



Polypropylene Certified System



WRAS



Aqua**plus**

Aqua**plus** **Prins**

Aqua**plus** **PP-RCT**

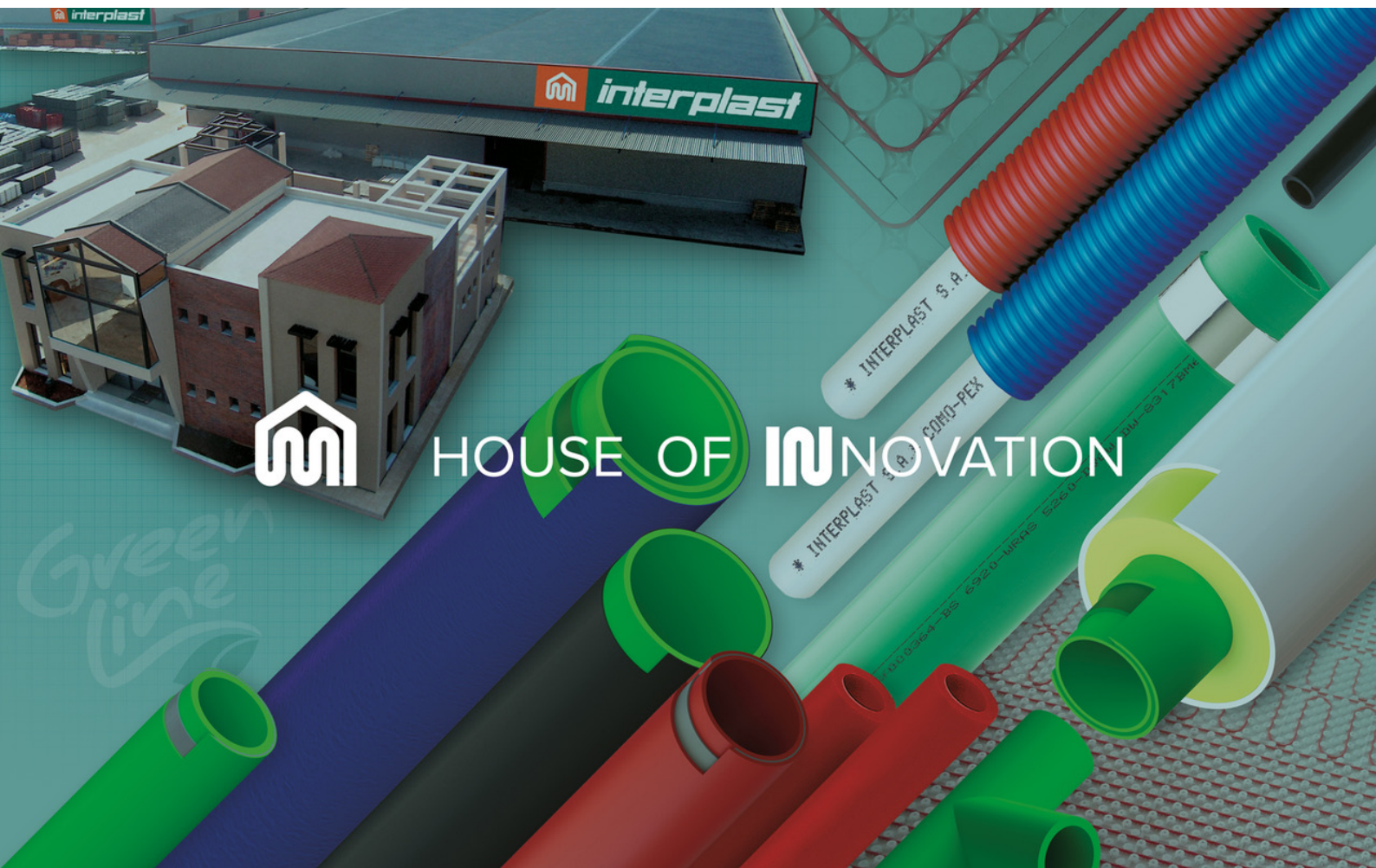
Aqua**plus** **AL**

Aqua**plus** **OT**

Aqua**plus** **UV**



HOUSE OF **IN**NOVATION



HOUSE OF INNOVATION

Green Line



TRIPLE CERTIFICATION FOR THE ENVIRONMENT AND ENERGY SAVING

During the last century the earth is facing an unprecedented increase in population which is estimated on 2100 will reach 11.2 billion. Overpopulation causes the depletion of the natural resources of our planet. The solution to this environmental crisis is to move from a linear to a circular economy where products live longer and are recycled at the end of their lives.

Based on these data, Interplast decided and successfully implemented a triple certification exclusively focused on environmental protection:

- 1) Completed the certification process elaborating an integrated Environmental Management system in accordance with EN ISO 14001: 2015.
- 2) Completed the certification process by installing all the required energy saving 'tools' in accordance with EN ISO 50001: 2018.
- 3) Completed the elaboration of the necessary LCA, leading to the final redaction of the necessary EPD (Environmental Product Declaration) which was entered on its electronic platform, with code SP-02120, as provided by ISO 14025 and EN 15804.

The EPD or Environmental Product Declaration is an eco-labeling system which, in international markets, especially in Europe and the United States, stands as the "International gold standard" for capturing the environmental performance of a product during its life cycle.

The aforementioned "declares" the commitment and vision of Interplast, in the most emphatic way, to be a model production company with environmental awareness and produce products that are an ideal choice for buildings with bioclimatic design.

These actions help consultants, contractors-buyers and users of buildings to evaluate and, if they wish, to classify their buildings as "green buildings" with low or zero emissions according to the protocols LEED V4, BREEAM, DGNB and constitute evaluation base according to the requirements of EN 15978 - Sustainability of Construction works.



our company

Interplast manufactures plastic pipes and fittings to the very highest specifications, for use in water supply, heating and sewerage systems and covering a broad range of applications in the areas of house construction, technical projects and industrial facilities. The company aims to design, develop and market products and integrated solutions that cover the needs of modern construction and improve quality of life, by building a relationship of trust between the technical world and the consumer public.

The Group's central offices are located in Komotini, coordinating the day-to-day manufacturing activity of the industrial units. Plastic pipes and fittings are manufactured at facilities covering 40,000 sq m located in the industrial area of Komotini, and Interplast's Customer Services for South Greece are located in an area of 6,000 sq m in Menidi, Attica, together with the brass fittings plant of its subsidiary company, ELVIOM.

Exports in
55 Countries

10 years
Warranty



Interplast pipes and fittings meet and exceed the requirements set by European EN ISO standards, internationally accepted German DIN EN ISO standards, Spanish UNE EN ISO standards, British BS standards and American/Canadian ASTM/CSA standards. As a result, pipes and fittings never show any deviation from the specifications in the regular biannual tests carried out by official institutes on random samples from the production and the warehouse.

The outcome of all the above is that Interplast pipes and fittings are certified by the following organizations, having been awarded over 50 certifications to date.

TUV-EN ISO 9001:2015	FFI (Germany)
ISO 14001:2015	AENOR (Spain)
ISO 50001:2015	KIWA (Netherlands)
EPD (Sweden)	EMI (Hungary)
MIRTEC (Greece)	NNK (Hungary)
WRAS / NSF (Great Britain)	OKF (Hungary)
ICC / ASTM (USA)	National research center (Egypt)
ICC / NSF (USA)	Housing & building national research center (Egypt)
ICC / ANSI (USA)	ZIK (Croatia)
SKZ (Germany)	GOST (Russia)



I. Olympic Projects

- Olympic Village, Athens
- Athens International Airport El. Venizelos, Spata
- Attiko metro, Athens
- Olympic Rowing and Canoeing Centre, Schinias
- Olympic Weight-lifting Centre, Nikaia
- Olympic Press Centre, Maroussi
- Olympic Beach Volley Centre, S.E.F.N. Faliro
- Olympic Indoor Gymnasium and Table Tennis Hall, Galatsi
- Peace and Friendship Stadium, N. Faliro
- Press Village, Pallini, Athens
- Press Village, Zografou, Athens
- Press Village, Maroussi, Athens
- Basket Ball and Fencing facilities, Helliniko
- Baseball, Softball and Hockey facilities, Helliniko
- Building installations for the starting point of the Marathon route, Marathon



II. Offices - Shops

- Arwa Tower, Doha, Qatar
- "The Mall", Shopping and Leisure Centre, Neratziotissa, Maroussi
- "Mediterranean Cosmos", Shopping and Leisure Centre, Thessaloniki
- Central Offices of the Agricultural Bank of Greece, Sygrou Ave.
- National Insurance Offices building, Sygrou Ave.
- Hondos Center department store, Thessaloniki
- Greek Embassy, Austria
- Rex Bank, Vienna
- Attiki Bank, Thessaloniki
- Thalassokosmos" Aquarium, Heraklion, Crete
- Saida Mall - Tyre, Lebanon
- Ministry of Housing , Bahrain
- Naval Base, Qatar
- Burj Al Mana Tower, Qatar
- Lexus Showroom and Offices, Qatar
- Imam Abdul Wahhab Mosque, Qatar
- Qatar General Electricity Building, Qatar
- DAMAC Tower by Versace — Lebanon
- Green Hills, Mixed Use Development, Kenya
- Montave, Mixed Use Development, Kenya
- RPK Bio Pharma, Pharmaceutical Company, Portugal
- Allergan Pharmaceuticals, Health Care Industry, Dublin, Ireland
- Oval Building, Lemesos, Cyprus
- Tsanakleios, Komotini
- National Bank, Komotini
- Thrace Greenhouses, Xanthi
- Plastic of Thrace, Xanthi
- Court Building, Pieria
- Cretan Golf Club
- Museum of Modern Art
- Selecta Hellas, Floristic Company
- Ark of the World, Voluntary Non-Profit Organization



III. Hotels

- St. Regis Hotel & Residential Towers, Doha, Qatar, Luxury Hotels
- Grande Bretagne, Athens, Luxury Hotels
- Domes of Elounda, Elounda, Luxury Hotels
- Murex Hotel, 5★, Lebanon
- Holiday Inn, 5★, Attiki Odos motorway, Athens
- President, 5★, Athens
- Lydra Marriott, 5★ (Thalassotherapy Section), Nicosia, Cyprus
- Aphrodite Intercontinental, 5★, Cyprus
- Electra Palace, 5★, Thessaloniki
- Palirroia, 5★, Halkida
- Grecotel Olympia Riviera, 5★, Killyni
- Aldemar Royal Olympian, 5★, Pyrgos, Iliia
- Meliton-Porto Karras, 5★, Halkidiki
- Ilion Mare, 5★, Thassos
- Aldemar Knossos Royal, 5★, Crete
- Aldemar Royal Mare, 5★, Crete
- Olympian Village, 5★, Iliia
- Grand Serrai, 5★, Ioannina
- Apollonia, 5★, Heraklion
- Zorbas, 5★, Tigaki - Kos
- Gaia Palace, 5★, Mastihari - Kos
- Blue Lagoon, 5★, Kos
- Iberostar Astir Odysseus, 5★, Tigaki - Kos
- Lindosbay, 5★, Lindos - Rhodes
- Grecotel Imperial, 5★, Karaiskaiki Sq., Athens
- Paradise, 5★, Kallithea - Rhodes
- Ixian Grand, 5★, Ialysos - Rhodes
- Sheraton Hotel 5★, Qatar
- Al Aar Hotel 5★, Qatar



- Boutique Souq Waqif Hotel 5★, Qatar
- Holiday Inn Hotel 4★, Qatar
- Viva Bahriya, Towers, Qatar
- Brook Tower, Qatar
- Rotana Arwa Tower, Qatar
- Al Asmakh Tower, Qatar
- Tribe Hotel 5★, Kenya
- Riverview Hotel 3★, Kenya
- Iveagh Gardens Hotel 4★, Dublin, Ireland
- Skyline Towers, Belgrade
- Chrysomare Hotel 5★, Cyprus
- Electra Metropolis 5★, Athens
- Makedonia Palace 5★, Thessaloniki
- Camvillia Resort 5★, Koroni, Messinia
- Adriana Princess Hotel 5★, Rodos
- Capsis 5★, Rodos
- Hotel Amada Colossos 4★, Rodos
- Euphoria Beach Resort 5★, Xania
- Grand Hotel Holiday Resort 4★, Xersonisos, Crete
- Thraki Palace 5★, Alexandroupoli
- Thasos Grand Resort 5★, Thasos
- Makryammos Bungalows 4★, Thasos



IV. Residences

- Bab Al Rayyan 400 - Village Villas, Doha, Qatar
- Alia Apartments, Bucharest, Romania
- Garden View, Sin El Fil, Lebanon.
- Jawad & Jaffer Villa, Bahrain
- Green Lake Residences, Bucharest, Romania
- West Park, Bucharest, Romania
- Monaco Towers, Bucharest, Romania
- Vile Curtea Domneasca, Bucharest, Romania
- Raoucheh residence Verdun, Lebanon
- Chalet Ziad Mohsen Dalloul - Faqra, Lebanon
- Villa Karageuzian - Faqra, Lebanon
- Villa Badro - Faqra, Lebanon
- Riyad Villa, Bahrain
- Alawi Villa, Bahrain
- Students halls of residence, Zografou
- Housing for earthquake victims, Ano Liossia, Athens
- Council housing, Thessaloniki

- Council housing, Komotini
- Council housing, Tavros, Athens
- Housing units, Ministry for the Environment and Public Works, Thessaloniki
- Council housing, Ag. I. Rendi, Athens
- B Chez Moon, Residences, Lebanon
- Amchit Bay Villas, Resorts, Lebanon
- Retro 67, Residences — Lebanon
- German Sports Tower, Dubai Sports City, UAE
- 505 Villas - Uptown, Emirates City, UAE
- 14 Villas (Westar Prop), Jumeirah Village, Dubai, UAE
- Villa Rashidiya, Dubai, UAE
- Villa Ras al Khor, Dubai, UAE
- Palm Valley, Housing and Residential, Kenya
- 5* Paradise, Housing and Residential, Kenya
- Houses, Residence Complex, Uppsala, Sweden



V. Hospitals

- Kavala General Hospital
- Igoumenitsa General Hospital
- 424 Military Hospital, Thessaloniki
- Genesis Maternity clinic, Thessaloniki
- Hospital Al Salam, Tripoli, Lebanon
- Al Arcoub Hospital - Tyre, Lebanon
- Dialysis Center, Doha, Qatar
- Medrar Medical Center — Lebanon
- Vostaneio Hospital, Mytilini
- Hospital of Karpathos
- Elderly Care Center of Zakynthos
- Elderly Care Center of Terpnis, Serres



VI. Educational Institutions

- University installations (Laboratories), Nikosia, Cyprus
- Aley Technical School, Lebanon
- Bioclimatic schools of Ialysos, Afantou and Kremasti, Rhodes
- School Al Salam Akkar / Akroum, Tripoli, Lebanon.
- Children village, Tripoli, Lebanon.
- Qatar State Mosque, Doha, Qatar.
- Global University — Lebanon



VII. Airports

- Paros Airport
- Eleutherios Venizelos Airport
- Makedonia Airport, Thessaloniki
- Rhodes Airport
- Crete Airport





Hotels

- Kuda Villingili Resort, Maldives 5*
- Le Meridien, Limassol, Cyprus 5*
- Atlantica Mare Village, Ayia Napa, Cyprus 5*
- Atlantica Mare Village, Paphos, Cyprus 5*
- Adams Beach, Ayia Napa, Cyprus 5*
- Radisson Blu, Larnaca, Cyprus 5*
- Radisson Larnaca Beach Hotel, Larnaca, Cyprus 5*
- Aliathon Hotel, Paphos Cyprus 5*
- Cypria Maris Beach Hotel, Paphos, Cyprus 4*
- Tribe Hotel, Kenya 5*
- Riverview Hotel, Kenya 3*
- Hotel Butrinti, St. Sarande, Albania 5*
- Iveagh Gardens, Dublin, Ireland 4*
- Amathus Beach, Rhodes, Greece 5*
- Rodos Palace, Rhodes 5*
- Palladium, Rhodes 5*
- Olympic Palace, Rhodes 5*
- Atlantica Imperial Resosrt, Rhodes 5*
- Atlantica Sensatori Resort, Rhodes 5*
- Mayia Exclusive Resosrt, Rhodes 5*
- Lindian Village, Rhodes 5*
- Ixia Hotel, Rhodes 5*
- Atlantica Aegean Blue Resort, Rhodes 5*
- Sunwing Hotel, Rhodes 4*
- Lindos Princess, Rhodes 4*
- Atlantica Princess, Rhodes 4*
- Sun Beach Resort, Rhodes 4*
- Virginia Hotel, Rhodes 3*
- Blue Lagoon City Hotel, Kos 5*
- Karavia, Kos 4*
- kos Aria, Kos 4*
- Atlantica Porto Bello Beach, Kos 4*
- Robinson Club Daidalos, Kos 4*
- Horizon Beach Hotel, Kos 4*
- Porto Carras Resort, Chalkidiki 5*
- Eagles Palace, Chalkidiki 5*
- Sani Club, Chalkidiki 5*
- Sani Dunes, Chalkidiki 5*
- Sani Beach Hotel, Chalkidiki 5*
- Ikos Oceania Resorts, Chalkidiki 5*
- Antigoni Beach Resort,
- Ormos Panagias Chalkidiki 4*
- Lagomandra Beach Hotel,

- Nikiti, Chalkidiki 4*
- Anthemus Sea Beach, Chalkidiki 4*
- Anthemus Sea Beach, Cnalkidiki 4*
- Hotel Stanley, Athens 4*
- Ever Eden Beach Resort, Attica 4*
- Sunset Hotel, Mykonos 5*
- Santo Maris, Santorini 5*
- Kassadra Bay, Skiathos 5*
- Hotel Xenia, Skiathos 5*
- Punda Beach Resort, Paros 5*
- HapiMag Resort, Rorto Cheli 4*
- Nana Imperial Hotel, Chersonisos, Crete 5*
- Domes of Elounda, Luxury Hotel,
- Elounda, Crete 5*
- Cactus Beach, Crete 5*
- Robinson Club Ierapetra, Crete 5*
- Lyttos Beach, Chersonisos, Crete 4*
- MarBella Corfu, Kerkyra 5*
- Ikos Dassia, Kerkyra 5*
- Almyros Hotel, Kerkyra 5*
- Regina Mare Hotel Club, Thesprotia 5*
- Limneon Resort & Spa, Kastoria 5*
- Epirus Palace, Ioannina 5*
- Linden Apartments, Potos Thassos
- Kuda Villingili Resort 5*, Maldives
- Tribe Hotel 5*, Kenya
- Riverview Hotel 3*, Kenya
- Iveagh Gardens Hotel 4*, Dublin, Ireland
- Marine Agia Napa, Cyprus
- Atlantica Pafos Hotel 5*, Cyprus
- Radison Blue Larnaca Hotel 5*, Cyprus



Wineries & Breweries

- Domaine Analiontas, Nicosia, Cyprus
- G. Boutaris Winery, Naousa, Imathia
- G. Boutaris Winery, Florina
- Ampeloeis Winery, Kavala
- Tsantiri Winery, Ikaria
- Domaine Biblia Chora, Kavala
- Domaine Zafiraki, Tyrnavos, Larissa
- Domaine Charalambaki, Heraklion, Crete
- Domaine Costa Lazaridi, Drama
- Macedonian Brewery, Drama
- Domaine Vourvoukeli, Xanthi
- Domaine Aslani, Thessaloniki
- Santo Wines, Santorini



Packaging - Ripening Factories

- Agro Papadakis, Cooling Fruit Chambers Crete
- ALKYON, Fruit Packer, Kavala Industrial Area
- ANATOLI, Fruit Packer, Imathia
- BOURAKIS, Cooling Chambers, Thessalonik
- Wonderplant, Tomato Greenhouse, Drama
- Tsakiris Family S.A., Food Industry, Thessaloniki
- Escarcom, Processing of Frozen Fruit and Vegetables, N.Pella
- PROTOFANOUSIS A.E, Cooling Fruit Chambers Plerria



Industries

- Esti Foods, Food Industry, New Jersey, USA
- Coca Cola, Cyprus
- RPK BIO Pharma, Medicine Industry, Portugal
- Allergan Pharmaceuticals, Healthcare
- Industry, Dublin, Ireland
- Greek Fertilizers, Kavala
- KOLIOS SA, Milk & Cheese Industry Kilkis
- TORRE COOPERLAT, Ice cream Industry, Kilkis
- Gatidis Fresh, Patisserie and Food Industry, Serres
- Genepharm, Medicine Industry, Pallini, Attica
- Thrace Plastic Pack SA, Plastic Industry
- SEKAP, Tobacco Industry, Xanthi



- M-MARITIME, Marine Offices Company, Athens
- POLYECO, Building Office, Pireas
- Rhodes National Airport
- skiathos National Airport
- Mykonos National Airport
- Ayia Napa Marina, Cyprus
- Private District Heating Network, Kozani
- Luxury Villa, Ayios Ioannis, Mykonos
- Luxury Villa 2.000 m2, Mykonos
- Luxury Villa 2.500 m2, Lefkada
- Psychiatric Institut Office Building, Thessaloniki
- Papanikolaou General Hospital, Thessaloniki
- COSMOTE, N. Kifisia, Athens
- Theodoropoulos School, Chania, Crete
- Arsanas Great Lavra, Mount Athos
- Esperides Villa, Residences Complex,
- Heraklion Crete
- Eldery Care Unit, Drama
- Tax Office, Alexandroupoll

Preabrications

- Refugee's Hot Spot, Thiva

Buildings Offices

- RPK Bio Pharma, Pharmaceutical Company, Portugal
- Allergan Pharmaceuticals, Health Care Industry, Dublin, Ireland

Residences

- Houses, Residence Complex, Uppsala, Sweden

Public And Private Bullaings

- Areeba Offices Building, Beirut, Lebanon
- Residence Complex, Uppsala, Sweden
- Paphos Court Building, Cyprus

Aqua - Plus Certified, Polypropylene System

Interplast manufactures PP - R and PP - RCT pipes and fittings with dimension from 20 mm up to 450mm for applications in, plumbing-heating-cooling installations, industry (transfer of liquids and compressed air) and networks where the risk of electrochemical corrosion can be appeared.

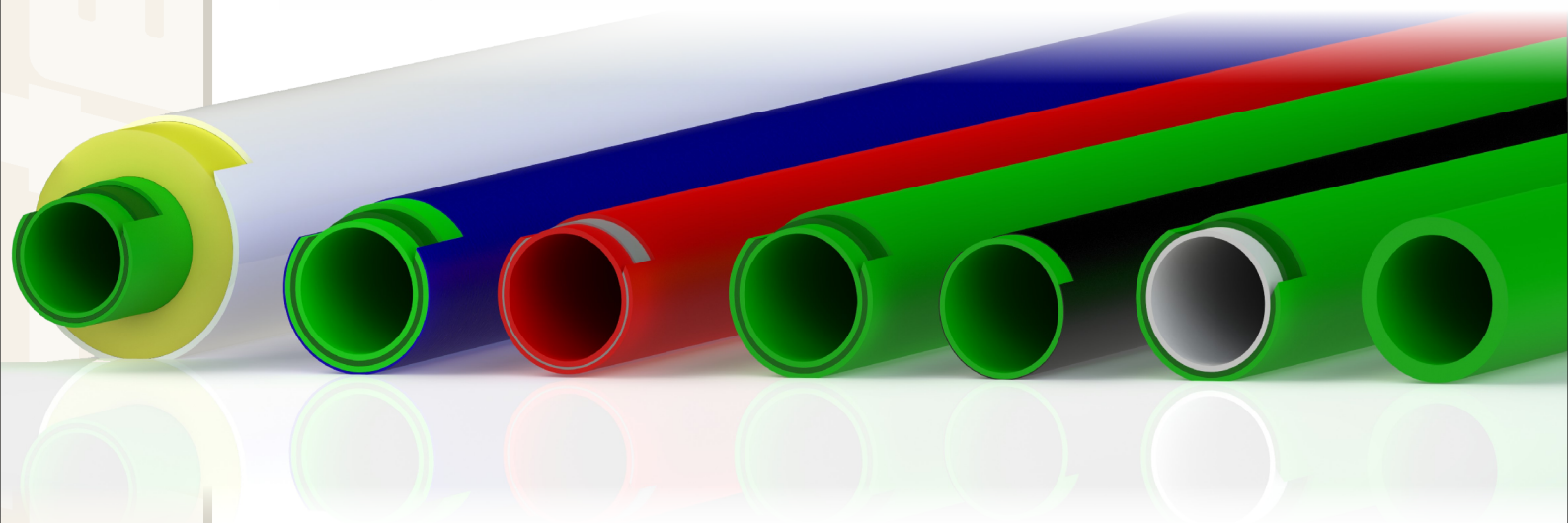
Aqua plus pipes are manufactured in green colour in aligned segments 4 meters until 125mm and 5,8 meters from 160mm up to 450mm.

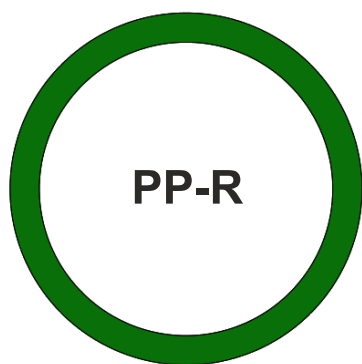
The pipes bear a printing per meter, indicating the trade name, outer diameter, wall thickness, operating pressure at ambient temperature, manufacturing specifications, (ASTM, NSF, EN, DIN, UNE), certifying institutes (ICC, MIRTEC, SKZ, AENOR, WRAS, KIWA etc) and a code number stating the time and date of production.

The structure of the material and the smooth surface texture ensure low friction losses resulting in low resistance and low pressure drop in the piping. In addition the material used significantly reduces the noise generated and limits its transmission through the pipes. This makes it possible to transfer greater quantities of water with plastic pipes of smaller dimension compared with metal pipes.

Polypropylene Advantages

- High resistance of the pipes and the fittings on hydraulic shocks (at pressures greater than 130 bar at ambient temperature)
- Lifespan of more than 50 years for temperatures of 20°C to 90°C and operating pressure 6-26 bar.
- Peak temperatures of 110°C at 4 bar operating pressure do not affect the Aqua-Plus system.
- Excellent corrosion resistance. Very good performance even in areas with very hard water.





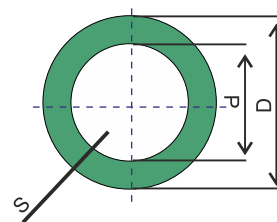
VS



Comparative Pipe intersections		
Actual Metric OD	Copper	Nominal Diameter PP-R
1/2"	18 x 1,0 mm	20
3/4"	22 x 1,0 mm	25
1"	28 x 1,5 mm	32
1 1/4"	32 x 1,5 mm	40
1 1/2"	42 x 1,5 mm	50
2"	54 x 2,0 mm	63
2 1/2"	64 x 2,0 mm	75
3"	76,1 x 2,0 mm	90
4"	88,9 x 2,0 mm	110
5"	108 x 2,5 mm	125
6"	-	160
8"	-	200
10"	-	250
12"	-	315
14"	-	355
16"	-	400
18"	-	450

Aqua Plus SDR 6 - PPR 100 PIPES (PN 20)

AQUA PLUS SINGLE LAYER PIPE SDR 6					
EXTERNAL DIAMETER (mm)	WALL THICKNESS (mm)	INTERNAL DIAMETER (mm)	WATER CAPACITY (l/m)	PIPE WEIGHT (kgr/m)	PACKAGING (m)
20	3,4	13,2	0,137	0,172	100
25	4,2	16,6	0,216	0,267	80
32	5,4	21,2	0,353	0,435	60
40	6,7	26,6	0,556	0,671	40
50	8,4	33,2	0,866	1,050	16
63	10,5	42,0	1,385	1,650	12
75	12,5	50,0	1,963	2,340	8
90	15,0	60,0	2,827	3,400	4
110	18,4	73,2	4,208	5,040	4



SINGLE LAYER PIPE SDR 6

Pipe structure:
Single layer

Pipe series:
SDR 6/S 2.5

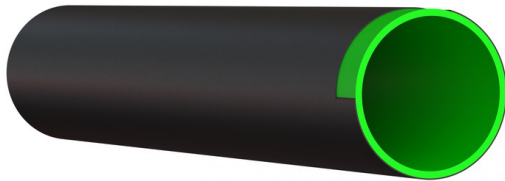
Material:
PP-R 100

Standards:
DIN 8077/78, EN ISO 15874

Colour:
GREEN

Lengths:
20-110 mm straight lengths 4m

AQUA - PLUS SDR 7,4 (PN20) PP-R 125 with UV black layer



The SDR 7,4 Aqua-Plus UV pipes are designed, manufactured and tested for their quality according to the standards that are valid for the normal polypropylene pipes (EN ISO 15874 & DIN 8077/78).

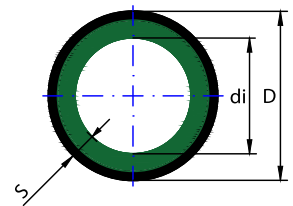
Interplast adds a stabilizer for solar radiation (UV protected) to all types of pipes and fittings, so they can remain exposed to the sun for up to 5 years depending on the climatic conditions of each area.

For applications where the pipes will be exposed for a longer period of time, Interplast offers pipes with a special black UV layer made of polypropylene.

TIP: The pipe welding is done with the same tools and mainly there is no need to peel (scrap) before welding.

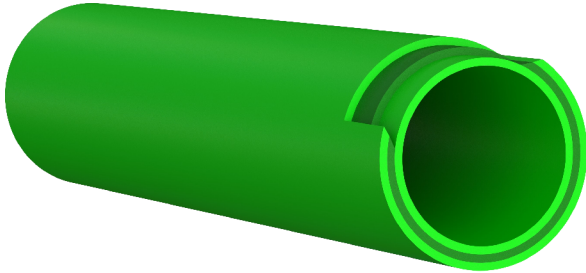
NOTE: In any case, for a much longer lifespan, the pipes and fittings should be protected.

*upon request with glass fiber



Aqua Plus (SL) UV PP-R 125 - PN 20 - SDR 7,4						SINGLE LAYER PIPE SDR 7,4
EXTERNAL DIAMETER (mm)	WALL THICKNESS (mm)	INTERNAL DIAMETER (mm)	WATER CAPACITY (l/m)	PIPE WEIGHT (kg/m)	PACKAGING (m)	Pipe structure: Single layer +UV layer
SOCKET WELDING						Pipe series: SDR 7,4/ S 3.2
20	2,8	14,4	0,163	0,19	100	Material: PP-R 125
25	3,5	18,0	0,254	0,29	80	Standards: DIN 8077/78, EN ISO 15874
32	4,4	23,2	0,423	0,47	60	Colour: BLACK, inside green
40	5,5	29,0	0,660	0,72	40	Lengths: 20-110 mm straight lengths 4m 160 mm straight lengths 5,8m
50	6,9	36,2	1,029	1,10	16	
63	8,6	45,8	1,647	1,73	12	
75	10,3	54,4	2,323	2,45	8	
90	12,3	65,4	3,358	3,37	4	
110	15,1	79,8	4,999	5,10	4	

Aqua plus PP - R 125 SDR 7,4 with fiberglass (PN 20)



Interplast, apart from the simple polypropylene Random pipes manufactures polypropylene three-layer pipes PP-R MRS 125 MPa (new generation) with fiberglass and wall thickness that corresponds to SDR 7,4.

The polypropylene used for the multi-layered pipes Aqua-Plus-Fiberglass (with mechanical support in the middle layer) is characterized as polypropylene random with high mechanical endurance and long lifespan, in contrast to the single PP-R in the category MRS 8.0 MPa (PP-R 80). Press endurance of pipes **PP-R 125 with SDR 7,4 at 20°C is 25% greater in relation to the pipes PPR 80.**

The Aqua-Plus-GF pipes are designed, manufactured and tested for their quality according to the standards that are valid for the normal polypropylene pipes (EN ISO 15874 & DIN 8077/78).

**upon request available in single layer.*

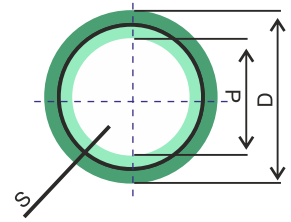
Advantages

- Reduction of the thermal linear expansion by 75% in relation to the normal PP - R pipes because of glass-fiber.
- Increase of the mechanical endurance of the pipe in the inner hydrolic pressures per 25% (for the SDR 7,4).
- Increase in the chemical endurance of the pipe against to corrosion
- High stiffness of the pipes
- Greater quantity of conveyed water
- Increase in the life of service
- UV stabilizers
- Metal deactivators

*The thermal welding of this type of pipe with the polypropylene fittings are carried out in the same easy way as in the simple pipes.

AQUA PLUS MULTILAYER PIPE SDR 7,4

EXTERNAL DIAMETER (mm)	WALL THICKNESS (mm)	INTERNAL DIAMETER (mm)	WATER CAPACITY (l/m)	PIPE WEIGHT (kg/m)	PACKAGING (m)
SOCKET WELDING					
20	2,8	14,4	0,163	0,158	100
25	3,5	18,0	0,254	0,246	80
32	4,4	23,2	0,423	0,394	60
40	5,5	29,0	0,660	0,613	40
50	6,9	36,2	1,029	0,955	16
63	8,6	45,8	1,647	1,500	12
75	10,3	54,4	2,323	2,135	8
90	12,3	65,4	3,358	3,058	4
110	15,1	79,8	4,999	4,576	4
125	17,1	90,8	6,472	5,891	4
BUTT WELDING					
160	21,9	116,2	10,599	9,538	5,8
200	27,4	145,2	16,550	14,944	5,8
250	34,2	181,6	25,901	23,312	5,8



GLASS FIBER PIPE SDR 7,4

Pipe structure:
Glass fiber reinforced layer

Pipe series:
SDR 7,4/ S 3.2

Material:
PP-R 125

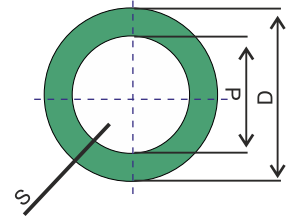
Standards:
DIN 8077/78, EN ISO 15874
EN ISO 21003

Colour:
GREEN

Lengths:
20-110 mm straight lengths 4m
160-250 mm straight lengths 5,8m

AQUA PLUS SINGLE LAYER PIPE SDR 7,4

EXTERNAL DIAMETER (mm)	WALL THICKNESS (mm)	INTERNAL DIAMETER (mm)	WATER CAPACITY (l/m)	PIPE WEIGHT (kg/m)	PACKAGING (m)
SOCKET WELDING					
20	2,8	14,4	0,163	0,15	100
25	3,5	18,0	0,254	0,23	80
32	4,4	23,2	0,423	0,37	60
40	5,5	29,0	0,660	0,57	40
50	6,9	36,2	1,029	0,88	16
63	8,6	45,8	1,647	1,38	12
75	10,3	54,4	2,323	1,96	8
90	12,3	65,4	3,358	2,81	4
110	15,1	79,8	4,999	4,23	4
125	17,1	90,8	6,472	5,41	4
BUTT WELDING					
160	21,9	116,2	10,599	8,79	5,8
200	27,4	145,2	16,550	13,70	5,8
250	34,2	181,6	25,901	21,22	5,8



SINGLE LAYER PIPE SDR 7,4

Pipe structure:
Single layer

Pipe series:
SDR 7,4/ S 3.2

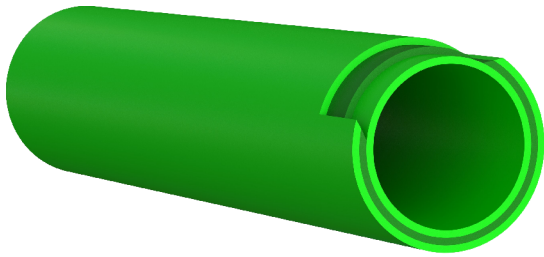
Material:
PP-R 125

Standards:
DIN 8077/78, EN ISO 15874

Colour:
GREEN

Lengths:
20-110 mm straight lengths 4m
160-250 mm straight lengths 5,8m

Aqua Plus PP - R 125 SDR 11 (clima type) with fiberglass (PN 16)



The SDR 11 Aqua-Plus-GF pipes are designed, manufactured and tested for their quality according to the standards that are valid for the normal polypropylene pipes (EN ISO 15874 & DIN 8077/78).

Applications

- Chilled water
- Cooling towers
- Cold water distribution
- Heating distribution
- Industrial Application
- Condensed water systems
- Connection with manifolds

**upon request available
in single layer.*

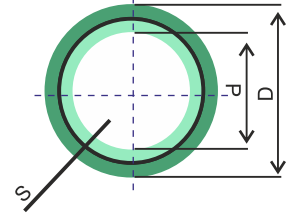


Advantages

- Heat fusion technic
(autogenous welding)
- Corrosion resistance
- No scaling
- Frost resistance
- Limited heat loss
- Low noise
- Resistance to abrasion
- Resistance to stray currents
- High durability
- Lighter pipe
- Greater quantity of conveyed water
- UV stabilizers
- Metal deactivators

AQUA PLUS MULTILAYER PIPE SDR 11

EXTERNAL DIAMETER (mm)	WALL THICKNESS (mm)	INTERNAL DIAMETER (mm)	WATER CAPACITY (l/m)	PIPE WEIGHT (kg/m)	PACKAGING (m)
SOCKET WELDING					
32	2,9	26,2	0,539	0,275	60
40	3,7	32,6	0,834	0,435	40
50	4,6	40,8	1,307	0,674	16
63	5,8	51,4	2,074	1,065	12
75	6,8	61,4	2,959	1,48	8
90	8,2	73,6	4,252	2,15	4
110	10,0	90,0	6,359	3,18	4
125	11,4	102,2	8,199	4,13	4
BUTT WELDING					
160	14,6	130,8	13,430	6,75	5,8
200	18,2	163,6	21,010	10,51	5,8
250	22,7	204,6	32,861	16,36	5,8
315	28,6	257,8	52,172	25,96	5,8
355	32,2	290,60	66,29	32,94	5,8
400	36,3	327,6	84,29	41,82	5,8
450	40,9	368,2	106,48	52,93	5,8



GLASS FIBER PIPE SDR 11

Pipe structure:
Glass fiber reinforced layer

Pipe series:
SDR 11/ S 5

Material:
PP-R 125

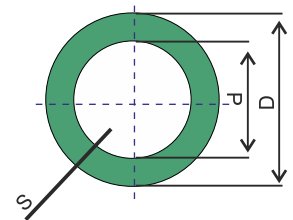
Standards:
DIN 8077/78, EN ISO 15874
EN ISO 21003

Colour:
GREEN

Lengths:
20-125 mm straight lengths 4m
160-450 mm straight lengths 5,8m

AQUA PLUS SINGLE LAYER PIPE SDR 11

EXTERNAL DIAMETER (mm)	WALL THICKNESS (mm)	INTERNAL DIAMETER (mm)	WATER CAPACITY (l/m)	PIPE WEIGHT (kg/m)	PACKAGING (m)
SOCKET WELDING					
32	2,9	26,2	0,539	0,26	60
40	3,7	32,6	0,834	0,40	40
50	4,6	40,8	1,307	0,63	16
63	5,8	51,4	2,074	0,99	12
75	6,8	61,4	2,959	1,37	8
90	8,2	73,6	4,252	1,99	4
110	10,0	90,0	6,359	2,96	4
125	11,4	102,2	8,199	3,84	4
BUTT WELDING					
160	14,6	130,8	13,430	6,22	5,8
200	18,2	163,6	21,010	9,76	5,8
250	22,7	204,6	32,861	15,00	5,8
315	28,6	257,8	52,172	23,70	5,8
355	32,20	290,60	66,29	30,00	5,8
400	36,30	327,40	84,29	38,00	5,8
450	40,90	368,2	106,48	48,00	5,8



SINGLE LAYER PIPE SDR 11

Pipe structure:
Single layer

Pipe series:
SDR 11/ S 5

Material:
PP-R 125

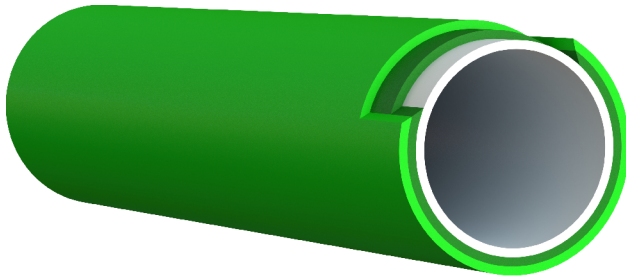
Standards:
DIN 8077/78, EN ISO 15874

Colour:
GREEN

Lengths:
20-110 mm straight lengths 4m
160-450 mm straight lengths 5,8m

Aqua Plus / PP - RCT - SDR 9 with fiberglass (PN 20)

The Aqua-Plus-GF pipes are designed, manufactured and tested for their quality according to the standards **ASTM F2389, NSF, EN ISO 15875 and DIN 8077/78.**



The Aqua-Plus pipes PP - RCT are manufactured with wall thicknesses that corresponds to SDR 9, with possibility of continuous operation under pressure of 20 bar at 20°C (PN 20) for period of time more than 50 years and to SDR 17 with possibility of continuous operation under pressure of 10 bar at 20°C (PN 10) for the same period of time.

PP - RCT is a polypropylene of random polymerization of modified crystallinity with the following characteristics:

Higher strength than normal PP - R, ASTM 2389 according to **EN 15874** and DIN 8077, especially in high temperature.

For example, normal PP - R, at 80°C with SDR 7.4 for 25 years will have max operating pressure 5.1 bar while the PP - RCT , at 80°C with SDR 9 for 25 years, will have max operating pressure at 7.2 bar.

This property of the material allows us to proceed in reducing wall thickness and increasing the quality of the network.

According to European norms, **PP - RCT has no transition and change in the regression curves of hydraulic resistance**, due to excellent behavior in aging.

Based on these data, the above material is recommending to a very demanding **district heating and cooling installations**, even when the temperature reach **100°C.**

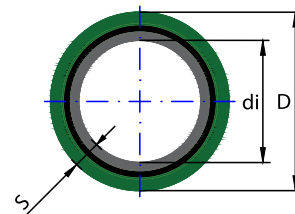
tip : PP-RCT has four times better resistance to the chlorinated water compared to normal PP-R.

*upon request available in single layer.

*upon request SDR 7,4 PP-RCT (PN 25)

AQUA PLUS MULTILAYER PIPE SDR 9

EXTERNAL DIAMETER (mm)	WALL THICKNESS (mm)	INTERNAL DIAMETER (mm)	WATER CAPACITY (l/m)	PIPE WEIGHT (kg/m)	PACKAGING (m)
SOCKET WELDING					
20 (sdr 7,4)	2,8	14,4	0,163	0,158	100
25 (sdr 7,4)	3,5	18,0	0,254	0,246	80
32	3,6	24,8	0,483	0,32	60
40	4,5	31,0	0,754	0,51	40
50	5,6	38,8	1,182	0,791	16
63	7,1	48,8	1,869	1,26	12
75	8,4	58,2	2,659	1,77	8
90	10,1	69,8	3,83	2,55	4
110	12,3	85,4	5,72	3,78	4
125	14,0	97,0	7,386	4,88	4
BUTT WELDING					
160	17,9	124,2	12,11	7,98	5,80
200	22,4	155,2	18,91	12,48	5,80
250	27,9	194,20	29,61	19,42	5,80
315	35,2	244,6	46,97	30,87	5,80
355	39,7	275,6	59,63	39,2	5,80



GLASS FIBER PIPE SDR 9

Pipe structure:
Glass fiber reinforced layer

Pipe series:
SDR 9/ S 4

Material:
PP-RCT

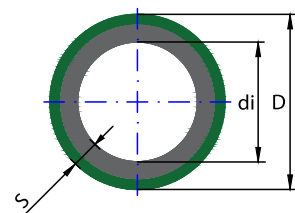
Standards:
DIN 8077/78, EN ISO 15874
ASTM F389, CSA 137.11
EN ISO 21003

Colour:
GREEN, inside grey

Lengths:
32-125 mm straight lengths 4m
160-355 mm straight lengths 5,8m

AQUA PLUS SINGLE LAYER PIPE SDR 9

EXTERNAL DIAMETER (mm)	WALL THICKNESS (mm)	INTERNAL DIAMETER (mm)	WATER CAPACITY (l/m)	PIPE WEIGHT (kg/m)	PACKAGING (m)
SOCKET WELDING					
20 (sdr 7,4)	2,8	14,4	0,163	0,15	100
25 (sdr 7,4)	3,5	18,0	0,254	0,23	80
32	3,6	24,8	0,483	0,31	60
40	4,5	31,0	0,754	0,49	40
50	5,6	38,8	1,182	0,755	16
63	7,1	48,8	1,869	1,200	12
75	8,4	58,2	2,659	1,690	8
90	10,1	69,8	3,83	2,440	4
110	12,3	85,4	5,72	3,620	4
125	14,0	97,0	7,386	4,63	4
BUTT WELDING					
160	17,9	124,2	12,110	7,54	5,8
200	22,4	155,2	18,91	11,70	5,8
250	27,9	194,20	29,61	18,16	5,8
315	35,2	244,6	46,97	28,68	5,8
355	39,7	275,6	59,63	35,35	5,8



SINGLE LAYER PIPE SDR 9

Pipe structure:
Single layer

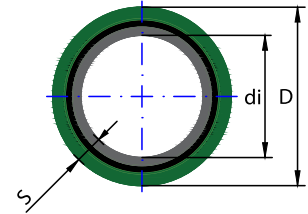
Pipe series:
SDR 9/ S 4

Material:
PP-RCT

Standards:
DIN 8077/78, EN ISO 15874
ASTM F389, CSA 137.11

Colour:
GREEN, inside grey

Lengths:
20-110 mm straight lengths 4m
160-450 mm straight lengths 5,8m



AQUA PLUS MULTILAYER PIPE SDR 17					
EXTERNAL DIAMETER (mm)	WALL THICKNESS (mm)	INTERNAL DIAMETER (mm)	WATER CAPACITY (l/m)	PIPE WEIGHT (kgr/m)	PACKAGING (m)
SOCKET WELDING					
125	7,4	110,2	9,54	2,65	4
BUTT WELDING					
160	9,5	141,0	15,61	4,47	5,8
200	11,9	176,2	24,37	7,12	5,8
250	14,8	220,4	38,13	11,02	5,8
315	18,7	277,6	60,49	17,45	5,8
355	21,1	312,80	76,81	22,09	5,8
400	23,7	352,60	97,60	27,94	5,8
450	26,7	396,60	123,64	34,16	5,8

GLASS FIBER PIPE SDR 17

Pipe structure:
Glass fiber reinforced layer

Pipe series:
SDR 17/ S 8

Material:
PP-RCT

Standards:
DIN 8077/78, EN ISO 15874
ASTM F389, CSA 137.11
EN ISO 21003

Colour:
GREEN, inside grey

Lengths:
125-450 mm straight lengths 5,8m

*upon request single layer SDR 17

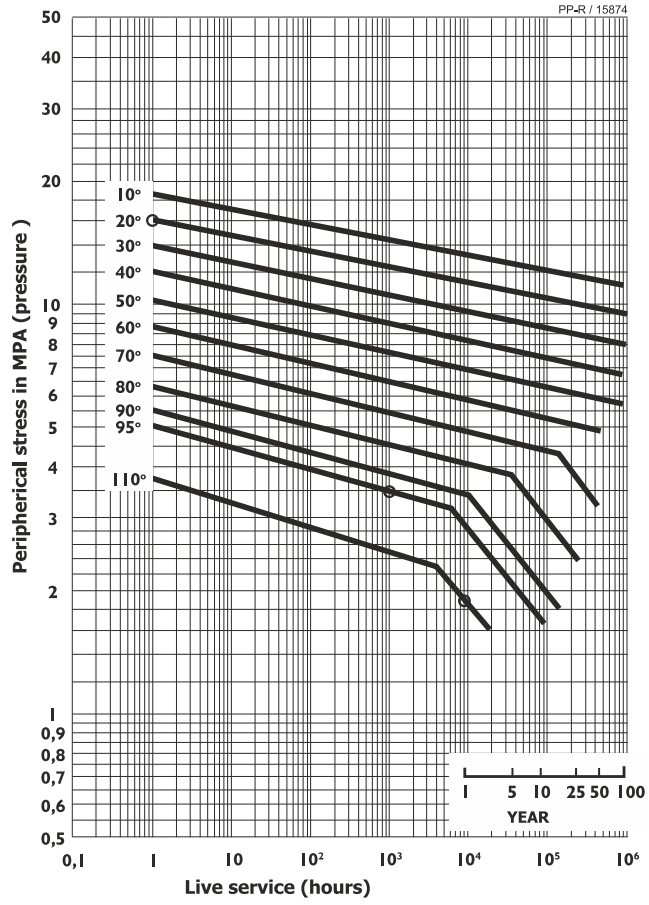
PRE FABRICATED MANIFOLDS BY INTERPLAST

OBJECT	QUANTITY	DESCRIPTION	DIMENSION
1	1	PRE-INSULATED PIPE PERKAL AQUA PLUS PRINS Ø250/100 UV PROTECTION	500mm
2	1	END CAP Ø63	
3	1	PROFILED FLANGE-END CAP Ø100	
4	1	SOCKET Ø63	
5	1	REDUCING BUSH Ø63/32	
6	1	BALL VALVE UNION BLOCKED Ø32	
7	1	COUPLING FEMALE Ø32x1	
8	6	SADDLE SOCKET Ø63/20	
9	6	BALL VALVE UNION BLOCKED Ø20	
10	6	COUPLING FEMALE Ø20x1/2	
11	2	SUPPLY SADDLE FEMALE Ø63x1/2x25	
		PIPE AQUA PLUS CLIMA WITH FIBERGLASS Ø20 UV PROTECTION	600mm

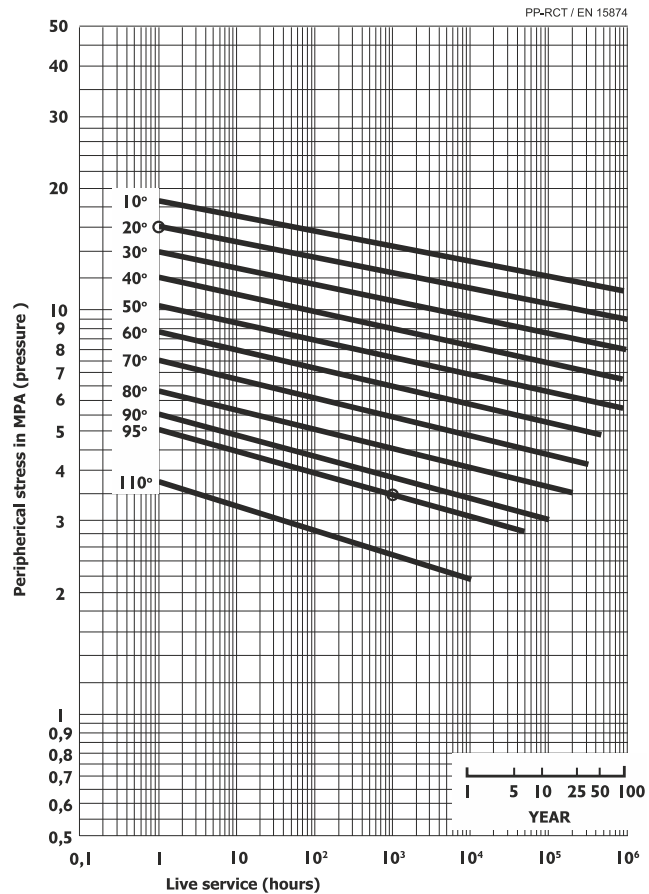
PP-R vs PP-RCT

Aquaplus

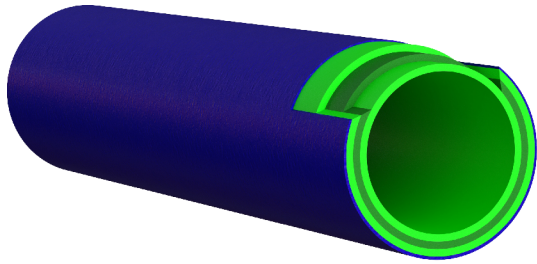
PP-R



PP-RCT



AQUA PLUS PP-R 125 5-LAYER PIPE SDR 7,4 / 11

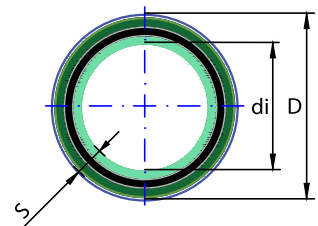


The new PP - R pipe OT with fiberglass, launches an oxygen tight pipe. This type tested according to EN 17455 and EN ISO 21003 for oxygen permeability to plastic piping system (PP - R) with an oxygen barrier layer.

Advantages

- Oxygen tight by diffusion barrier (colored EVOH layer)
- Absolutely corrosion and scaling resistance
- Suitable material for closed loop water circuits
- The pipes from 20mm up to 160mm bear EVOH layer and the the pipes from 200mm up to 450mm contain special additives which bear the same result, combining with the wall thickness and the geometry of the pipe.
- In all the aforementioned pipes are printed "Oxygen Tight" as the International Standards demand and additionally they **are certified by the KIWA Netherland institute.**

AQUA PLUS 5-LAYER PIPE SDR 7,4/11					
EXTERNAL DIAMETER (mm)	WALL THICKNESS (mm)	INTERNAL DIAMETER (mm)	WATER CAPACITY (l/m)	PIPE WEIGHT (kgr/m)	PACKAGING (m)
SOCKET WELDING					
20 (sdr 7,4)	2,8	14,4	0,163	0,20	100
25 (sdr 7,4)	3,5	18,0	0,254	0,31	80
32	2,9	26,2	0,539	0,35	60
40	3,7	32,6	0,834	0,55	40
50	4,6	40,8	1,307	0,83	16
63	5,8	51,4	2,074	1,27	12
75	6,8	61,4	2,959	1,73	8
90	8,2	73,6	4,252	2,50	4
110	10,0	90,0	6,359	3,74	4
125	11,4	102,2	8,199	4,80	4
BUTT WELDING					
160	14,6	130,8	13,430	6,80	5,8



GLASS FIBER PIPE + O.T. SDR 7,4 & 11

Pipe structure:
Glass fiber reinforced layer + O.T.

Pipe series:
SDR 7,4/ S 3,2 & SDR 11/ S5

Material:
PP-R 125

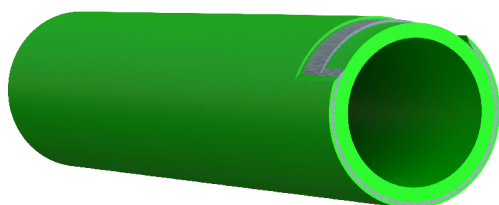
Standards:
DIN 8077/78, EN ISO 15874
EN ISO 21003

Colour:
GREEN - BLUE (EVOH layer)

Lengths:
20-125 mm straight lengths 4m
160 mm straight lengths 5,8m

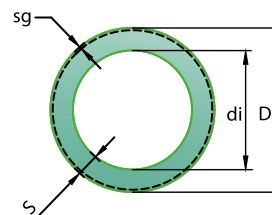
Aqua Plus PP - R 125 / SDR 7,4 with Aluminium

The Aqua-Plus pipes with aluminium are designed, manufactured and tested for their quality according to the standards that are valid for the simple polypropylene pipes. Aqua-Plus-AL pipes are manufactured from PP - R 125 and wall thicknesses that corresponds to SDR 7,4, with possibility of continuous operation under pressure of 20 bar at 20°C(PN 20) for period of time more than 50 years.



ADVANTAGES

- Reduction of thermal linear expansion by 85% compared to simple polypropylene pipes.
- Increase of pipe's mechanical strength against external impact
- Increase of pipe's mechanical strength against internal hydraulic pressures by 15%
- The thermal-welding of the new pipes with the polypropylene fittings are as easy as in simple pipes, after their ends being processed with a scraper.



ALUMINIUM PIPE SDR 7,4

AQUA PLUS MULTILAYER PIPE SDR 7,4					
EXTERNAL DIAMETER (mm)	WALL THICKNESS (mm)	INTERNAL DIAMETER (mm)	WATER CAPACITY (l/m)	PIPE WEIGHT (kg/m)	PACKAGING (m)
SOCKET WELDING					
20	2,8	14,4	0,163	0,178	100
25	3,5	18,0	0,254	0,263	80
32	4,4	23,2	0,423	0,42	60
40	5,5	29,0	0,660	0,63	40
50	6,9	36,2	1,029	0,96	16
63	8,6	45,8	1,647	1,48	12
75	10,3	54,4	2,323	2,08	8
90	12,3	65,4	3,358	2,96	4
110	15,1	79,8	4,999	4,40	4

Pipe structure:
Aluminium reinforced layer

Pipe series:
SDR 7,4/ S 3,2

Material:
PP-R 125

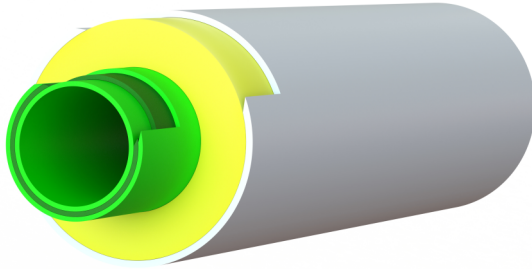
Standards:
DIN 8077/78, EN ISO 15874

Colour:
GREEN

Lengths:
20-110 mm straight lengths 4m

*In the external diameter the aluminum layer and the outside PP-R layer are not included

Preinsulated PP - R system Aqua Plus Prins



The Aqua Plus Prins pipes is insulated externally with uniform insulation of closed cell polyurethane rigid foam. Polyurethane foam is in accordance with and substantially overlaps, the quality characteristics defined by standard EN 253. The outside layer is from PVC in accordance with standard EN 1329.

Application Area

- Visible-non visible district heating and cooling networks
- Visible-non visible heating networks
- Underground networks for distribution of hot and cold water
- Industrial cooling-heating networks
- Geothermal networks.
- Transportation of chemical fluids.



Advantages

- Reducing of energy loses over 70%
- No maintenance for 50 years.
- Stable λ (lamda) over the years.
- Sparse and simple bracketing due to the low thermal and the low bending of pre insulated pipes.
- Linear thermal expansion less than copper
- Increased mechanical strength
- Zero condensations
- UV protection
- Fire resistance (B - s2 - d0)
- Oxygen tight system
- Non oxygen permeability. According to EN 17455, EN 21003. It is the only one system in the world that pipes and fittings contribute the block of oxygen.
- The wall thickness of the insulation is totally compatible with standard 90.1-2010 & 2012 of ASHRAE which is prerequisite for the certification of the buildings by LEED.

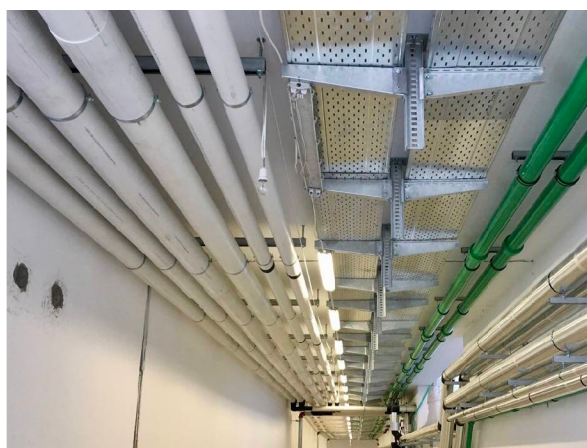


Upon request Interplast can produce pipes with polyethylene outer layer, as well as the production of pipes with a bigger outer cross-section.

Pre-insulated pipes are accompanied by a full range of fittings.

PUR DATA

TECHNICAL DATA	COMPACT POLYURETHANE FOAM
Cyclopentane	> 8%
Density	> 60 Kgr/m ³
Closed cell content	> 88%
Water absorption	< 10% (Vol)
Compression strength 10% deformation	> 0,3 N/mm ²
Shearing resistance	> 0,12 N/mm ²
Tangent shearing resistance	> 0,20 N/mm ²
Thermal conductivity coefficient	0,021 W/mK




Pre Insulated PP - R

System analysis

Technical data of

Aquaplus Prins system

- Thermal operating conditions - 40°C to + 80°C
- Fluid temperature limits: - 10°C to + 95°C
- Linear expansion coefficient of system PPR / PUR / M-PVC :  = 0,016 mm/m·K
- European classification of building products according EN13501-1 : B-s2-d0

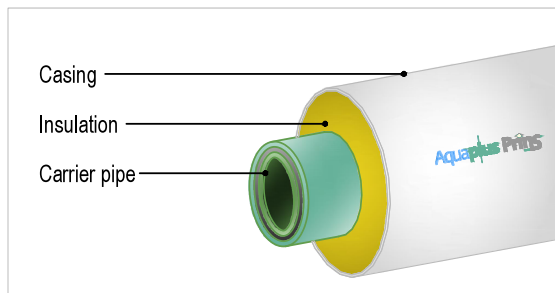


Fig.1 Aqua plus Prins[®] structure

Insulation

PUR Rigid Foam properties	Value	Standard
Thermal conductivity of insulation λ_{50}	0,028 [W/m·K]	EN 15632
Density	60 [Kg/m ³]	EN 253
Closed cell	> 90 [%]	EN 8497
Water absorption	< 10[%] Vol	EN 15632-1
Shearing resistance	> 0,12 [N/mm ²]	-
Tangent shearing resistance	> 0,20 [N/mm ²]	-
Compression strength 10% deformation	> 0,3 [N/mm ²]	-

Tab.2 Technical data of PUR insulation acc. EN 253

Casing (jacket)

Description	Value	Standard
Modified Poly-vinyl Chloride	M-P.V.C	-
Thermal conductivity of casing pipe λ_{50}	0,23 [W/m·K]	EN 8497
Modulus of elasticity	3000 [N/mm ²]	-
Density	1,43 [g/cm ³]	ISO 527-2
Coefficient of linear expansion	0,06 [mm/m·K]	-

Tab.3 Technical data of casing pipe

Carrier pipe

Description	Value	Standard
PP-R Glass Fiber	PP-R PP-RCT	DIN8077/78
Thermal conductivity λ at 20°C	0,17 [W/m·K]	ISO 3146
Thermal conductivity λ at 50°C	0,24 [W/m·K]	EN 8497
Dimensions :		
Ø20-125mm straight length	4,0 [m]	-
Ø160-315mm straight length	5,8 [m]	-
Modulus of elasticity 10°C_1min	1250 [N/mm ²]	ISO 527
Tensile strength	38 [N/mm ²]	ISO 527-2
Tensile stress at break	> 430 [%]	ISO 527-2
Coefficient of linear expansion	0,030 [mm/m·K]	DIN 53752

Tab.1 Technical data for 3-layer carrier pipe



Since 01/01/2015 the produced M-PVC pipes are free of lead (Pb-free).

Lead stabilizers have been replaced with organic stabilizers (OBS) or calcium / zinc stabilizers (Ca / Zn)

whose ingredients are labeled ecologically and are not included in the REACH list of materials to be removed.

Pre Insulated PP - R

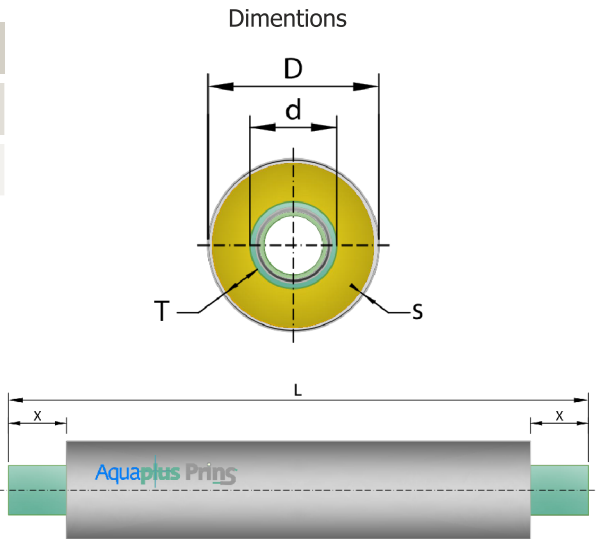


Fig.2 Aqua Plus section

Dimensions						
Size	d _{PP} [mm]	D _{PVC} [mm]	s _{PVC} [mm]	T _{Insulation} [mm]	X _{Free} [mm]	L _{system} [m]
20/63	20	63	2,2	19,3	150	4,0
25/63	25	63	2,2	16,8		
32/63	32	63	2,2	13,3		
40/75	40	75	2,2	15,3		
50/90	50	90	2,2	17,8		
63/100	63	100	2,5	16,0	225	5,8
75/125	75	125	2,5	22,5		
90/140	90	140	3,2	21,8		
110/160	110	160	3,2	21,8		
125/200	125	200	3,5	34,0		
160/225	160	225	4,5	28,0		
200/250	200	250	4,5	20,5		
250/315	250	315	6,0	26,5	315/400	315
315/400	315	400	8,2	34,3		

Prins

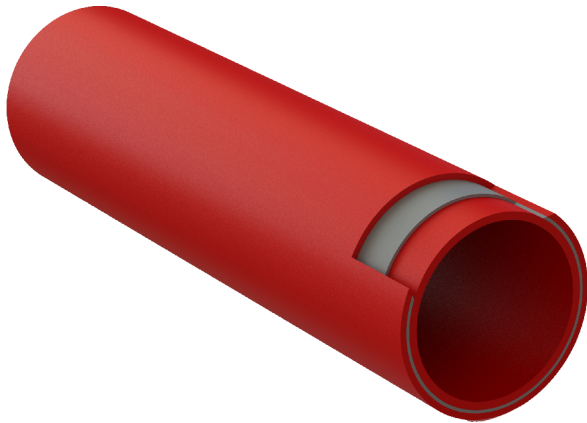
Weights			
SDR 7,4 [Kg/m] _A	SDR 9 [Kg/m] _B	SDR 11 [Kg/m] _Γ	SDR 17 [Kg/m] _Δ
0,96 Kg/m	-	-	-
1,03 Kg/m	-	-	-
1,14 Kg/m	1,08 Kg/m	1,03 Kg/m	-
1,53 Kg/m	1,44 Kg/m	1,36 Kg/m	-
2,09 Kg/m	1,95 Kg/m	1,83 Kg/m	-
2,85 Kg/m	2,64 Kg/m	2,45 Kg/m	-
3,57 Kg/m	3,26 Kg/m	2,98 Kg/m	-
5,03 Kg/m	4,59 Kg/m	4,19 Kg/m	-
7,32 Kg/m	6,64 Kg/m	6,04 Kg/m	-
10,26 Kg/m	9,19 Kg/m	8,42 Kg/m	-
14,93 Kg/m	13,51 Kg/m	12,27 Kg/m	10,05 Kg/m
20,31 Kg/m	18,09 Kg/m	16,11 Kg/m	12,69 Kg/m
-	-	25,82 Kg/m	20,47 Kg/m
-	-	42,34 Kg/m	33,86 Kg/m

Water content			
SDR 7,4 [lt/m] _A	SDR 9 [lt/m] _B	SDR 11 [lt/m] _Γ	SDR 17 [lt/m] _Δ
0,163 l/m	-	-	-
0,254 l/m	-	-	-
0,423 l/m	0,483 l/m	0,539 l/m	-
0,661 l/m	0,754 l/m	0,835 l/m	-
1,029 l/m	1,182 l/m	1,307 l/m	-
1,647 l/m	1,869 l/m	2,075 l/m	-
2,324 l/m	2,659 l/m	2,961 l/m	-
3,359 l/m	3,825 l/m	4,254 l/m	-
5,001 l/m	5,725 l/m	6,362 l/m	-
6,475 l/m	7,386 l/m	8,203 l/m	-
10,605 l/m	12,109 l/m	13,437 l/m	15,614 l/m
16,559 l/m	18,908 l/m	21,021 l/m	24,383 l/m
-	-	32,878 l/m	38,151 l/m
-	-	52,198 l/m	60,493 l/m

Tab.4 Table of preinsulated systems. The insulation properties are according to the requirements of EN 253.

- Not produced sizes or combinations.

The sum of the columns e.g. $[A] + [A]$ or $[B] + [B]$ in corresponding lines equals the total weight (Prins+water).



POLYPROPYLENE PIPING SYSTEM FOR FIREFIGHTING NETWORKS

Interplast offers a complete range of Polypropylene pipes and fittings for installation of firefighting systems, under the brand name of **FireFighter Plus**.

FireFighting system provides **high fire resistance**. It is suitable for installations in hotels, malls, office buildings, roofed parking, warehouses and other light and ordinary hazard buildings.

Interplast, using the latest technology of raw materials, delivers a system difficult to ignite. During the fire, FireFighter system does not produce flaming particles and/or droplets and harmful smoke emission. The system is classified as **C, s1, d0** category according to EN 13501, achieving the highest possible classification for plastic (polymer) material against fire.

ADVANTAGES

- **Certified system from AENOR according to EN 13501.**
- High resistance against corrosion. Uninterrupted water flow to fire sprinklers
- Easy and fast installation
- Low construction weight, easy transportation and reduced work costs
- Piping protection is not required like galvanized piping. The Polypropylene pipes and fittings are factory pre-colored with red color, no additional marking needed
- Low maintenance service life
- Absence of corrosive phenomenon
- Class C-s1-d0 according to EN 13501 (European Standard for Fire classification)
- Connection using fusion welding, no additional equipment needed



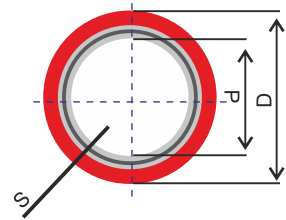
COMPARISON OF THE INSTALLATION TIME

	Metal pipe	Plastic pipe
Connection method	mechanical compression	autogenous welding
Necessary labors	at least 2 persons	1 person
Average installation time for 1 Connection	10-20 min	30s - 2 min

Pipe is reinforced with special fiber inner layer, providing high mechanical strength. System follows standards: EN ISO 13501, EN ISO 12845, EN ISO 13823, EN ISO 11925 EN ISO 15874, EN 21003, NFPA 13, UL 1821, DVS 2207.

Significant Note: The European EN 13501 specifies the resistance and reaction to fire classification procedure for all products and building elements and describes product's flammability, the emission of smoke and the production of burning particles and/or droplets. **EN 13501 is the most valid standard and above of all national standards for fire classification of products and building elements and compared to all EU national standards it follows tighter rules.** For example, DIN4102 classifies as B1 category products with classification ranges from B-s1-d0 up to C-s3-d2.

FIRE FIGHTER MULTILAYER PIPE SDR 7,4					
EXTERNAL DIAMETER (mm)	WALL THICKNESS (mm)	INTERNAL DIAMETER (mm)	WATER CAPACITY (l/m)	PIPE WEIGHT (kgr/m)	PACKAGING (m)
SOCKET WELDING					
20	2,8	14,4	0,163	0,173	100
25	3,5	18,0	0,254	0,270	80
32	4,4	23,2	0,423	0,433	60
40	5,5	29,0	0,660	0,674	40
50	6,9	36,2	1,029	1,050	16
63	8,6	45,8	1,647	1,650	12
75	10,3	54,4	2,323	2,348	8
90	12,3	65,4	3,358	3,363	4
110	15,1	79,8	4,999	5,023	4
125	17,1	90,8	6,472	6,479	4



GLASS FIBER PIPE SDR 7,4

Pipe structure:
Glass fiber reinforced layer

Pipe series:
SDR 7,4/ S 3,2

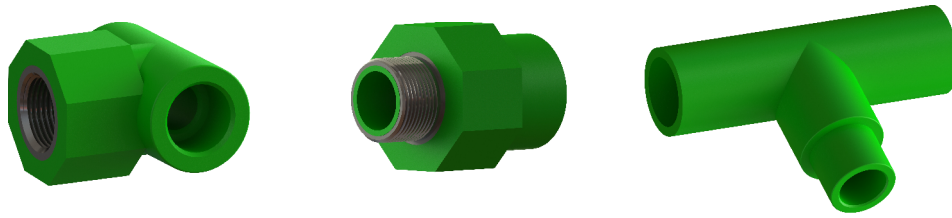
Material:
PP-R + FV

Standards:
DIN 8077/78, EN ISO 15874
EN ISO 21003

Colour:
RED

Lengths:
20-125 mm straight lengths 4m





Certified Fittings Aqua plus PN 30

The fittings are manufactured in accordance with DIN 16962 from Polypropylene Random (Type 3) and available in **dimensions from 20 mm up to 450 mm.**

ADVANTAGES

- Interplast uses raw material with a low melt flow index, identical to that of its pipes so that the mechanical strength of the pipe does not differ from that of the fittings.
- The fittings up to 125mm are PN 30. The nominal pressure (PN) for dimensions 160mm -450mm are depends of the wall thickness.
- Reinforced pressure tests (100 bar compared to 64 bar for the PN20 series).
- The PP-R overlaps the male brass inserts inside.
- The brass parts are reinforced, heavy-duty and low hardness (105 Brinell) thus eliminating the possibility of cracking, which is particularly common in fittings with female threading.

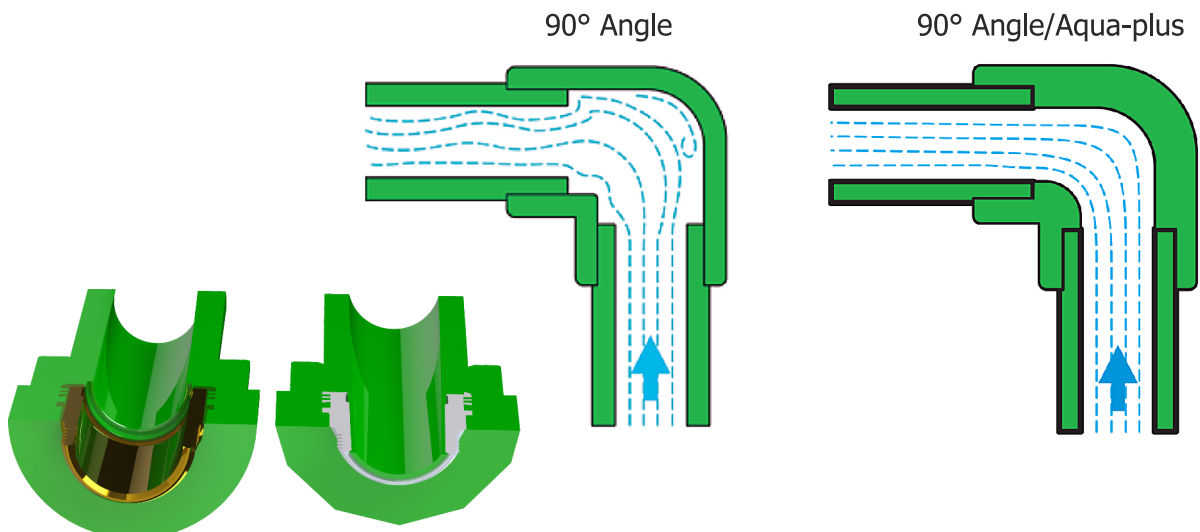


Table of service life

The EN and DIN standards are exceeded due to raw material quality and highly quality characteristics of the additives.

The high level laboratory equipment of the company has made it possible to check the strength of the raw materials and to derive the corresponding hydraulic resistance diagrams and to determine the strength of our pipes in relation to temperature and service live duration.

TABLE OF SERVICE LIFE						
Temperature (°C)	Service life (year)	Operating pressure PP-R 80 SDR 6 (bar)	Operating pressure PP-R 125 SDR 7,4 (bar)	Operating pressure PP-RCT SDR 9 (bar)	Operating pressure PP-R 125 SDR 11 (bar)	Operating pressure PP-RCT SDR 17 (bar)
10	1	35,2	36,2	35,6	27,8	17,8
	5	33,1	35,1	34,5	26,2	17,3
	10	32,3	34,7	34,1	25,6	17,0
	25	31,2	34,1	33,5	24,7	16,6
	50	30,4	33,6	33	24,1	16,5
	100	29,6	33,2	32,6	23,5	16,2
20	1	29,9	31,5	31,3	23,8	15,7
	5	28,3	30,5	30,3	22,3	15,2
	10	27,5	30,1	29,9	21,7	15,1
	25	26,7	29,6	29,4	21,0	14,7
	50	25,9	29,2	29	20,4	14,6
	100	25,1	28,8	28,6	19,9	14,4
30	1	25,6	27,6	27,3	20,2	13,6
	5	24,0	26,4	26,4	18,9	13,2
	10	23,2	26,0	26,0	18,4	13,0
	25	22,4	25,5	25,5	17,8	12,7
	50	21,9	25,1	25,1	17,3	12,3
40	1	21,6	23,5	23,6	17,1	11,7
	5	20,3	22,6	22,7	16,0	11,3
	10	19,7	22,3	22,4	15,6	11,1
	25	18,9	21,8	21,9	15,0	11,0
	50	18,4	21,5	21,6	14,6	10,7

TABLE OF SERVICE LIFE

Temperature (°C)	Service life (year)	Operating pressure PP-R 80 SDR 6 (bar)	Operating pressure PP-R 125 SDR 7,4 (bar)	Operating pressure PP-RCT SDR 9 (bar)	Operating pressure PP-R 125 SDR 11 (bar)	Operating pressure PP-RCT SDR 17 (bar)
50	1	18,3	20,1	20,5	14,5	10,4
	5	17,1	19,3	19,7	13,5	10,2
	10	16,5	19,0	19,4	13,1	10,0
	25	16,0	18,6	19,0	12,6	9,9
	50	15,5	18,3	18,7	12,2	9,7
60	1	15,5	17,0	17,7	12,2	8,4
	5	14,4	16,3	17,0	11,4	8,2
	10	13,9	16,0	16,7	11,0	8,1
	25	13,3	15,7	16,4	10,6	7,9
	50	12,9	15,4	16,1	10,3	7,8
70	1	13,1	14,3	15,4	10,3	6,27
	5	12,0	13,7	14,8	9,6	5,93
	10	11,6	13,5	14,6	9,2	5,82
	25	9,9	13,1	14,2	8,0	5,71
	50	8,5	12,9	14,0	6,8	5,63
80	1	10,9	11,9	13,4	8,6	
	5	9,6	11,4	12,9	7,7	
	10	8,0	11,2	12,7	6,5	
	25	6,4	10,9	12,4	5,2	
90	1	-	8,8	9,2	7,2	
	5	-	6,1	7,8	5,1	
	10	-	5,2	7,5	4,3	

