**60,0**	**4,500**	**1**
2027355005	**355,0**	**314,8**	**70,0**	**60,0**	**5,540**	**1**
2027400006	**400,0**	**354,6**	**75,0**	**65,0**	**6,000**	**1**
2027450007	**450,0**	**399,0**	**70,0**	**56,0**	**8,520**	**1**
2027500008	**500,0**	**443,2**	**75,0**	**62,0**	**12,500**	**1**
2027630009	**630,0**	**558,6**	**90,0**	**78,0**	**23,500**	**1**



Reducing piece





Reducing socket, socket welding

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

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

Article no.	d	d1	d2	l	D	L	z	kg	PU
socket welding									
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

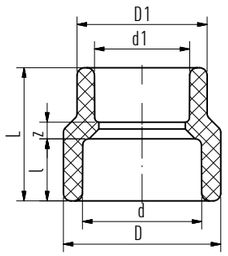
Reducing piece

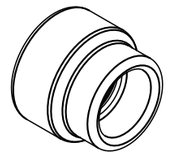
Reducing socket female/female

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

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

Article no.	d	d1	l	D	D1	L	z	kg	PU
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

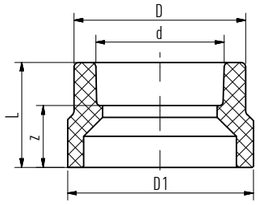


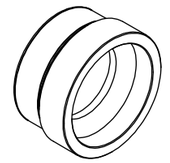


Reducing socket, socket & butt welding

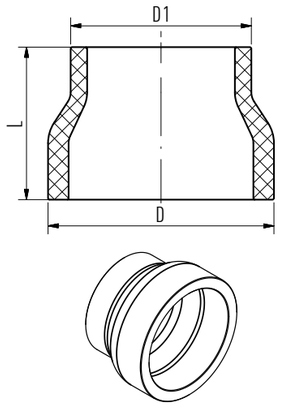
Material: fusiolen® PP-RCT
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

Article no.	D1	d	D	L	z	kg	PU
one side socket welding, other side butt welding							
SDR 11							
1044160053	160	110	147,0	90,0	53,0	0,673	1
1044160055	160	125	167,0	90,0	50,0	0,709	1
1044200057	200	125	167,0	135,0	95,0	1,341	1
SDR 17,6							
2047160001	160	110	147,0	90,0	53,0	0,589	1
2047160002	160	125	167,0	90,0	50,0	0,614	1
2047200003	200	125	167,0	135,0	95,0	1,055	1





Reducing piece/Transition piece __



Reducing socket, butt welding

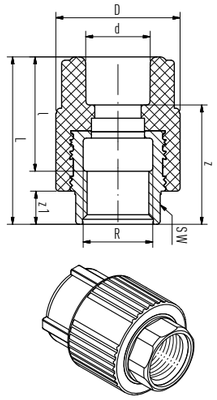
Material: fusiolen® PP-RCT
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

Article no.	D	D1	L	kg	PU
double sided butt welding					
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
1044355066	355,0	250	170,0	4,548	1
1044355067	355,0	315	160,0	4,401	1
1044400069	400,0	315	122,0	4,550	1
1044400070	400,0	355	110,0	4,620	1
1044450071	450,0	315	142,0	6,500	1
1044450072	450,0	355	132,0	6,500	1
1044450073	450,0	400	122,0	6,000	1
SDR 17.6					
2047200004	200,0	160	135,0	1,012	1
2047250005	250,0	160	172,5	1,500	1
2047250006	250,0	200	172,5	1,602	1
2047315008	315,0	200	225,0	2,886	1
2047315009	315,0	250	225,0	3,420	1
2047355010	355,0	250	170,0	4,480	1
2047355011	355,0	315	160,0	3,108	1
2047400012	400,0	250	152,0	3,240	1
2047400013	400,0	315	122,0	3,000	1
2047400014	400,0	355	112,0	2,500	1
2047450015	450,0	315	142,0	4,000	1
2047450016	450,0	355	132,0	4,000	1
2047450017	450,0	400	122,0	4,000	1
2047500018	500,0	315	172,0	6,500	1
2047500019	500,0	355	152,0	7,000	1
2047500020	500,0	400	142,0	6,500	1
2047500021	500,0	450	122,0	5,500	1
2047630022	630,0	400	192,0	14,500	1
2047630023	630,0	450	172,0	12,500	1
2047630024	630,0	500	152,0	11,000	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



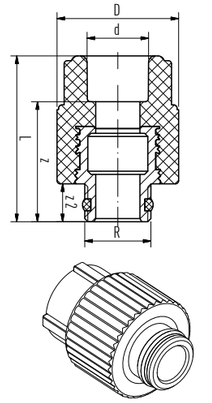
Article no.	d	l	D	L	z	z1	R	SW	kg	PU
one side socket welding										
1070020008	20	34,5	38,5	50,5	36,0	10,0	1/2“	24	0,078	10
1070020009	20	29,0	43,5	50,0	35,5	10,0	3/4“	31	0,112	10
1070025010	25	36,0	38,5	52,0	36,0	10,0	1/2“	24	0,081	10
1070025011	25	29,0	43,5	50,0	34,0	10,0	3/4“	31	0,109	10
1070032012	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: fusiolen® PP-R / brass
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

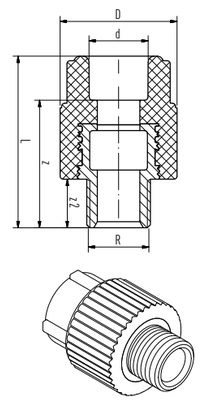


Article no.	d	d1	d2	D	L	z	z2	R	kg	PU
one side socket welding										
1070020051	20	21,0	14,0	38,5	52,5	38,0	12,0	1/2“	0,090	10
1070025052	25	21,0	14,0	38,5	54,0	38,0	12,0	1/2“	0,078	10
1070025053	25	26,5	18,0	38,5	53,5	37,5	13,0	3/4“	0,085	10

Transition piece with male thread

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

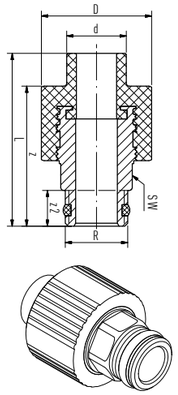
Material: fusiolen® PP-R / brass or stainless steel
Standards: DIN 16962, DIN EN ISO 15874
Colour: green



Article no.	d	D	L	z	z2	R	kg	PU
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 __

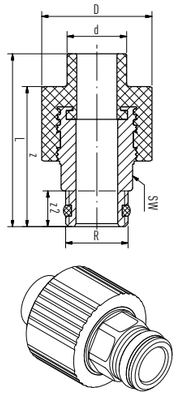


Transition piece with male thread

self sealing, with hex shaped threaded transition – 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
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
one side socket welding									
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

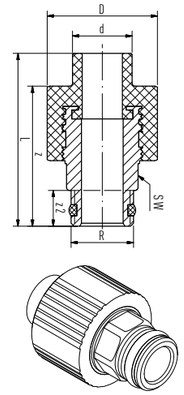
Transition piece __

Transition piece with male thread

self-sealing, with hex shaped threaded transition female/male
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
one side socket welding									
1070020054	**20**	**38,5**	**59,0**	**48,0**	**13,0**	**1/2“**	**22**	**0,107**	**10**

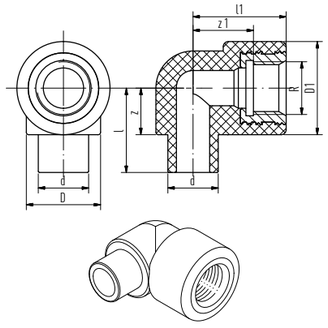


Transition elbow with female thread

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
one side socket welding										
1070020097	**20**	**33,5**	**37,0**	**29,5**	**37,0**	**18,5**	**24,0**	**1/2“**	**0,076**	**10**



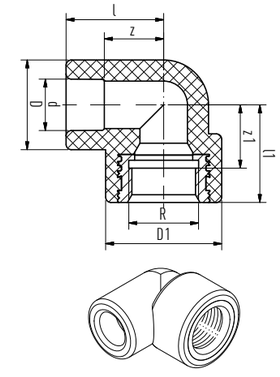
Transition elbow with female thread

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

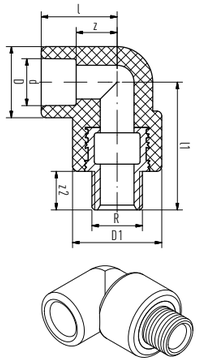
Material: fusiolen® PP-R / brass or stainless steel
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

Article no.	d	l	l1	D	D1	z	z1	R	kg	PU
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



Transition piece __



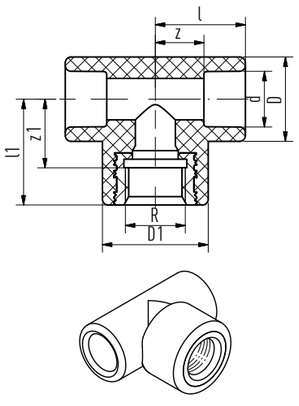
Transition elbow with male thread

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
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



Threaded branch tee 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
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

NOTICE: aquatherm green-metal compound fittings are manufactured from fusiolen® PP-R and brass. Metal inserts, without hex shaped spanner flat, with 1/2“ and 3/4“ female are also available in stainless steel.

Weld-in and weld-on saddle __

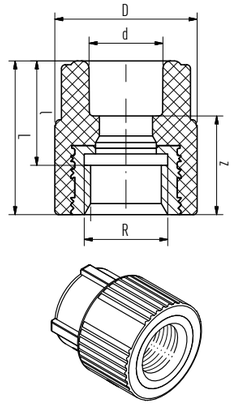
Transition piece with female thread

round, 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	D	L	z	R	kg	PU
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



Weld-in saddle

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

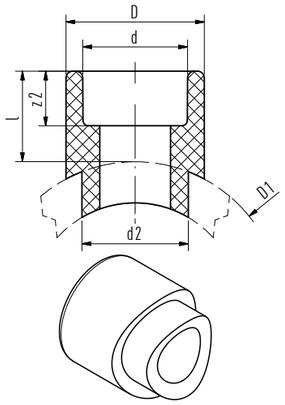
Material: fusiolen® PP-R
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

Article no.	D1	d	d2	l	D	z2	kg	PU
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**
1030160027	**160**	**20**	**25,0**	**27,5**	**29,5**	**14,5**	**0,021**	**5**

*not for aquatherm blue OT

continued on next page ...

Weld-in and weld-on saddle __



Weld-in saddle

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

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

Article no.	D1	d	d2	l	D	z2	kg	PU
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**
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**
1030355058	**355**	**90**	**90,0**	**45,0**	**120,0**	**33,0**	**0,355**	**1**
1030355059	**355**	**110**	**110,0**	**49,0**	**147,0**	**37,0**	**0,586**	**1**
1030355060	**355**	**125**	**125,0**	**55,0**	**167,0**	**40,0**	**0,813**	**1**
1030500062	**400-500**	**75**	**75,0**	**42,0**	**100,0**	**30,0**	**0,216**	**1**
1030450063	**400-450**	**110**	**110,0**	**49,0**	**147,0**	**37,0**	**0,535**	**1**
1030400064	**400**	**125**	**125,0**	**55,0**	**167,0**	**40,0**	**0,693**	**1**
1030500065	**400-500**	**90**	**90,0**	**45,0**	**120,0**	**33,0**	**0,330**	**1**
1030500066	**450-500**	**125**	**125,0**	**55,0**	**167,0**	**40,0**	**0,671**	**1**
1030630067	**400-630**	**63**	**63,0**	**37,5**	**84,0**	**27,5**	**0,498**	**1**
1030560068	**500**	**110**	**110,0**	**49,0**	**147,0**	**37,5**	**0,533**	**1**
1030630069	**630**	**75**	**75,0**	**42,0**	**100,0**	**30,0**	**0,260**	**1**
1030630070	**630**	**90**	**90,0**	**45,0**	**120,0**	**33,0**	**0,350**	**1**
1030630071	**630**	**125**	**125,0**	**55,0**	**167,0**	**40,0**	**0,689**	**1**
1030630072	**630**	**110**	**110,0**	**49,0**	**147,0**	**37,0**	**0,567**	**1**

With weld-on surface and additional weld-in socket for the fusion with the inner pipe wall. The necessary tools for the fusion of aquatherm green weld-in saddles are listed in the Tools chapter.

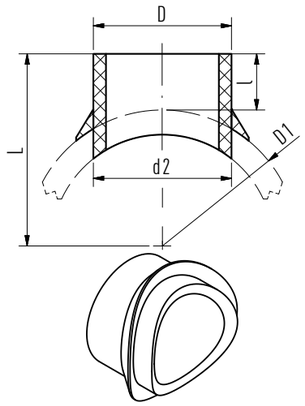
Weld-in and weld-on saddle __

Weld-in saddle butt welding

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

Article no.	D1	D	d2	l	L	kg	PU
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 the fusion with the inner pipe wall. The necessary tools for the fusion of aquatherm green weld-in saddles are listed in the Tools chapter.



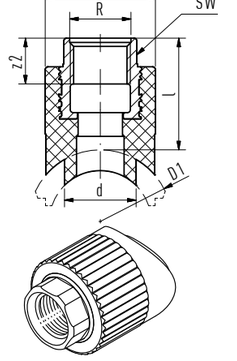
Weld-in saddle with female thread

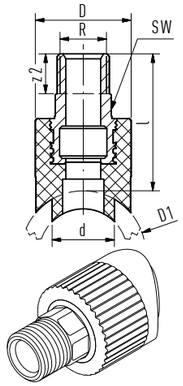
with spanner flat — SDR 6 / 7,4 / 9 / 11 / 17,6

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

Article no.	D1	d	l	D	z2	R	SW	kg	PU
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**

*do not use with aquatherm blue OT





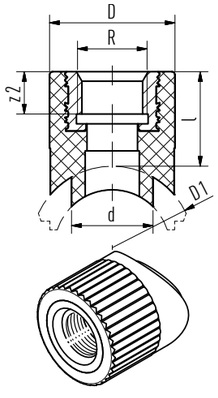
Weld-in saddle with male thread

with spanner flat – SDR 6 / 7,4 / 9 / 11 / 17,6

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

Article no.	D1	d	l	D	z2	R	SW	kg	PU
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

*do not use with aquatherm blue OT



Weld-in saddle with female thread

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

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

Article no.	D1	d	l	D	z2	R	SW	kg	PU
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 spanner
**do not use with aquatherm blue OT

Screwed connections

aquatherm weld-on saddle

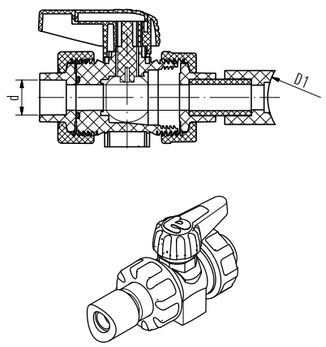
with ball valve for installation under pressure in use with tapping tool
SDR 6 / 7.4 / 9 / 11 / 17.6

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

Article no.	d	D1	PU
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

do not use with aquatherm blue OT

With hex shaped male thread, weld-in surface and weld-in socket for fusion with the inner wall of the pipe. The necessary tools for the fusion of aquatherm green weld-in saddles are listed in the Tools chapter.

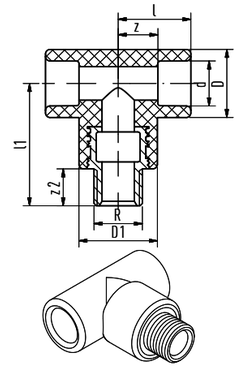


Threaded branch tee with female thread

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	z2	R	kg	PU
double-sided socket welding										
1060020154	20	31,5	53,0	29,5	37,0	17,0	16,0	1/2"	0,102	10

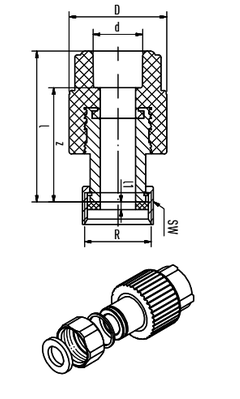


Water meter nut adapter

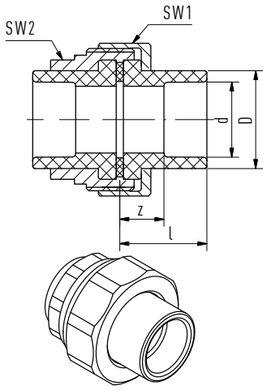
with gasket – SDR 6 / 7,4 / 9 / 11

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
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



Screwed connections

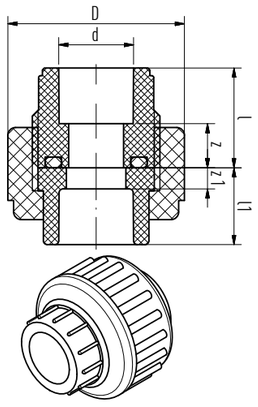


Coupling screw joint, brass

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
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

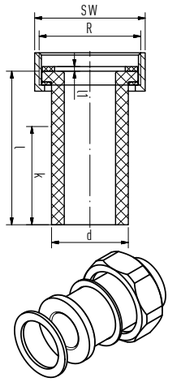


Coupling screw joint

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
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
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

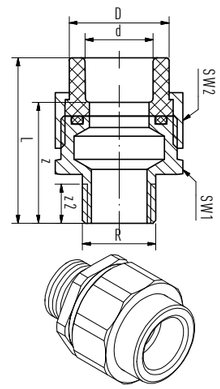
Screwed connections

Transition coupling with male thread

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

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

Article no.	d	D	L	z	z2	R	SW1	SW2	kg	PU
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

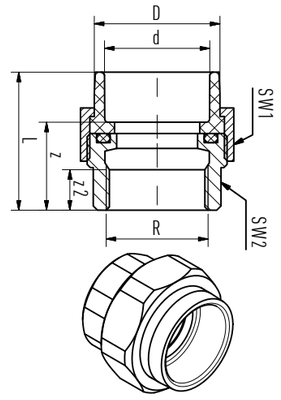


Transition coupling with female thread

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

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

Article no.	d	D	L	z	z2	R	SW1	SW2	kg	PU
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

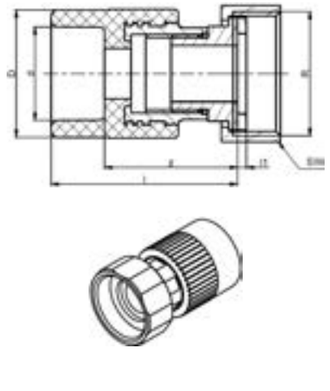


Nut adapter ISO-standard

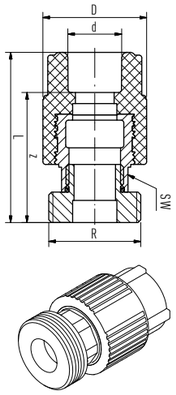
SDR 6 / 7,4 / 9 / 11

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
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



Screwed connections

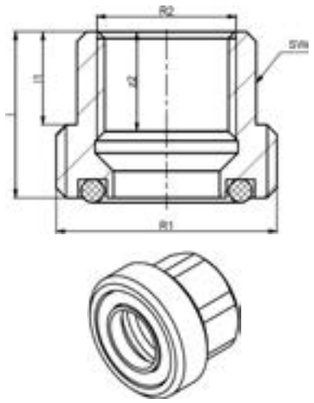


Counterpart with male thread

with welding socket for ISO-standard – SDR 6 / 7.4 / 9 / 11

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

Article no.	d	D	L	z	R	SW	kg	PU
one side socket welding								
1050020110	**20**	**37,5**	**61,5**	**47,0**	**1“**	**24**	**0,151**	**10**
1050025111	**25**	**37,5**	**63,0**	**47,0**	**1“**	**24**	**0,153**	**10**
1050025112	**25**	**43,5**	**63,0**	**47,0**	**1 1/4“**	**31**	**0,221**	**10**
1050032113	**32**	**43,5**	**66,0**	**48,0**	**1 1/4“**	**31**	**0,226**	**5**
1050032114	**32**	**60,0**	**76,5**	**58,5**	**1 1/2“**	**39**	**0,408**	**5**
1050040115	**40**	**60,0**	**79,0**	**58,5**	**1 1/2“**	**39**	**0,414**	**5**
1050040116	**40**	**74,0**	**79,0**	**58,5**	**2“**	**50**	**0,650**	**5**
1050050117	**50**	**74,0**	**82,0**	**58,5**	**2“**	**50**	**0,634**	**5**
1050050118	**50**	**84,0**	**83,0**	**59,5**	**2 1/4“**	**55**	**0,750**	**5**
1050063119	**63**	**84,0**	**89,5**	**62,0**	**2 1/4“**	**55**	**0,728**	**1**
1050063120	**63**	**101,0**	**95,0**	**65,5**	**2 3/4“**	**67**	**1,093**	**1**
1050075121	**75**	**100,0**	**95,0**	**65,0**	**2 3/4“**	**67**	**1,117**	**1**
1050075122	**75**	**100,0**	**100,0**	**70,0**	**3 1/2“**	**67**	**1,436**	**1**

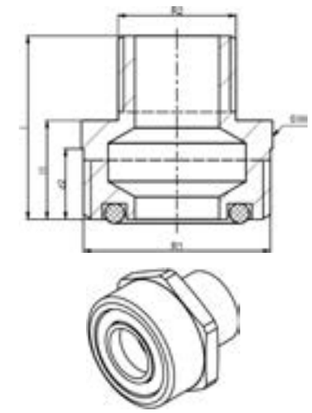


Brass counterpart with female thread

for ISO-standard adapter/loose nut adapter – SDR 6 / 7.4 / 9 / 11

Material: brass

Article no.	l1	L	z2	R1	R2	SW	kg	PU
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**



Brass counterpart with male thread

for ISO-standard adapter/loose nut adapter – SDR 6 / 7.4 / 9 / 11

Material: brass

Article no.	l1	L	z2	R1	R2	SW	kg	PU
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**

Flange adapter

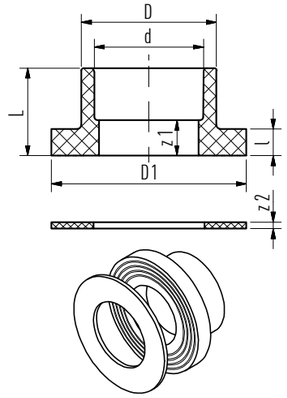
Flange adapter

with gasket – SDR 6 / 7,4 / 9 / 11

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

Article no.	d	L	l	D	D1	z1	z2	kg	PU
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**

*only use with fitting 125 mm; with 110 mm flange adapter / Suitable flange adapter for shut off valves are available on request.



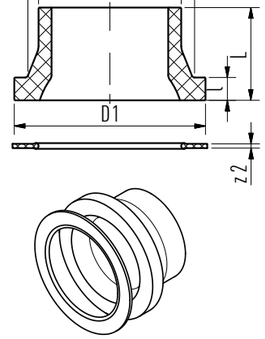
Flange adapter butt welding

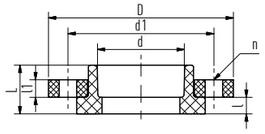
with gasket

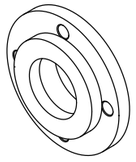
Material: fusiolen® PP-RP
Standards: DIN 16962, DIN EN ISO 15874
Colour: green

Article no.	d	l	D	D1	L	z2	kg	PU
one sided 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**

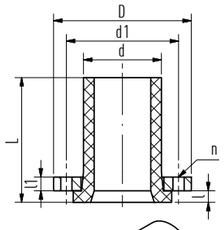
Up to 160 mm EPDM-gasket without steel ring insert. From 200 mm EPDM-gasket with steel ring insert.
Suitable flange adapter for shut off valves available on request.

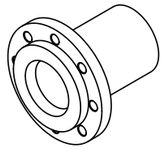




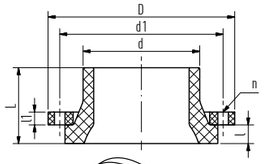


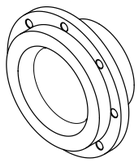
socket welding



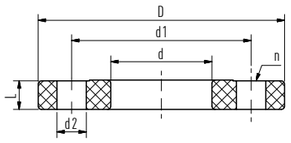


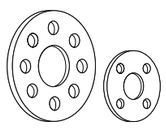
SDR 6 / 7,4 / 9 / 11 / 17,6





butt welding





Flange adapter

Flange adapter incl. Flange PN6

without gasket

Material: Flange: steel galvanised, Flange adapter: fusiolen® 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
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. no.	Ø	DN	d	d1	D	d2	L	n	kg	PU
1040032130	**1050032020**	**32**	**25**	**42,0**	**85,0**	**116,0**	**14,0**	**15,5**	**4**	**0,469**	**1**
1040040131	**1050040021**	**40**	**32**	**51,0**	**100,0**	**141,0**	**18,0**	**17,5**	**4**	**0,722**	**1**
1040050132	**1050050022**	**50**	**40**	**62,0**	**110,0**	**151,0**	**18,0**	**17,5**	**4**	**0,770**	**1**
1040063133	**1050063023**	**63**	**50**	**78,0**	**125,0**	**166,0**	**18,0**	**19,0**	**4**	**0,911**	**1**
1040075134	**1050075024**	**75**	**65**	**92,0**	**145,0**	**186,0**	**18,0**	**19,0**	**4**	**1,132**	**1**
1040090135	**1050090025**	**90**	**80**	**110,0**	**160,0**	**201,0**	**18,0**	**21,0**	**8**	**1,356**	**1**
1040110136	**1050110026 1050125027**	**110**	**100**	**133,0**	**180,0**	**221,0**	**18,0**	**22,0**	**8**	**1,475**	**1**
1040125137	**1050125028 (125 mm)**	**125**	**125**	**167,0**	**210,0**	**251,0**	**18,0**	**26,0**	**8**	**2,082**	**1**
1040160138	**1052160029 1054160030**	**160**	**150**	**178,0**	**240,0**	**286,0**	**22,0**	**27,0**	**8**	**3,671**	**1**
1040200139 *	**1052200031 1054200032**	**200**	**200**	**235,0**	**295,0**	**341,0**	**22,0**	**28,0**	**8**	**4,709**	**1**
1040250140 *	**1052250033 1054250034**	**250**	**250**	**288,0**	**350,0**	**406,0**	**22,0**	**31,0**	**12**	**7,094**	**1**
1040315141 *	**1054315035**	**315**	**300**	**340,0**	**400,0**	**460,0**	**22,0**	**33,5**	**12**	**9,500**	**1**
1040355142 *	**1054355036**	**355**	**350**	**376,0**	**460,0**	**520,0**	**22,0**	**39,0**	**16**	**15,300**	**1**
1040400143 *	**2057400105**	**400**	**400**	**430,0**	**515,0**	**565,0**	**26,0**	**34,0**	**16**	**19,680**	**1**
1040450144 **	**2057450106**	**450**	**500**	**517,0**	**620,0**	**670,0**	**26,0**	**42,0**	**20**	**22,880**	**1**
1040500145 **	**2057500107**	**500**	**500**	**533,0**	**620,0**	**670,0**	**26,0**	**38,0**	**20**	**19,000**	**1**
1040630146 **	**2057630108**	**630**	**600**	**645,0**	**725,0**	**785,0**	**30,0**	**40,0**	**20**	**25,800**	**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

Valves

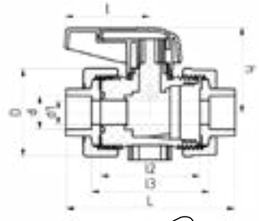
PP-ball valve, with union nut and welding socket

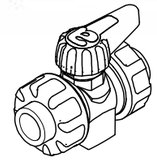
SDR 6 / 7,4 / 9 / 11

Material: fusiolen® PP-R
Colour: green

Article no.	d	d1	D	h	l1	l2	l3	L	l	kg	PU
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**
1090075051	**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

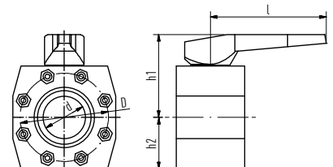
Material: fusiolen® PP-R
Colour: green

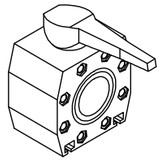
Article no.	für Ø	d	l	D	z	h1	h2	kg	PU
1090090058	**90**	**77,0**	**210,0**	**160,0**	**124,0**	**150,0**	**93,0**	**4,196**	**1**
1090110059	**110**	**94,0**	**260,0**	**180,0**	**145,0**	**165,0**	**103,0**	**5,612**	**1**
1090160060	**160**	**135,0**	**310,0**	**240,0**	**205,0**	**210,0**	**136,5**	**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. 1040110136 is used. For connection with aquatherm green weldable flange adapter (Art. no. 3050090006 – 1054160030) and aquatherm green plastic coated steel flange (Art. no. 1040090135 – 1040160138). 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.



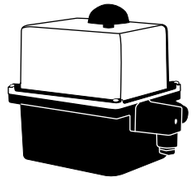


Electrical drive for ball valve

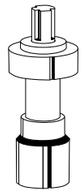
Colour: black / red

for article no. 1090020052 – 1090063057 (*for article no. 1090090058 – 1090110059)

Article no.	Dimension	for Article no.	kg	PU
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**



Valves

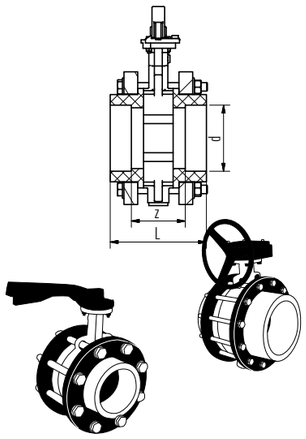


Extension for ball valve

for article no. 1090020052- 1090160060

Material: PVC
Colour: grey

Article no.	l	kg	PU
9700098900	**100**	**0,020**	**1**
9700098901	**100**	**0,025**	**1**
9700098902	**100**	**0,030**	**1**
9700098903	**100**	**0,125**	**1**

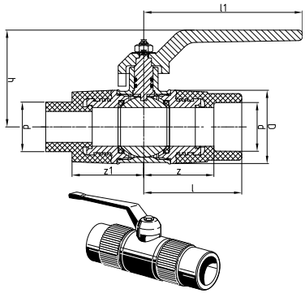


aquatherm blue shut-off valve

with lever or with drive

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

Article no.	d	L	z	kg	PU
socket welding					
with lever or with drive for SDR 6 / 7.4 / 9 / 11 / 17.6					
9702041820	**75**	**138,0**	**78,0**	**6,763**	**1**
9702041822	**90**	**146,0**	**80,0**	**9,134**	**1**
9702041824	**110**	**163,0**	**89,0**	**10,400**	**1**
9702041826	**125**	**184,0**	**104,0**	**15,600**	**1**
butt welding					
with lever or with drive for SDR 11					
9702041830	**160**	**242,0**	**227,0**	**22,000**	**1**
with lever or with drive for SDR 17.6					
9702541830	**160**	**242,0**	**227,0**	**21,700**	**1**
with drive for SDR 11					
9702041834	**200**	**320,0**	**305,0**	**41,400**	**1**
9702041838	**250**	**328,0**	**313,0**	**59,200**	**1**
9702041842	**315**	**432,0**	**412,0**	**81,800**	**1**
with drive for SDR 17.6					
9702541834	**200**	**320,0**	**305,0**	**40,900**	**1**
9702541838	**250**	**328,0**	**313,0**	**58,400**	**1**
9702541842	**315**	**432,0**	**412,0**	**78,600**	**1**

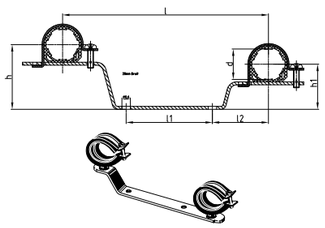


Ball valve for manifold

female/male — SDR 6 / 7.4 / 9 / 11

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

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



Supporting strap for four-port manifold

with clamps, galvanised, double

Material: Steel galvanized
Colour: Zinc

Article no.	d	l	l1	l2	h	h1	kg	PU
9600060210	**32**	**210,0**	**80,0**	**57,0**	**66,0**	**46,0**	**0,226**	**2**

Valves

Globe valve

for surface installation, socket welding — SDR 6 / 7.4 / 9 / 11

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

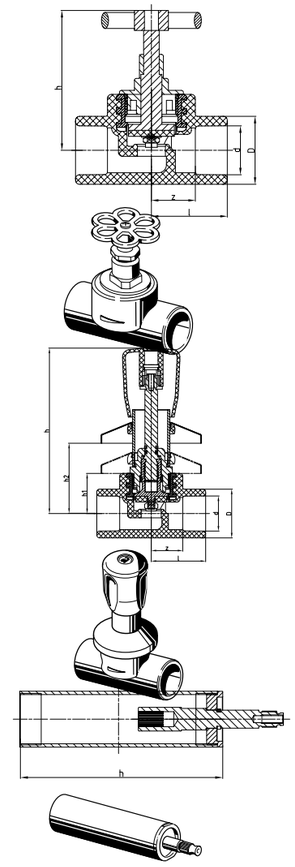
Article no.	d	l	D	z	h	kg	PU
socket welding							
1090020040	**20**	**35,0**	**29,5**	**20,5**	**75,3**	**0,165**	**1**
1090025041	**25**	**38,0**	**34,0**	**22,0**	**75,0**	**0,172**	**1**
1090032042	**32**	**49,0**	**43,0**	**31,0**	**97,0**	**0,314**	**1**
1090040043	**40**	**60,0**	**52,0**	**39,5**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

Concealed valve, chromium plated

SDR 6 / 7,4 / 9 / 11

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

Article no.	d	l	D	z	h	h1	H2	kg	PU
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**

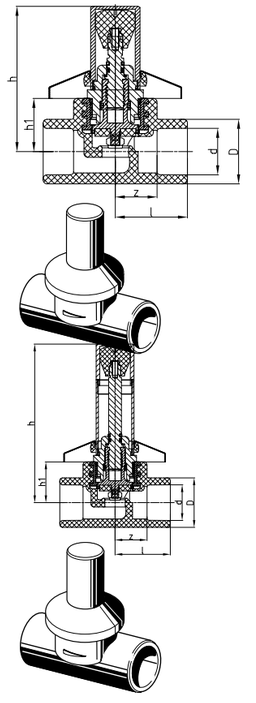


Extension for concealed valve

chromium-plated for art. no. 1050020150-1050032152

Material: brass
Colour: chrome

Article no.	H	kg	PU
9600040900	**92,0**	**0,148**	**1**
9600040902	**132,0**	**0,209**	**1**



Concealed valve, tamper proof

chromium-plated / short design, socket welding — SDR 6 / 7.4 / 9 / 11

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

Article no.	d	l	D	z	h	h1	kg	PU
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**

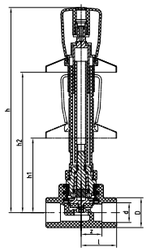
Concealed valve, tamper proof

chromium-plated / long design, socket welding — SDR 6 / 7.4 / 9 / 11

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

Article no.	d	l	D	z	h	h1	kg	PU
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**

Valves

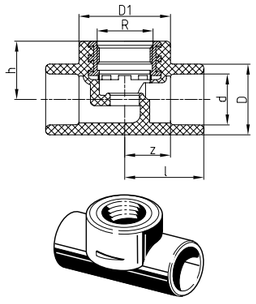


Concealed valve, construction depth 55–100 mm

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

suitable for construction depth 55 mm to 100 mm, socket welding
SDR 6 / 7.4 / 9 / 11

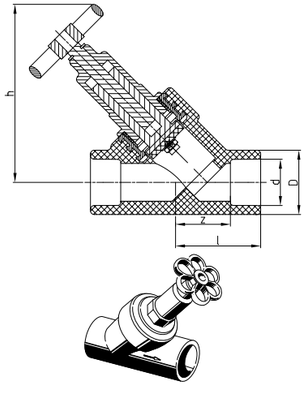
Article no.	d	l	D	z	h	h1	H2	kg	PU
socket welding									
1050020156	20	35,0	29,5	20,5	213,0	59,0	147,0	0,357	1
1050025157	25	38,0	34,0	22,0	213,0	59,0	147,0	0,369	1
1050032158	32	49,0	43,0	31,0	219,0	65,0	153,0	0,455	1



Stop valve body

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

Article no.	d	l	D	D1	z	h	R	kg	PU
socket welding									
1090020046	20	35,0	29,5	44,0	20,0	28,0	3/4“	0,082	1
1090025047	25	38,0	34,0	44,0	22,0	28,0	3/4“	0,101	1
1090032048	32	49,0	43,0	52,0	31,0	34,0	1“	0,146	1
1090040049	40	60,0	52,0	69,0	39,5	41,0	1 1/4“	0,313	1

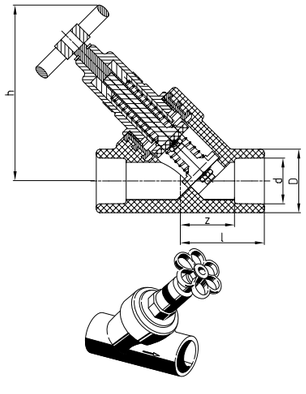


Inclined valve

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

without drain, socket welding – SDR 6 / 7.4 / 9 / 11

Article no.	d	l	D	z	h	kg	PU
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



Non-return valve

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

without drain, socket welding– SDR 6 / 7,4 / 9 / 11

Article no.	d	l	D	z	h	kg	PU
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

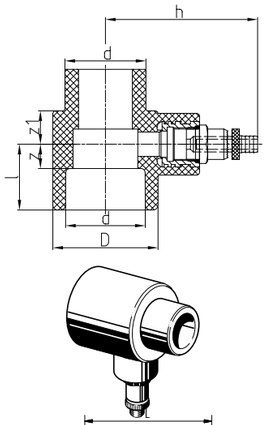
Assembly elements

Draining branch

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

to weld in aquatherm green valves, socket welding
SDR 6 / 7,4 / 9 / 11

Article no.	d	l	D	z	z1	h	kg	PU
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



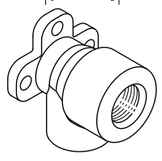
Back plate elbow

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

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

Article no.	d	R	l	l1	D	D1	L	z	z1	z2	c	kg	PU
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



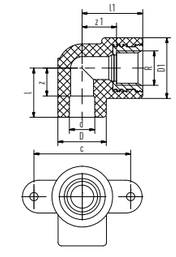
Back plate elbow for dry construction

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

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

Article no.	d	l	l1	D	D1	z	z1	R	kg	PU
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

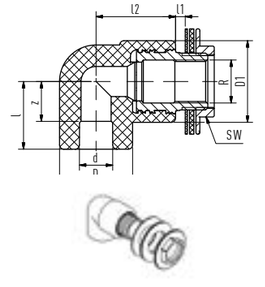


Transition piece with counternut

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

with gasket and tension washer, socket welding – SDR 6 / 7.4 / 11

Article no.	d	l	l1	l2	D	D1	z	R	SW	kg	PU
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

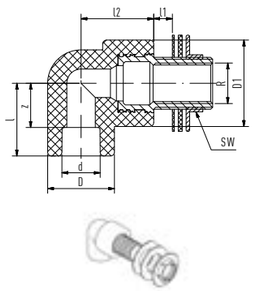


Mounting units

Transition elbow for plasterboard

SDR 6 / 7,4 / 11

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



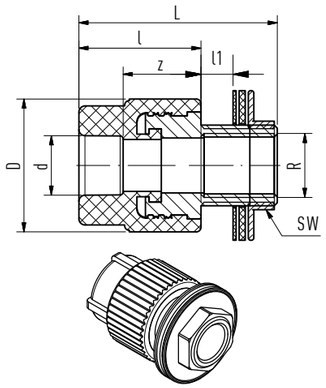
Article no.	d	l	l1	l2	D	D1	z	R	SW	kg	PU
one side socket welding											
1050020064	**20**	**37,0**	**18,5**	**35,0**	**29,5**	**44,0**	**22,5**	**1/2“**	**29**	**0,223**	**10**

with 30 mm thread, counternut, gasket and tension washer

Transition piece with counternut

with gasket and tension washer, socket welding – SDR 6 / 7,4 / 11

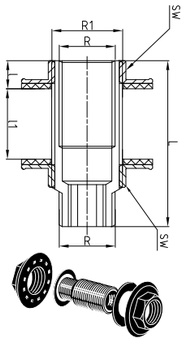
Material: fusiolen® PP-R / brass
Standards: DIN 16962, DIN EN ISO 15874
Colour: green



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

Dry construction wall fitting

Material: brass

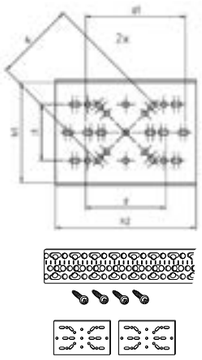


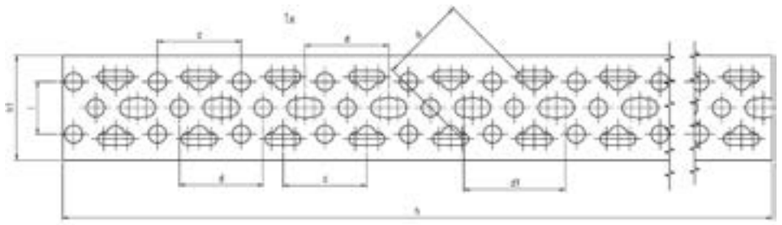
Article no.	R	R1	l	l1	L	SW	kg	PU
9600020114	**1/2“**	**3/4“**	**10,5**	**26,0**	**62,0**	**30**	**0,213**	**10**

Mounting plate galvanised

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

Material: Iron / galvanised



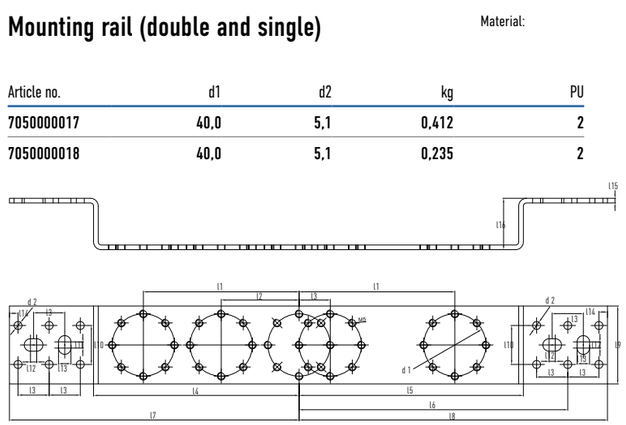


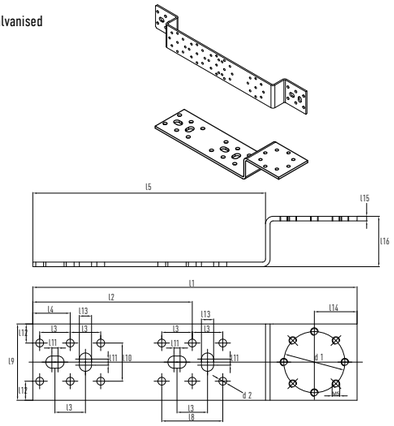
Article no.	d	d1	l	l1	h	h1	h2	kg	PU
7050000016	**40**	**50,0**	**25**	**28**	**560**	**50**	**70**	**0,546**	**1**

Mounting units

Mounting rail (double and single)

Material: Iron / galvanised



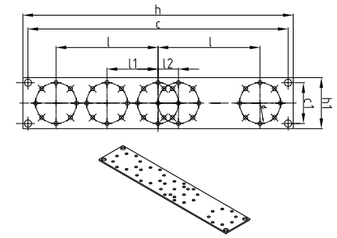


Article no.	d1	d2	kg	PU
7050000017	**40,0**	**5,1**	**0,412**	**2**
7050000018	**40,0**	**5,1**	**0,235**	**2**

Mounting plate galvanised

to fix back plate elbows as double connection

Material: Iron / galvanised



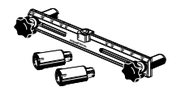
Article no.	d	l	l1	l2	c	c1	h	h1	kg	PU
7050000020	**40**	**100**	**50**	**20**	**255**	**40**	**265**	**50**	**0,221**	**1**

not suitable for connection with sound insulation plate (art. no. 7020000015). We recommend mounting rail art. no. 7050000016

Assembling jig

as water level with 2 plugs 1/2“

Material: fusiolen® PP-R
Colour: green

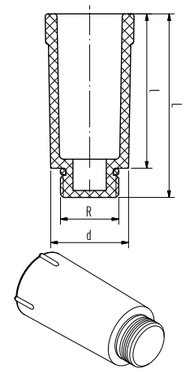


Article no.	kg	PU
9800050700	**0,252**	**1**

Plug for pressure tests

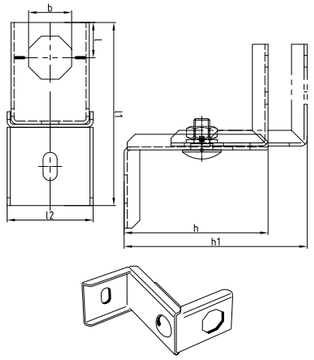
with gasket

Material: fusiolen® PP-R
Colour: green



Article no.	d	l	L	R	kg	PU
9800050708	**28**	**55,5**	**66,0**	**1/2“**	**0,022**	**10**
9800050710	**34**	**55,5**	**66,0**	**3/4“**	**0,027**	**10**

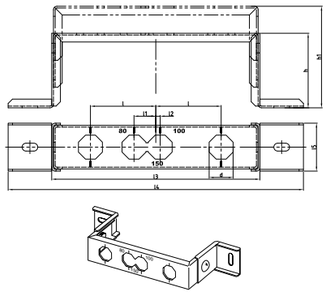
Mounting units



Mounting unit, single

Material: Iron / galvanised

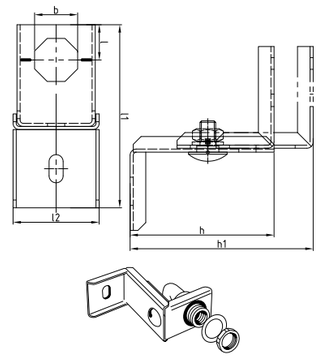
Article no.	B	l	l1	l2	h	h1	kg	PU
7050000002	**27,5**	**118**	**22,5**	**55**	**92,5**	**122,5**	**0,278**	**1**



Mounting unit, double

Material: Iron / galvanised

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

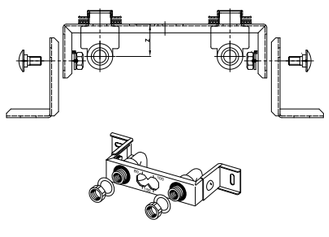


Mounting unit with one aquatherm green transition elbow

Material: fusiolen® PP-R / brass, Iron / galvanised

with one aquatherm green transition elbow, with counternut, gasket and tension washer

Article no.	b	l	l1	l2	h	h1	kg	PU
7050000004	**27,5**	**22,5**	**118**	**55**	**92,5**	**122,5**	**0,434**	**1**



Mounting unit with two aquatherm green transition elbows

Material: fusiolen® PP-R / brass, Iron / galvanised

with two aquatherm green transition elbows, with counternut, gasket and tension washer

Article no.	b	l	l1	l2	h	h1	l3	l4	l5	kg	PU
7050000003	**27,5**	**75**	**25**	**5**	**92,5**	**122,5**	**239**	**339**	**55**	**0,942**	**1**

Distribution elements

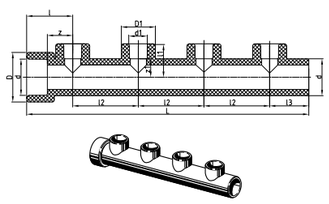
Four-port manifold

Material: fusiolen® PP-R
Colour: green

length: 246 mm, with 4 branches – SDR 6 / 7.4 / 9 / 11

Article no.	d	d1	l	l1	l2	l3	D	D1	L	z	z1	kg	PU
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.



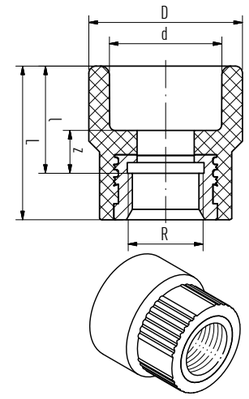
Manifold end piece with female thread

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
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



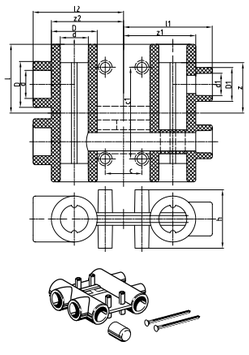
Distribution block plumbing

SDR 6 / 7,4 / 11

Material: fusiolen® PP-R
Colour: green

Article no.	d	d1	l	l1	l2	D	D1	z	z1	z2	c	c1	cl	l3	h	kg	PU
socket welding																	
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**

including 1 plug and 2 fasteners

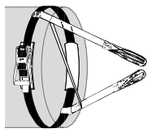


Accessories

Chain hoist

Tools for assembling push-in couplings

Article no.	kg	PU
9800050530	**2,800**	**1**



Tension band

width 50 mm including towing eyes. For fixing the pipe when assembling push-in couplings

Article no.	kg	PU
9800050533	**2,500**	**1**

50 mm incl. towing eyes

Brush

for applying lubricant when assembling push-in coupling systems

Article no.	kg	PU
9800050534	**0,045**	**1**

Lubricant

250 ml for use when assembling push-in coupling systems

Article no.	kg	PU
9800050535	**0,280**	**1**

Adhesive tape to protect against UV-radiation

Article no.	Dimension	kg	PU
9700010871	**Dimension 50 mm x 10 m**	**0,133**	**1**

aquatherm-PP-Primer

for aquatherm PP pipes

Article no.	Container	kg	PU
9700050230	**Container: 1l**	**0,994**	**1**
9700050231	**Container: 10l**	**9,269**	**1**

aquatherm special top coat

for aquatherm PP pipes

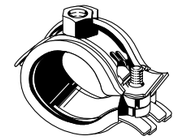
Article no.	Container	kg	PU
9700050232	**black Conatiner: 2,5l**	**3,007**	**1**
9700050233	**white Container: 2,5l**	**3,436**	**1**

Accessories

Pipe clamps

suitable for sliding and fixed point installation

Material: steel

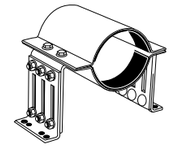


Article no.	for pipe diameters	kg	PU
9600060516	**16**	**0,045**	**50**
9600060520	**20**	**0,048**	**50**
9600060525	**25**	**0,051**	**50**
9600060532	**32**	**0,060**	**50**
9600060540	**40**	**0,067**	**50**
9600060550	**50**	**0,079**	**50**
9600060563	**63**	**0,091**	**25**
9600060575	**75**	**0,105**	**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 & M10 for 16 – 125 mm | M10 for 160 mm | M16 for 200 – 355 mm

Pipe clamps suitable for fixed point installation

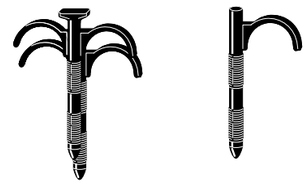
Material: steel



Article no.	for pipe diameters	kg	PU
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

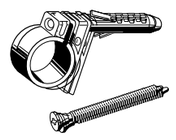
Material: PA



Article no.	for pipe diameters	kg	PU
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
7090016010	**for pipes 16 mm**	**0,007**	**50**
7090020011	**for pipes 20 mm**	**0,008**	**50**
7090025012	**for pipes 25 mm**	**0,016**	**30**
7090032013	**for pipes 32 mm**	**0,017**	**30**
7040040014	**for pipes 40 mm**	**0,020**	**30**

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