

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 CO₂ 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 CO₂ emissions in all sectors.

Construction industry __

The construction industry is responsible for 36% of global energy consumption and 39% of energy- and process-related CO₂ 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 CO₂ 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/mm ²	1200 N/mm ²
Yield stress	25 N/mm ²	30 N/mm ²
Density	0.9 g/cm ³	1.0 g/cm ³
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)

* Source: Forging global and regional pathways | www.globalabc.org