

PIPE

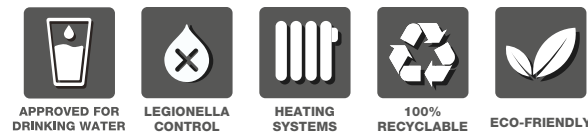
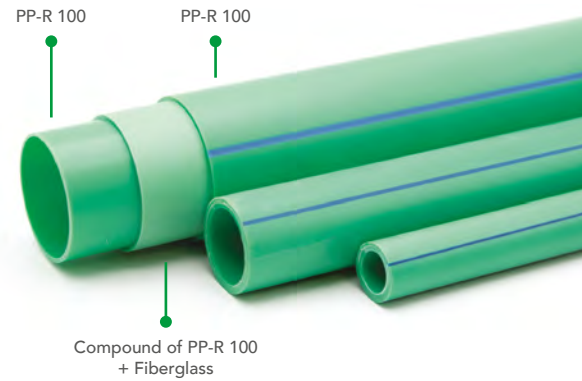
ROMAFASER | PP-R 100 + FG SDR 7,4

ROMAFASER PP-R 100 + FG SDR 7,4 pipe, series 3.2, is manufactured with Polypropylene Copolymer Random with a mechanical resistance stress (MRS) 10.0 MPa and fiberglass.

A faser pipe with **3-layers**, an internal layer made of PP-R 100, a middle layer made of PP-R 100 + fiberglass and an external layer made of PP-R 100. The incorporation of fiberglass on middle layer confers to the pipe an increased mechanical resistance with greater hydrostatic pressure strength and lower thermal expansion.

HELIROMA ROMAFASER 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 4 longitudinal blue or green lines, 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

- INCREASED FLOW RATE DUE TO INCREASED INNER DIAMETER;
- REDUCED THERMAL EXPANSION
- FEWER SUPPORTS NEEDED
- LIGHTWEIGHT
- EXCELLENT LONG-TERM PRESSURE RESISTANCE
- LOW THERMAL CONDUCTIVITY
- LOW PRESSURE LOSS
- LOW ROUGHNESS
- DRINKABLE WATER APPLICATIONS
- LONG LIFE EXPECTANCY
- CORROSION RESISTANT
- HIGH CHEMICAL RESISTANCE / STABILITY
- PREVENTS LIMESCALE
- ACOUSTIC INSULATION
- EASY AND FAST INSTALLATION
- SEVERAL 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	85	85	80	80	80	75
25	100	100	95	95	90	85
32	110	115	105	105	105	105
40	130	125	125	125	120	120
50	160	155	150	145	145	135
63	175	170	170	165	160	160
75	185	185	175	170	165	165
90	195	195	190	190	180	175
110	210	210	200	200	195	185

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

HELIROMA - Plásticos, S.A.
Zona Industrial
EN-1 / IC2 km 250,5
3850-184 Albergaria-a-Velha
Portugal

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Lng: 8.48552° (W)

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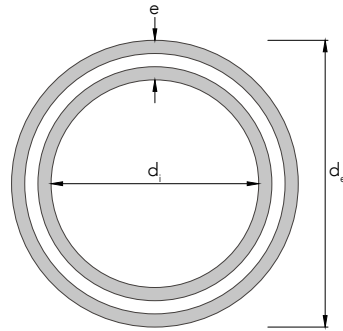


HULIOT
GROUP

PIPE

ROMAFASER | PP-R 100 + FG SDR 7,4

PRODUCT RANGE AND GEOMETRY



REFERENCE	NOMINAL DIAMETER (mm)	EXTERIOR DIAMETER d _e (mm)		THICKNESS e (mm)		INNER DIAMETER d _i (mm)		WEIGHT (kg/m)	MAX WEIGHT W/ WATER* (kg/m)	COLOUR **	
		min	max	min	max	min	max			●	●
P-16020-F	20	20,0	20,3	2,8	3,2	13,6	14,7	0,153	0,350	✓	✓
P-16025-F	25	25,0	25,3	3,5	4,0	17,0	18,3	0,246	0,509	✓	✓
P-16032-F	32	32,0	32,3	4,4	5,0	22,0	23,5	0,390	0,824	✓	✓
P-16040-F	40	40,0	40,4	5,5	6,2	27,6	29,4	0,600	1,279	✓	✓
P-16050-F	50	50,0	50,5	6,9	7,7	34,6	36,7	0,919	1,977	✓	✓
P-16063-F	63	63,0	63,6	8,6	9,6	43,8	46,4	1,433	3,124	✓	✓
P-16075-F	75	75,0	75,7	10,3	11,5	52,0	55,1	2,061	4,445	✓	✓
P-16090-F	90	90,0	90,9	12,3	13,7	62,6	66,3	2,933	6,385	✓	✓
P-160110-F	110	110,0	111,0	15,1	16,8	76,4	80,8	4,344	9,472	✓	✓

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

* 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	25	50																																																																																																																																																																																			
PERMISSIBLE WORKING PRESSURE (bar)	30,2							28,2						27,7						26,9						26,1						25,3						24,5						23,7						22,8						22,0						21,3						20,7						20,0						19,2						18,7						18,0						17,5						16,8						16,2						15,7						15,2						14,7						14,1						14,7						13,7						13,2						12,6						12,1						11,4						11,1						9,6						8,1						10,4						9,2						7,8						6,2						8,7						6,0						5,1				

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	0,035 mm/m°C	VDE 0304
ROUGHNESS	0,007 mm	ISO 5436
OPACITY	Yes	ISO 7686
FIRE CLASSIFICATION	B2	DIN 4102

The PP-R 100 + FG SDR 7,4 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 01.72

Specific rules for polypropylene (PP-R) and fiber glass (GF) piping systems for hot and cold water installations inside buildings.

Decree-law

152/2017

Portugal

Royal Decree

140/2003

Spain

Royal Decree

865/2003

Spain