

PIPE

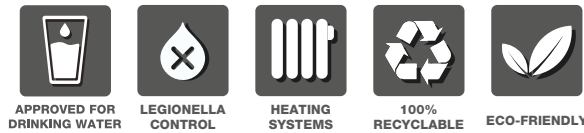
HELISYSTEM | PP-R 100 SDR 6

HELISYSTEM PP-R 100 SDR 6 pipe, series 2.5, is a monolayer pipe manufactured with Polypropylene Copolymer Random with a mechanical resistance stress (MRS) 10.0 MPa.

PP-R 100 has a better performance than traditional PP-R.

HELIROMA HELISYSTEM pipes can be used for drinking water applications as well as for heating and cooling systems and other industrial applications.

The pipe is supplied in green or blue colour with 1 longitudinal red or green line, respectively.



Pipe, fittings and system certification.

APPLICATIONS

- Drinking water supply systems;
- Heating and cooling systems;
- HVAC systems;
- High temperature heating systems;
- District heating systems;

- Industrial applications;
- Reverse osmosis systems;
- Compressed air systems;
- Chemical transport;
- Shipbuilding.

ADVANTAGES AND KEY FEATURES

- LONG LIFE EXPECTANCY
- EXCELLENT LONG-TERM PRESSURE RESISTANCE
- LOW PRESSURE LOSS
- LOW THERMAL CONDUCTIVITY
- ECO-FRIENDLY
- CORROSION RESISTANT
- HIGH CHEMICAL RESISTANCE
- LOW ROUGHNESS
- DRINKABLE WATER APPLICATIONS
- EXTREMELY RELIABLE
- PREVENTS LIMESCALE
- ACOUSTIC INSULATION
- EASY AND FAST INSTALLATION
- SUPPLIED IN BARS
- IDEAL FOR OFFSET CONSTRUCTION
- NATIONAL AND INTERNATIONAL CERTIFICATIONS

THERMAL EXPANSION

Thermal expansion is defined by the expansion of the system as a consequence of a temperature variation (ΔT). In the case of pipes, in which one of the dimensions (length) is much bigger than the others, the significant expansion is the linear expansion.

In situations in which thermal expansion is going to occur, it is necessary to calculate the variation of the length of the pipe sections, considering fixing points capable of "absorbing" these expansions.

For further information, please refer to HELIROMA Technical Catalogue.

DISTANCE BETWEEN SUPPORT POINTS (CM)

DIAMETER (mm)	TEMPERATURE (ΔT)					
	20	30	40	50	60	70
20	65	63	61	60	58	53
25	75	74	70	68	66	61
32	90	88	86	83	80	75
40	110	110	105	100	95	90
50	125	120	115	110	105	100
63	140	135	130	125	120	115
75	155	150	145	135	130	125
90	165	160	155	145	140	130
110	180	175	170	165	150	140

Note: in vertical pipelines the specified distance of fixing points can be increased by 30%.

LEAKAGE TEST

All HELIROMA products must be submitted to a leakage test as per procedures stated in HR Technical Catalogue. The product warranty is only valid if the leakage test has been performed, on the date the system has been installed.

PP-R PRODUCTS

PP-R PRODUCTS

HELISYSTEM | PP-R 100 SDR 6
HELISYSTEM | PP-R 100 SDR 7,4

ROMAFASER | PP-R 100 + FG SDR 7,4
ROMAKLIMA | PP-R 100 + FG SDR 11
ROMAFASER ANTI-UV | PP-R 100 + FG SDR 7,4 ANTI-UV

ROMAFASER CT | PP-RCT 125 + FG SDR 11
ROMAKLIMA CT | PP-RCT 125 + FG SDR 17

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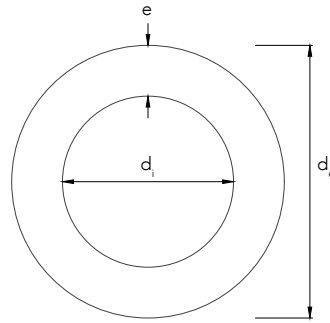


HULIOT GROUP

PIPE

HELISYSTEM | PP-R 100 SDR 6

PRODUCT RANGE AND GEOMETRY



REFERENCE	NOMINAL DIAMETER (mm)	OUTSIDE DIAMETER d _e (mm)		THICKNESS e (mm)		INSIDE DIAMETER d _i (mm)		WEIGHT (kg/m)	MAX WEIGHT W/ WATER* (kg/m)	COLOUR **	
		min	max	min	max	min	max			●	●
P-16020	20	20,0	20,3	3,4	3,9	12,2	13,5	0,175	0,318	✓	✓
P-16025	25	25,0	25,3	4,2	4,8	15,4	16,9	0,266	0,490	✓	✓
P-16032	32	32,0	32,3	5,4	6,1	19,8	21,5	0,438	0,801	✓	✓
P-16040	40	40,0	40,4	6,7	7,5	25,0	27,0	0,678	1,251	✓	✓
P-16050	50	50,0	50,5	8,3	9,3	31,4	33,9	1,036	1,939	✓	✓
P-16063	63	63,0	63,6	10,5	11,7	39,6	42,6	1,638	3,063	✓	✓
P-16075	75	75,0	75,7	12,5	13,9	47,2	50,7	2,340	4,359	✓	✓
P-16090	90	90,0	90,9	15,0	16,6	56,8	60,9	3,353	6,266	✓	✓
P-160110	110	110,0	111,0	18,3	20,3	69,4	74,4	4,900	9,247	✓	✓

$$SDR = \frac{d_e}{e} \quad S = \frac{d_e - e}{2e}$$

* Maximum weight with water calculated with ρ_{H₂O} at 4°C;

** Other colours on demand;

Note: other dimensions available on demand.

PERMISSIBLE WORKING PRESSURES AND TEMPERATURES

T (°C)	10						20						30						40						50						60						70						80						95					
LIFETIME (years)	1	5	10	25	50	100	1	5	10	25	50	100	1	5	10	25	50	100	1	5	10	25	50	100	1	5	10	25	50	100	1	5	10	25	50	1	5	10	25	50	1	5	10	25	50	1	5	10	25	50	1	5	10	
PERMISSIBLE WORKING PRESSURE (bar)	42,1	39,7	38,6	37,4	36,4	35,5	35,9	33,7	32,8	31,7	30,9	30,1	30,5	28,6	27,8	26,8	26,1	25,4	25,9	24,2	23,5	22,6	22,0	21,4	21,9	20,4	19,8	19,0	18,5	17,9	18,5	17,2	16,6	16,0	15,5	15,5	14,4	13,9	12,1	10,2	13,0	11,5	9,7	7,8	9,2	6,2	5,2							

Safety factor - 1,25.

The referenced service lifetime does not consider installation changes, such as: high concentration of disinfection agents, metallic materials out of specification, neither operating temperature and/or pressure malfunctions.

For sanitary water installations, working pressures should be reduced by 15%, for the same service lifetime. The maximum allowable temperature is 70°C, which corresponds to thermal disinfection temperature and not to continuous operating temperature. Disinfection processes should be carried out according to mandatory regulations and under no circumstance a combination of different processes should be used.

In case of butt-welded pipes and/or fittings, allowable operating pressures should be reduced by 25%.

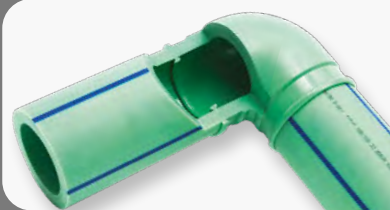
PHYSICAL AND MECHANICAL PROPERTIES

PARAMETER	VALUE	STANDARD
DENSITY	897 kg/m ³	ISO 1133
MFI 230°C/2,16 kg	0,3 g/10min	ISO 1133
TENSILE MODULUS	850 MPa	ISO 527
TENSILE STRESS AT YIELD	24 MPa	ISO 527
DSC	139°C	DSC
VICAT SOFTENING TEMPERATURE A50	132°C	ISO 306
MRS CLASSIFICATION	10.0 MPa	ISO 9080
THERMAL CONDUCTIVITY	0,135 W/m K	DIN 52612
THERMAL EXPANSION COEFFICIENT	0,150 mm/m°C	VDE 0304
ROUGHNESS	0,007 mm	ISO 5436
OPACITY	Yes	ISO 7686
FIRE CLASSIFICATION	B2	DIN 4102

The PP-R 100 SDR 6 pipe is compatible with the following welding techniques:



SOCKET
Ø 20-125 mm



BUTT WELDING
Ø 160-400 mm



ELECTROFUSION
Ø 25-315 mm

STANDARDS

EN ISO 15874

Plastics piping systems for hot and cold water installations - Polypropylene (PP).

DIN 8077

Polypropylene (PP) pipes - Dimensions.

DIN 8078

Polypropylene (PP) pipes - General quality requirements and testing

RP 01.16

Specific rules for polypropylene (PP) systems for hot and cold water installations.

W544

Plastic pipes in the drinking water installation - requirements and testing.

Decree-law 152/2017

Portugal

Royal Decree 140/2003

Spain

Royal Decree 865/2003

Spain