

Dynatherm PP-RCT Polypropylene Pipe System

System Data Sheet



System description

Corroded pipe systems in buildings have traditionally been a problem. Don't compromise on your water supply. Use the best technology and the best material. Pipes and fittings used for progressive sanitary and heating installations are made of polypropylene, the plastic with unbeatable properties.

Corrosion in pipe systems is a challenge that Dynatherm overcomes. Dynatherm PP-RCT pipe system fulfills the requirements of ISO 15874 plastic pipeline systems for hot and cold water installation.

Manufactured by Baenninger in Germany, Dynatherm is made of the latest generation Polypropylene, PP-RCT, that sets a milestone for the advancement of PP pressure piping systems. Polypropylene Random Copolymer with modified crystalline structure and enhanced Temperature performance (PP-RCT) offers longer life, higher temperature rating and higher flow rates due to larger bores.

Pipes and fittings are jointed using heat fusion methods including Socket, Electro and Butt fusion

System benefits

- **Welded system**
Secure homogenous welded joints. No glues, chemicals or flame.
- **Excellent chemical and corrosion resistance.**
Durable system with a wide range of applications.
- **Easy to install**
Welding techniques are very simple, Labour saving benefits save more time and money.
- **Fibre composite pipes.**
One of the main benefits of the Dynatherm PP-RCT pipe system is the integrated PP/Glass Fibre Composite reinforcing. Fibre composite reduces the thermal expansion found with plastic pipe by up to 75%.
- **Corrosion resistant**
Dynatherm is a durable, complete plastic system. It does not rust, corrode or break down. No need to have treatment systems.
- **Suitable for Potable Water**
Dynatherm pipe and fittings are tested and certified as suitable for drinking water supply.
- **Large Injection-molded Fittings**
Eliminate fabricated fittings for large diameters. Injection-molded fittings available as standard provide better flow rates and an aesthetically pleasing system.
- **Smooth bore, free of incrustations**
Excellent oxidation resistance due to state-of-the-art additive package. Maintains a smooth internal surface, preventing the build-up of deposits which could restrict flow.
- **Environmentally Friendly**
The process of manufacturing does not release toxins and harmful gases and less energy is required. Installation does not require any chemicals and again, no harmful gasses or fumes are released.
- **PP-RCT versus PP-R:**
 - Massive improvements in design strength.
 - Reduced wall thickness, giving up to 26% higher flow rates.
 - Extended durability at higher temperatures.
 - Longer life

Documentation

Further documentation on the Dynatherm pipe system is available. Please contact your local distributor for more information.

Dynatherm PP-RCT Pipe System



Dynatherm PP-RCT Polypropylene Pipe System System Specifications



Applications

The Dynatherm PP-RCT system is suitable for a number of different applications including:

- Potable hot and cold water supply systems up to 85°C, with temperature spikes of up to 110°C.
- Plumbing & Mechanical services
- Chilled and Condenser water reticulation
- Industrial liquids and gases
- Building and district heating systems
- Geothermal
- General pressure applications up to 20 Bar (290 PSI)

Range

Dynatherm is available in a range of pipe sizes from 20mm to 630mm. The system consists of a large variety of electro-fusion, spigot & butt weld fittings including: couplers, elbows, tees, reducers, saddle branches, flanges and valve.

Category	Product	Dimension Range -mm
Pipes	➤ Solid Wall PN16	20-250
	➤ Solid Wall PN20	20-125
	➤ Fibre Composite PN20	20-125
	➤ Fibre Composite PN16	20-315
	➤ Fibre Composite PN10	160-250
	➤ Aluminum Composite PN20	20-125
Fittings	➤ 45° and 90° Elbows	20-315
	➤ Long radius Bends	20-40
	➤ Tees	20-315
	➤ Weld-in saddles	40-315
	➤ Threaded saddles	40-315
	➤ 45° Tee "Y" fittings	32-63
	➤ Threaded fittings with DZR brass insert 1/2" to 5"	20-125
	➤ Flanges	40-315
	➤ Unions in PP, brass and S/S	20-90
	➤ Threaded outlets and manifolds	25-63
Couplers	➤ Socket Fusion	20-125
	➤ Electrofusion	20-315
Valves	➤ PP Ball Valves	20-75
	➤ Angled and Straight seat	20-40
	➤ Basin mixers and Taps	20-32
	➤ Butterfly	50-250
Equipment	➤ Electrofusion welding machines	
	➤ Butt fusion welding machines	
	➤ Socket fusion welding machines	
	➤ Scrapers and other installation tools	
	➤ Full fabrication service	
Options	➤ Pre-insulated pipes and fittings	

Product

Raw Material
Polypropylene (PP-RCT)

Density g/cm³
0.905

Tensile strength at yield
23 MPA

Flexural modulus
900 MPA

Melting Point
140-150 °C

Linear thermal expansion
 Solid Wall - 1.5×10^{-4}
 Fibre Composite - 0.35×10^{-4}
 Stabi Pipe - 0.3×10^{-4}

Thermal conductivity
0.24 W/mK^o

Pipe Friction Factor
0.007

Joining methods
 Electrofusion
 Butt fusion
 Socket fusion
 Flange/Threads

Pressure Ratings (Bar/ Temp)
 Solid Wall SDR11: 16 - 20°C
 8 - 60°C

Solid Wall SDR7.4: 24 - 20°C
 10 - 70°C

Fibre Composite SDR11 18 - 20°C
 8 - 70°C

Fibre Composite SDR9 23 - 20°C
 10 - 70°C

Applicable Standards
 DIN 8077/8
 ISO 15874 Watermark
 ÖNORM B 5174 - 2007 03 01
 AL RP 01.58
 AS/NZS4020

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