wagner
PIPE SYSTEMS

www.wagner-pipesystems.com

PP-R PIPE SYSTEM

PP-R/AL STABLE ALUMINUM PIPE SYSTEM

BETA PP-RCT PIPE SYSTEM

wagner pipe systems® offers high quality pipes and fittings manufactured from Polypropylene Random Copolymers (PP-R) and advanced PP-RCT which exhibits a modified crystalline structure yielding higher technical performances. These recyclable, environmentally friendly, physiologically and microbiologically safe materials, have a proven suitability for the manufacture of cold, warm and heating water pipe systems.

From the raw material to the final product, **wagner pipe systems®** are subjected to rigorous ISO certified quality management procedures. Raw materials are exclusively procured from approved suppliers. Pipes and fittings are manufactured using technologically advanced computer controlled production lines. All items produced are tested to ensure dimensional, physical and chemical compliance with DIN, ISO, EN and DVGW applicable standards.

Wagner pipes are supplied with all needed joining and connection elements from 16 mm to 110 mm external diameter.

wagner pipe systems® are committed to superior quality and first grade service at competitive prices.

VALUABLE SUPPLIERS

basell DSM Autofina DROSSBACH Machinery Pipe Systems

KRAUSSMAFFEI Bottenfeld MSA Ritmo BOREALIS

POLYPROPYLENE (PP-R) MATERIAL FEATURES

- High heat and extraction stability.
- Near zero moisture absorption.
- Excellent electrical insulation characteristics.
- Corrosion, chemicals and bacteria resistant.
- Service life of min 50 years for design temperatures ranging from 0 °C to 70 °C with tolerance for short term peak temperatures of 100 °C.
- Higher flow rate due to smooth pipe inner surface.
- Joints created by heat fusion featuring mechanical properties superior to the pipe itself.
- Elimination of water hammer commonly caused by hard metal systems resulting in silent operation.
- Energy saving thermal insulation properties.
- Good creep resistance maintaining pressure performance over long service lifetimes.
- Optimum cost to benefit ratio.

APPLICATION FIELDS

- Potable and domestic hot and cold water systems
- Domestic heating systems
- Swimming pools
- Water treatment
- Compressed air lines
- Chemical liquid transportation
- Pressurized irrigation networks

SERVICE LIFE AND WORKING PRESSURE

Domestic cold water at 20 °C, working pressure up to 20 Bar: 50 yrs
Domestic warm water at 70 °C, working pressure up to 10 Bar: 50 yrs
Domestic heating water at 70 °C, working pressure up to 3 Bar: 50 yrs
Domestic heating water at 70 °C, with 90 days at 85 °C, working pressure up to 3.2 Bar: 35 yrs

PRODUCT STANDARDS

wagner **pipe systems®** conforms to the following standards:

DIN EN ISO 15874:	Plastics piping systems for hot and cold water installations-Polypropylene (PP)
DIN EN ISO 1043-1:	Plastics – Symbols and abbreviated terms part 1: Basic polymers and their special characteristics
DIN 8077:	Polypropylene pipes - Dimensions
DIN 8078:	Polypropylene pipes - General quality requirements and testing
DVGW:	German Technical and Scientific Association for Gas and Water-working sheets

PP-R & PP-RCT FITTINGS AND ACCESSORIES

Socket
WX100

D20	D40
D25	D50
D32	D63

Reducing Tee
WX310

D20/25/20	D50/20/50
D25/20/20	D50/25/50
D25/20/25	D50/32/50
D32/20/32	D50/40/50
D32/25/32	D63/25/63
D40/20/40	D63/32/63
D40/25/40	D63/40/63
D40/32/40	D63/50/63

Reducer
WX110

D25/20	D50/20
D32/20	D50/25
D32/25	D50/32
D40/20	D50/40
D40/25	D63/40
D40/32	D63/50

End Cap
WX500

D20	D40
D25	D50
D32	D63

Elbow 90°
WX200

D20	D40
D25	D50
D32	D63

End Cap (with thread)
WX500A

1/2
3/4

Elbow 45°
WX220

D20	D40
D25	D50
D32	D63

Cross Pipe
WX003

D20
D25
D32

Tee
WX300

D20	D40
D25	D50
D32	D63

Male Thread Connector
WX101

D20*1/2	D32*1
D25*1/2	D40*11/4
D25*3/4	D50*11/2
D32*3/4	D63*2

PP-R & PP-RCT FITTINGS AND ACCESSORIES

Female Thread Connector
WX102

D20*1/2	D40*1 1/4
D25*1/2	D50*1 1/2
D25*3/4	D63*2
D32*1	

Double Union Ball Valve
WX9020

D20	D40
D25	D50
D32	D63

Male Thread Elbow
WX201

D20*1/2
D25*1/2
D25*3/4
D32*1

Union (Plastic/Plastic)
WX103-3

D20	D32
D25	D40

Female Thread Elbow
WX202

D20*1/2
D25*1/2
D25*3/4
D32*1

Electrical Peeler
WX9018

D20	D40
D25	D50
D32	D63

Female Thread Tee
WX302

D20*1/2*20
D25*1/2*25
D25*3/4*25
D32*1*32

Cutter
WX9017

D20 - 32
D20 - 75

Concealed Stop Valve (chrome coated) WX9012-A1

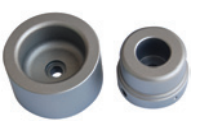
D20
D25
D32

Welding Machine
WX800

D20-32
D20-63
D75-110

Stop Valve
WX9012-B

D20	D40
D25	D50
D32	D63



Welding Machine Mould
WX802

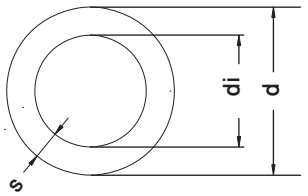
D20	D40
D25	D50
D32	D63

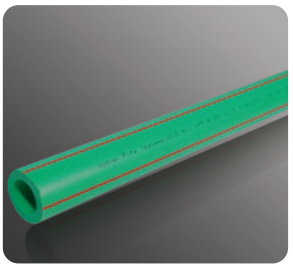
PP-R PIPE SYSTEM SDR6/S2.5-PN20

Standards: DIN 8077/8078, DIN EN ISO15874

Color: Green

Length supplied: 4m straight lengths

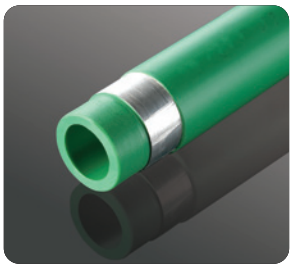




Pipe		Dimension	Wall Thickness	Internal Diameter	Water Content	Weight
Size (mm)	Packing Unit	d (mm)	s (mm)	d_i (mm)	(l/m)	(kg/m)
20	100	20	3.4	13.2	0.137	0.172
25	100	25	4.2	16.6	0.216	0.226
32	40	32	5.4	21.2	0.353	0.434
40	20	40	6.7	26.6	0.556	0.671
50	16	50	8.3	33.2	0.866	1.050
63	12	63	10.5	42.0	1.385	1.650

PP-R/AL STABLE ALUMINUM PIPE SYSTEM SDR 7.4/S3.2-PN20

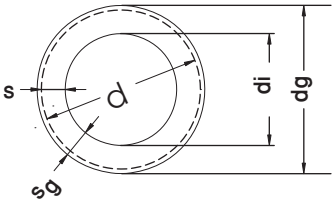
Structure: Five overlapping layers of metal and plastic; inside and outside layers of PP-R tightly bonded with PP-based adhesive to the mid aluminum layer.



Standards: DIN 8077/8078, DIN EN ISO 15874, DVGW W542

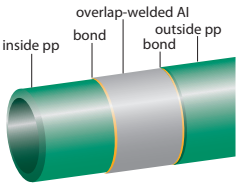
Color: Green

Length supplied: 4m straight lengths



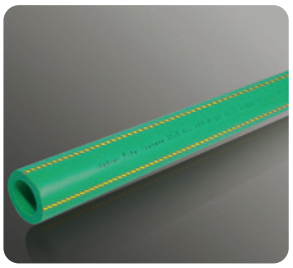
Advantages:

- 75% decrease in the linear expansion coefficient as compared to non composite pipes.
- High impact resistance, detectable in embedded applications and better mechanical stability due to the presence of the aluminum layer.
- Good heat preservation due to low heat conduction coefficient (0.45W/L.M).
- 20% improvement in flow rate due to reduced pipe thickness.



Pipe		Dimension	Wall Thickness	Internal Diameter	External Diameter	Thickness to Al.	Water Content	Weight
Size (mm)	Packing Unit	d (mm)	s (mm)	d_i (mm)	d_g (mm)	s_g (mm)	(l/m)	(kg/m)
20	80	20	2.8	14.4	21.9	3.7	0.163	0.216
25	60	25	3.5	18.0	27.0	4.5	0.254	0.296
32	40	32	4.4	23.2	34.1	5.5	0.415	0.471
40	20	40	5.6	28.8	42.2	6.7	0.651	0.739
50	16	50	6.9	36.2	52.3	8.0	1.029	1.025
63	12	63	8.7	45.6	65.4	9.9	1.632	1.610

BETA PP-RCT PIPE SYSTEM SDR7.4/S3.2 (PN20) - Class 2 & Class 5



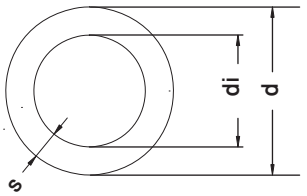
The Wagner Beta PP-RCT pipe system is manufactured using a new generation of material developed through a special "Beta-nucleation" technology, namely PP-RCT. This new material class, characterized by its modified crystalline structure and enhanced temperature resistance, exhibits technical performances superior to all other thermoplastic material alternatives (PP-R, PE, PEX).

Material: Beta-PPR™ (PP-RCT)

Standard: DIN EN ISO 1043-1/15874, DIN 8077/8078

Color: Green

Length supplied: 4m straight lengths



Advantages:

- Excellent thermal pressure and stress resistance allowing larger bore size and increased flow for the same external pipe diameter.
- Cost effectiveness stemming from the larger percentage of smaller pipe sizes in actual installations.
- 50% improvement in long term strength resulting in a service life of 50 years at 70° C for a pressure of 5MPa as compared to 3.2MPa for standard PP-R.
- Improved hydro-static pressure resistance allows operation at higher stresses for elevated temperatures.
- SDR7.4(S3.2) design basis allowed instead of SDR6 (S2.5) as per the DVGW-W544 (German association of companies for the gas and water industry-working sheets).
- No limitation on water pH values necessary due to excellent resistance to oxidation.
- Recommended for hot water applications (class 2 pipes) and high temperature radiators (class 5 pipes).

Pipe		Dimension	Wall Thickness	Internal Diameter	Water Content	Weight
Size (mm)	Packing Unit	d (mm)	s (mm)	d_i (mm)	(l/m)	(kg/m)
20	80	20	2.8	14.1	0.163	0.149
25	60	25	3.5	18.0	0.254	0.228
32	40	32	4.4	23.0	0.415	0.375
40	20	40	5.6	28.8	0.651	0.575
50	16	50	6.9	36.2	1.029	0.862
63	12	63	8.7	45.6	1.633	1.379

N.B: PP-RCT/AL Stable Aluminum Pipes are available upon request.

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