

PROPIPE®
PPR-C PIPE & FITTING

PPR-C PIPE AND FITTING SYSTEMS
TECHNICAL CATALOG

www.propipe.com.tr

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1.INTRODUCTION

Production of PROPIPE includes PE underground watering pipe, PPRC Installation Pipe and Fittings, PVC Waste Water Pipe & Joints, PVC Watering Hoses, PVC Sprall Basin Hoses, Spiral Suction & Discharge Hose, Roof&Rain Gutters And Fittings. We have been marketing our products on the domestic market and Middle East, Turkish Republics, various countries such as Balkan States and Russia via distributors and powerful dealer nets.

Our company, which set off with the password "Quality First" and has never conceded this principle since it's establishment, advances towards its established targets through strong steps, and continuously elevates its position among leading companies in the Turkish Plastic Processing Industry, by adding an ISO 9001 Quality System Certificate beside the TSE Product Quality certificate it has on product basis.

PROPIPE pipe systems are manufactured in compliance with Turkish and Germany Standards TS 15874-2, TS 15874-3, TS 9937, DIN 8077, DIN 8078. Our products are certified by national corporation such as GOST-R(Russia), UKR Sepdo (Ukraine) In PROPIPE laboratories general tests are carried out as raw material analyses, impact resistance, hydrostatic pressure, tensile strength and elevated temperature cycling tests. Also our trained technicians have been controlling the daily processes. Our products are offered to our customers only after quality approval.

2. GENERAL FEATURES OF PROPIPE PIPE SYSTEMS

- PROPIPE is a pipe systems and fittings which is made of polypropilen PPR-C raw material. PROPIPE is specially developed for heating and potable water systems according to reliability and long life.
- The materials which will be used in potable water systems, should not be capable to interact with water. In addition, PROPIPE products fusion by welding therefore there is no chemical matter which is harmful for health in PROPIPE products. Thus water systems remain pure and potable. Also regular controls are made according to specific standards.
- As the material is able to withstand constant pressure and high temperature, these properties make it possible to widely use PROPIPE pipe systems. PROPIPE pipe system is intended for heat supply systems both in multi-storeyed buildings and cottages. It allows carrying out construction of radiator heat systems and ceiling heating as well as floor heating systems. We recommend to use composite pipes reinforced with aluminum or pipes reinforced with glass-filled layer. These types of pipes, due to their reinforced layers, have lower coefficient of thermal linear expansion. This allows increasing distances between spans, which saves fixed clamps.
- One special of feature of PROPIPE system is the assembly technique, in which the parts to be connected are welded by melting. After welding, the pipe and fitting form a single, continuous body, with none of the problems which may derive from potential leakage points. The assembly method, the wide range of sizes and fittings available, the versatility of system and its excellent specific properties make PROPIPE a product of exceptional quality.

3. FIELDS OF APPLICATION

The PROPIPE system, due to the special material properties of PPR-C and our wide product range, offers a number of application possibilities:

- Potable water pipe systems for cold and hot water installations in residential buildings, hospitals, hotels, office and school buildings, shipbuilding, sports facilities, house connection, boiler connections, water distribution on high buildings
- Heating pipes for residential houses heat generator connections, heating manifolds risers, high rise manifold connections, radiator connections
- Pipe networks for rainwater application systems
- Pipe systems for compressed – air plants
- Pipe systems for swimming pool technology
- Pipe systems for the connection of heat pumps
- Pipe systems in agriculture and horticulture
- Pipe systems for geothermal recovery

Pipe systems for industry, e.g. for the transport of aggressive fluids (acids, lyes, etc.) considering the chemical resistance

4. RAW MATERIALS OF PROPIPE

Propipe system is made from PPR-C, a Random copolymer polypropylene approved for the production of pipes according to DIN 8078 standards. The raw material is supplied in granules. Before processing, the granule is submitted to specific tests in our laboratories to verify its suitability for use.

PPR-C, is a thermoplastic resin which is transformed into the finished product a rise in temperature, which is plasticized the material, allowing the pipe to be produced by means of extrusion, and the fittings by moulding.

These processes are carried out inside our factory, under the control of skilled, qualified staff. The dimensions of the pipes and fittings, with the relative processing tolerances, are established in accordance with DIN 8077

Raw material of PROPIPE pipe and fittings have a high molecular weight, low crystal, high temperature stabilization and has a higher resistance at suitable temperature and pressure conditions. Physical and chemical specifications of raw material meet requirements of potable water systems and heating systems.



Properties of raw materials can be shown in the next table

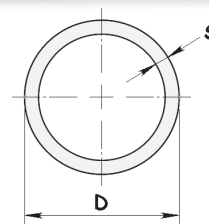
PROPERTIES	VALUES	UNITS	METHOD FOR CONTROL	
Density	905	kg/cm ³	ISO 1183	
Melt Flow Rate 230°C / 2,16 kg	0,3	g/10 dk	ISO 1183	
Flexural Modulus 2 (mm/dk)	800	MPa	ISO 178	
Linear Stress (50 mm/dk)	25	MPa	ISO 527-2	
Linear Expansion (50 mm/dk)	13,5	%	ISO 527-2	
Modulus of Elasticity in Tension (1 mm/dk)	900	MPa	ISO 527	
Charpy Impact Strength (Notched)	(+23°C)	20	kJ / m ²	ISO 179
	(+0°C)	3,5	kJ / m ²	ISO 179
	(-20°C)	2	kJ / m ²	ISO 179
Charpy Impact Strength (Unnotched)	(-20°C)	40	kJ / m ²	ISO 179
Resistance to Hydrostatic pressure				
16,0 MPa; 20°C; → 1 hour	→10	hour	ISO 1167	
3,5 MPa; 95°C; → 1000 hour	→1200	hour	ISO 1167	
1,9 MPa; 110°C; → 8760 hour	→8760	hour	ISO 1167	
Mean Linear Thermal Coefficient of Expansion from 0°C den 70°C	1,5	*10 ⁻⁴ K ⁻¹	DIN 53752	
Thermal Conductivity	0,24	WK ⁻¹ m ⁻¹	DIN 52612	
Surface Resistance	→ 10 ¹²	Ω	DIN 53482	

The permitted working pressures according to water temperatures and to the types of pipes are specified by the DIN 8077 can be checked in the next table:

Tmax [°C]	Working Years	PN 10	PN 16	PN20
10	1	17,6	27,8	35,0
	5	16,6	26,4	33,2
	10	16,1	25,5	32,1
	25	15,6	24,7	31,1
	50	15,2	24,0	30,3
20	1	15,0	23,8	30,0
	5	14,1	22,3	28,1
	10	13,7	21,7	27,3
	25	13,3	21,1	26,5
	50	12,9	20,4	25,7
30	1	12,8	20,2	25,5
	5	12,0	19,0	23,9
	10	11,6	18,3	23,1
	25	11,2	17,7	22,3
	50	10,9	17,3	21,8
40	1	10,8	17,1	21,5
	5	10,1	16,0	20,2
	10	9,8	15,6	19,6
	25	9,4	15,0	18,8
	50	9,2	14,5	18,3
50	1	9,2	14,5	18,3
	5	8,5	13,5	17,0
	10	8,2	13,1	16,5
	25	8,0	12,6	15,9
	50	7,7	12,2	15,4
60	1	7,7	12,2	15,4
	5	7,2	11,6	14,3
	10	6,9	11,0	13,8
	25	6,7	10,5	13,3
	50	6,4	10,1	12,7
70	1	6,5	8,2	13,0
	5	6,0	7,6	11,9
	10	5,9	7,4	11,7
	25	5,1	6,4	10,1
	50	4,3	5,4	8,5
80	1	5,5	6,9	10,9
	5	4,8	6,1	9,6
	10	4,0	5,0	8,0
	25	3,2	4,1	6,4
95	1	-	-	7,7
	5	-	-	5,0

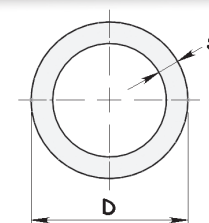
PROPIPE PPR-C PIPE PN 10-SDR11 (DIN8077/8078 - EN ISO 15874-2)

Code	Size	Package	D	s
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P1110-000025	25	100	25	2,9
P1110-000032	32	60	32	2,9
P1110-000040	40	40	40	3,7
P1110-000050	50	20	50	4,6
P1110-000063	63	20	63	5,8
P1110-000075	75	12	75	6,8
P1110-000090	90	8	90	8,2
P1110-000110	110	8	110	10,0



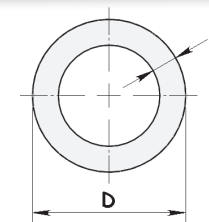
PROPIPE PPR-C PIPE PN 16-SDR 7,4 (DIN8077/8078 - EN ISO 15874-2)

Code	Size	Package	D	s
P1116-000020	20	100	20	2,8
P1116-000025	25	100	25	3,5
P1116-000032	32	60	32	4,4
P1116-000040	40	40	40	5,5
P1116-000050	50	20	50	6,9
P1116-000063	63	20	63	8,6
P1116-000075	75	12	75	10,3
P1116-000090	90	8	90	12,3
P1116-000110	110	8	110	15,1



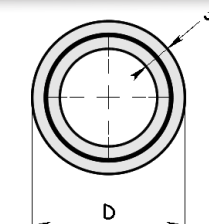
PROPIPE PPR-C PIPE PN 20-SDR 6 (DIN8077/8078 - EN ISO 15874-2)

Code	Size	Package	D	L
P1120-000020	20	100	20	2,8
P1120-000025	25	100	25	3,5
P1120-000032	32	60	32	4,4
P1120-000040	40	40	40	5,5
P1120-000050	50	20	50	6,9
P1120-000063	63	20	63	8,6
P1120-000075	75	12	75	10,3
P1120-000090	90	8	90	12,3
P1120-000110	110	8	110	15,1



PROPIPE PPR-C MIDDLE ALUMINIUM FOIL PIPE PN 25-SDR 5 (DIN8077/8078 - EN ISO 15874-2)

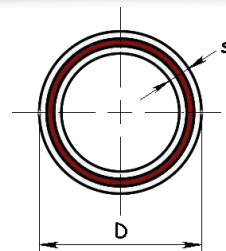
Code	Size	Package	D	S
P1123-000020	20	100	20	3,4
P1123-000025	25	100	25	4,2
P1123-000032	32	60	32	5,4
P1123-000040	40	40	40	6,7
P1123-000050	50	20	50	8,3
P2123-000063	63	20	63	10,5
P2123-000075	75	12	75	12,5
P2123-000090	90	8	90	15,0
P2123-000110	110	8	110	18,4



PROPIPE PPR-C COMPOSITE PIPE PN 20-SDR 6

(DIN8077/8078 - EN ISO 15874-2)

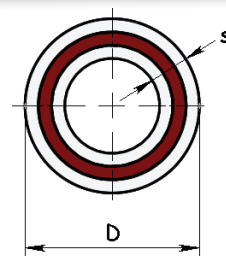
Code	Size	Package	D	S
P1126-000020	20	100	20	2,8
P1126-000025	25	100	25	3,5
P1126-000032	32	60	32	4,4
P1126-000040	40	40	40	5,5
P1126-000050	50	20	50	6,9
P1126-000063	63	20	63	8,6
P1126-000075	75	12	75	10,3
P2126-000090	90	8	90	12,3
P2126-000110	110	8	110	15,1



PROPIPE PPR-C COMPOSITE PIPE PN 25-SDR 5

(DIN8077/8078 - EN ISO 15874-2)

Code	Size	Package	D	S
P1125-000020	20	100	20	3,4
P1125-000025	25	100	25	4,2
P1125-000032	32	60	32	5,4
P1125-000040	40	40	40	6,7
P1125-000050	50	20	50	8,3
P1125-000063	63	20	63	10,5
P2125-000075	75	12	75	12,5
P2125-000090	90	8	90	15,0
P2125-000110	110	8	110	18,4



PE-Xb CROSS LINK PIPE

Code	Size	Package	D	L
P2390-000016	16	160	16	2,0
P2390-000020	20	160	20	2,0



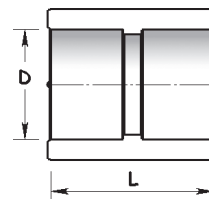
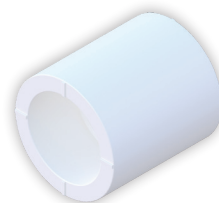
PEX - AL - PEX LINK PIPE

Code	Size	Package	D	L
P2391-000016	16	200	16	2,0
P2391-000020	20	100	20	2,0
P2391-000026	26	80	26	2,0



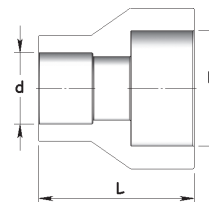
SOCKET

Code	Size	Package	Box	D	L
P1130-000020	20	100	600	20	33
P1130-000025	25	100	400	25	37
P1130-000032	32	100	200	32	41
P1130-000040	40	50	100	40	49
P1130-000050	50	10	50	50	51
P1130-000063	63	5	30	63	63
P1130-000075	75	6	24	75	72
P1130-000090	90	2	10	90	82
P1130-000110	110	2	8	110	86



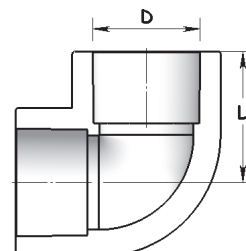
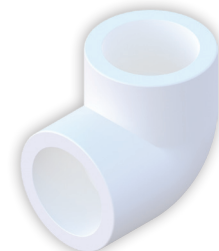
REDUCTION SOCKET

Code	Size	Package	Box	D	L
P2129-025020	25x20	100	600	25	39
P2129-032020	32x20	100	400	32	39
P2129-032025	32x25	100	200	32	43



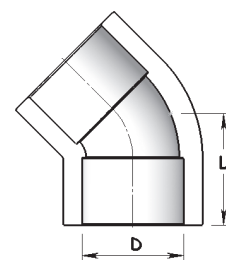
ELBOW 90°

Code	Size	Package	Box	D	L
P1132-000020	20	100	400	20	25
P1132-000025	25	50	250	25	29
P1132-000032	32	25	100	32	36
P1132-000040	40	20	60	40	43
P1132-000050	50	10	40	50	47
P1132-000063	63	5	20	63	50
P1132-000075	75	2	12	75	65
P1132-000090	90	2	6	90	85
P1132-000110	110	1	3	110	93



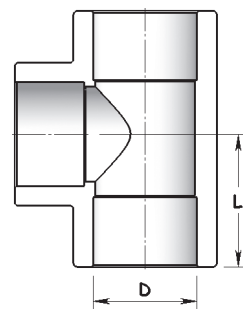
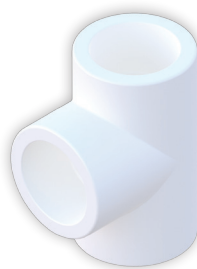
ELBOW 45°

Code	Size	Package	Box	D	L
P1133-000020	20	100	500	20	19
P1133-000025	25	100	300	25	21
P1133-000032	32	50	150	32	23
P2132-000040	40	20	60	40	29
P2133-000050	50	10	50	50	36
P2133-000063	63	2	24	63	43
P2133-000075	75	2	12	75	67
P2133-000090	90	2	6	90	87
P2133-000110	110	1	3	110	103



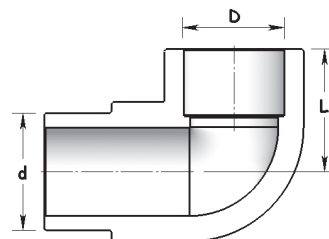
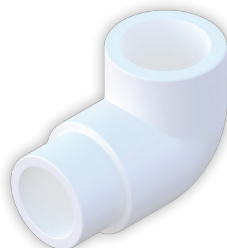
TEE

Code	Size	Package	Box	D	L
P1135-000020	20	100	250	20	26
P1135-000025	25	100	150	25	30
P1135-000032	32	100	75	32	37
P1135-000040	40	50	40	40	43
P1135-000050	50	10	20	50	50
P1135-000063	63	5	14	63	60
P2135-000075	75	6	10	75	70
P2135-000090	90	2	6	90	76
P2135-000110	110	2	3	110	96



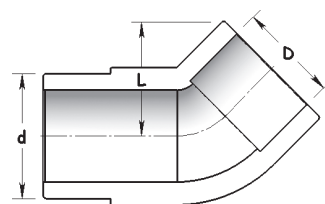
TAIL ELBOW 90°

Code	Size	Package	Box	d	D	L
P2132-020020	20	50	250	20	20	23
P2132-025025	25	40	200	25	25	25
P2132-032032	32	20	100	32	32	28



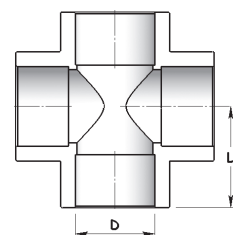
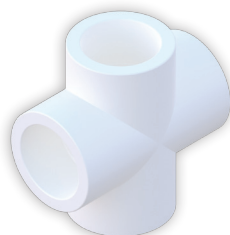
TAIL ELBOW 45°

Code	Size	Package	Box	d	D	L
P2133-020020	20	50	250	20	20	25
P2133-025025	25	40	200	25	25	29
P2133-032032	32	20	100	32	32	35



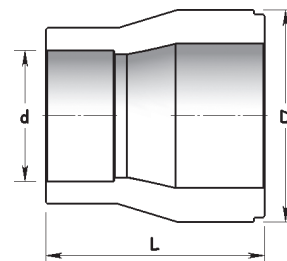
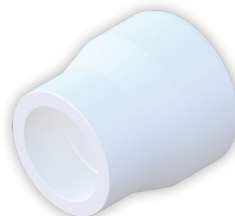
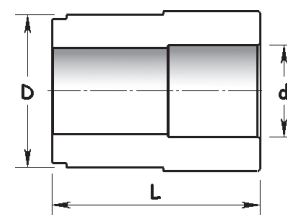
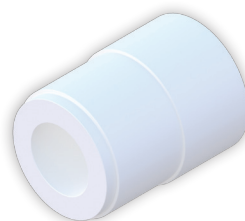
CROSS TEE

Code	Size	Package	Box	D	L
P2135-200020	20	3	150	20	26
P2135-250025	25	4	100	25	30
P2135-320032	32	5	50	32	35
P2135-400040	40	5	25	40	42



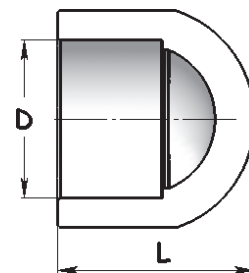
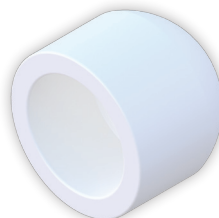
REDUCTION

Code	Size	Package	Box	D	d	L
P1131-002520	25x20	100	500	25	20	36
P1131-003220	32x20	100	300	32	20	43
P1131-003225	32x25	100	300	32	25	43
P1131-004020	40x20	50	200	40	20	49
P1131-004025	40x25	50	200	40	25	49
P1131-004032	40x32	50	200	40	32	49
P1131-005020	50x20	25	150	50	20	50
P1131-005025	50x25	25	150	50	25	47
P1131-005032	50x32	25	150	50	32	51
P1131-005040	50x40	25	100	50	40	53
P1131-006320	63x20	10	100	63	20	60
P1131-006325	63x25	10	100	63	25	56
P1131-006332	63x32	10	80	63	32	58
P1131-006340	63x40	10	80	63	40	59
P1131-006350	63x50	10	60	63	50	62
P2131-007550	75x50	10	40	75	50	60
P2131-007563	75x63	10	40	75	63	85
P2131-009050	90x50	5	20	90	50	80
P2131-009063	90x63	5	20	90	63	80
P2131-009075	90x75	5	20	90	75	80
P2131-011063	110x63	3	15	110	63	82
P2131-011075	110x75	3	15	110	75	96
P2131-011090	110x90	3	15	110	90	98



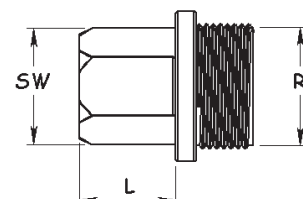
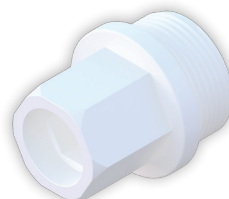
CLOSING CAP

Code	Size	Package	Box	D	L
P1138-000020	20	200	1000	20	25
P1138-000025	25	100	600	25	27
P1138-000032	32	50	300	32	33
P2138-000040	40	25	150	40	34
P2138-000050	50	10	80	50	37
P2138-000063	63	10	40	63	50
P2138-000075	75	6	32	75	58
P2138-000090	90	5	15	90	66
P2138-000110	110	2	10	110	79



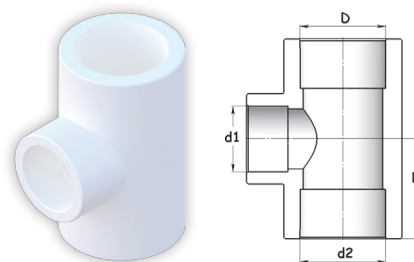
THREADED CAP

Code	Size	Package	Box	D	R	L
P1139-000012	1/2"	250	750	22	1/2"	36
P2139-000034	3/4"	100	700	22	3/4"	29
P2139-000010	1"	100	500	25	1"	27



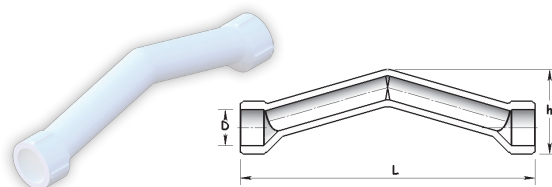
UNEQUAL TEE

Code	Size	Package	Box	D	d ₁	d ₂	L
P1136-252020	25x20x20	50	150	25	20	20	31
P1136-252025	25x20x25	50	150	32	20	25	31
P1136-322032	32x20x32	25	75	32	20	32	35
P1136-322532	32x25x32	25	75	40	25	32	35
P2136-402040	40x20x40	10	50	40	20	40	33
P2136-402540	40x25x40	10	50	40	25	40	33
P2136-403240	40x32x40	10	50	50	32	40	33
P2136-502050	50x20x50	10	30	50	20	50	45
P2136-503250	50x32x50	10	30	50	32	50	45
P2136-504050	50x40x50	10	30	50	40	50	45
P2136-632063	63x20x63	5	20	63	20	63	53
P2136-632563	63x25x63	5	20	63	25	63	53
P2136-633263	63x32x63	5	20	63	32	63	53
P2136-634063	63x40x63	5	20	63	40	63	53
P2136-635063	63x50x63	2	14	63	50	63	53
P2136-754075	75x40x75	1	10	75	40	75	69
P2136-755075	75x50x75	1	10	75	50	75	69
P2136-756375	75x63x75	1	10	75	63	75	70
P2136-905090	90x50x90	1	6	90	50	90	79
P2136-906390	90x63x90	1	6	90	63	90	79
P2136-907590	90x75x90	1	6	90	75	90	80
P2136-116311	110x63x110	1	3	110	63	110	93
P2136-117511	110x75x110	1	3	110	75	110	94
P2136-119011	110x90x110	1	3	110	90	110	94



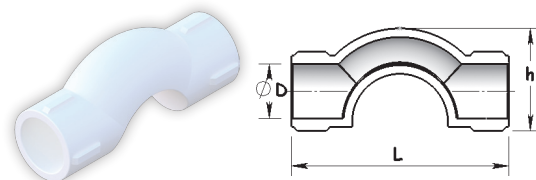
PIPE BRIDGE (V TYPE)

Code	Size	Package	Box	D	L	h
P2137-000020	20	25	100	20	157	46
P2137-000025	25	15	75	25	198	56
P2137-000032	32	10	40	32	204	71



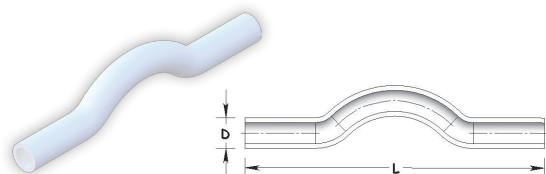
PIPE BRIDGE (C TYPE)

Code	Size	Package	Box	D	L	h
P2134-000020	20	50	1500	20	88	29
P1134-000025	25	25	100	25	98	35
P2134-000032	32	10	50	32	120	55



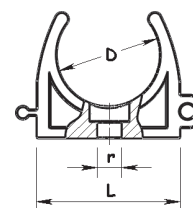
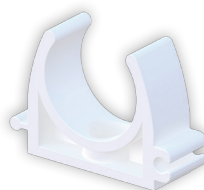
BRIDGE JUMP

Code	Size	Package	Box	D	L
P2137-200020	20	25	125	20	387
P1137-250025	25	25	100	25	387
P2137-320032	32	10	40	32	387



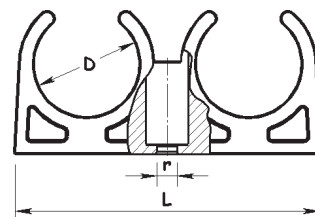
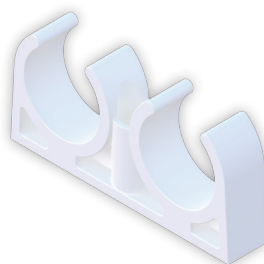
PIPE CLAMP

Code	Size	Package	Box	r	D	L
P2141-200020	20	250	1000	6	20	32
P2141-250025	25	100	600	6	25	34
P2141-320032	32	100	300	6	32	48
P2141-000040	40	50	300	6	40	53



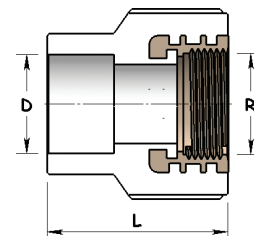
PIPE CLAMP DOUBLE

Code	Size	Package	Box	r	D	L
P2142-200020	20	100	500	6	20	61
P2142-000025	25	100	300	5	25	70
P2142-000032	32	50	200	6	32	87
P2142-000022 <small>(for al. foil pipe)</small>	22	100	600	6	22	61
P2142-000027 <small>(for al. foil pipe)</small>	27	100	500	5	27	70



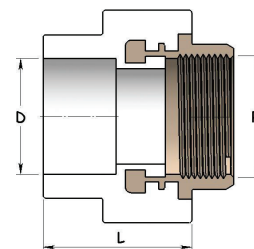
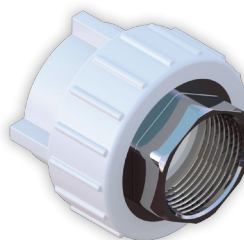
FEMALE UNION

Code	Size	Package	Box	D	R	L
P1149-020012	20x1/2"	50	300	20	1/2"	38
P1149-020034	20x3/4"	50	250	20	3/4"	41
P1149-025012	25x1/2"	50	200	25	1/2"	44
P1149-025034	25x3/4"	50	200	25	3/4"	43
P2149-032012	32x1/2"	25	125	32	1/2"	40
P1149-032034	32x3/4"	25	100	32	3/4"	39
P1149-032100	32x1"	35	140	32	1"	43



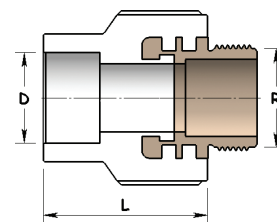
FEMALE UNION SIX CORNER

Code	Size	Package	Box	D	R	L
P2151-040114	40x1 1/4"	10	60	40	1 1/4"	50
P2151-050112	50x1 1/2"	5	30	50	1 1/2"	48
P2151-063200	63x2"	4	24	63	2"	54
P2151-075212	75x2 1/2"	2	12	75	2 1/2"	64
P2151-090300	90x3"	2	8	90	3"	86
P2151-110400	110x4"	1	6	110	4"	90



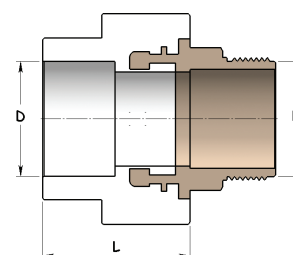
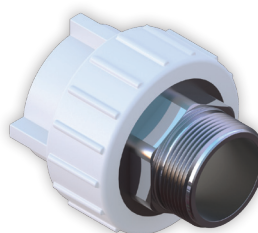
MALE UNION

Code	Size	Package	Box	D	R	L
P1150-020012	20x1/2"	50	250	20	1/2"	38
P1150-020034	20x3/4"	50	200	20	3/4"	41
P1150-025012	25x1/2"	50	150	25	1/2"	44
P1150-025034	25x3/4"	50	150	25	3/4"	43
P2150-032012	32x1/2"	25	125	32	1/2"	40
P1150-032034	32x3/4"	25	125	32	3/4"	40
P1150-032100	32x1"	25	125	32	1"	42



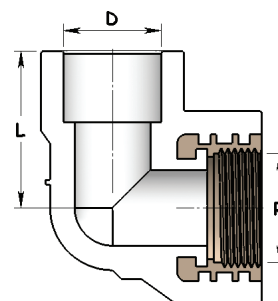
MALE UNION SIX CORNER

Code	Size	Package	Box	D	R	L
P1152-040114	40x1 1/4"	10	50	40	1 1/4"	49
P2152-050112	50x1 1/2"	5	30	50	1 1/2"	48
P2152-063200	63x2"	4	24	63	2"	54
P2152-075212	75x2 1/2"	2	8	75	2 1/2"	64
P2152-090300	90x3"	2	8	90	3"	86
P2152-110400	110x4"	1	6	110	4"	90v



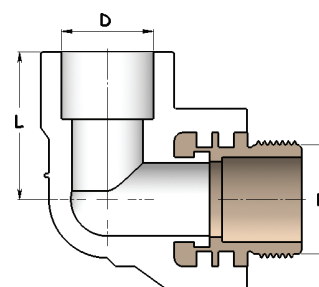
FEMALE ELBOW

Code	Size	Package	Box	D	R	L
P1145-020012	20x1/2"	50	250	20	1/2"	30
P2145-020034	20x3/4"	25	175	20	3/4"	36
P1145-025012	25x1/2"	50	200	25	1/2"	32
P1149-025034	25x3/4"	25	150	25	3/4"	35
P2149-032012	32x1/2"	20	100	32	1/2"	42
P2149-032034	32x3/4"	20	100	32	3/4"	42
P1149-032100	32x1"	10	100	32	1"	42



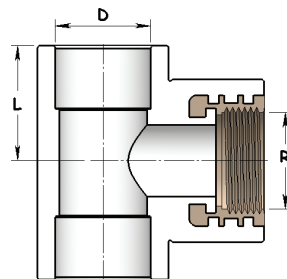
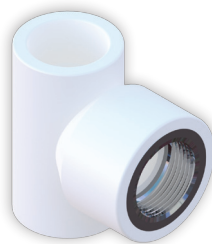
MALE ELBOW

Code	Size	Package	Box	D	R	L
P1146-020012	20x1/2"	50	200	20	1/2"	30
P2146-020034	20x3/4"	25	100	20	3/4"	35
P1146-025012	25x1/2"	25	175	25	1/2"	32
P1146-025034	25x3/4"	25	125	25	3/4"	35
P2146-032012	32x1/2"	10	80	32	1/2"	42
P2146-032034	32x3/4"	10	80	32	3/4"	42
P1146-032100	32x1"	10	80	32	1"	42



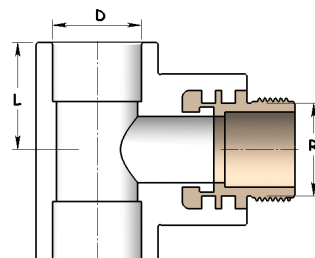
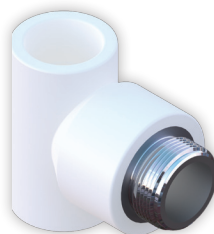
FEMALE TEE

Code	Size	Package	Box	D	R	L
P1147-020012	20x1/2"	50	200	20	1/2"	26
P2147-020034	20x3/4"	25	125	20	3/4"	26
P1147-025012	25x1/2"	25	150	25	1/2"	27
P1147-025034	25x3/4"	25	125	25	3/4"	29
P2147-032012	32x1/2"	10	60	32	1/2"	39
P2147-032034	32x3/4"	10	60	32	3/4"	38
P1147-032100	32x1"	10	60	32	1"	36



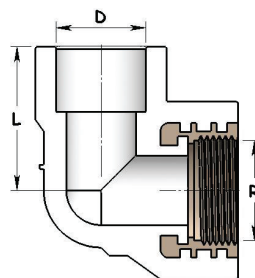
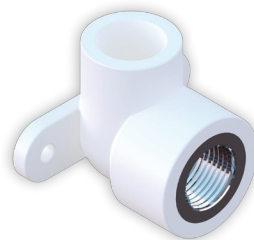
MALE TEE

Code	Size	Package	Box	D	R	L
P1148-020012	20x1/2"	30	180	20	1/2"	26
P2148-020034	20x3/4"	25	100	20	3/4"	26
P1148-025012	25x1/2"	25	125	25	1/2"	27
P1148-025034	25x3/4"	20	100	25	3/4"	29
P2148-032012	32x1/2"	10	50	32	1/2"	39
P2148-032034	32x3/4"	10	50	32	3/4"	38
P1148-032100	32x1"	10	50	32	1"	36



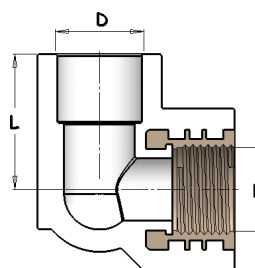
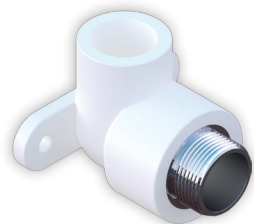
SINGLE BATTERY CONNECTION (FEMALE)

Code	Size	Package	Box	D	R	L
P1158-020012	20x1/2"	50	200	20	1/2"	31
P2158-025012	25x1/2"	25	150	25	1/2"	33



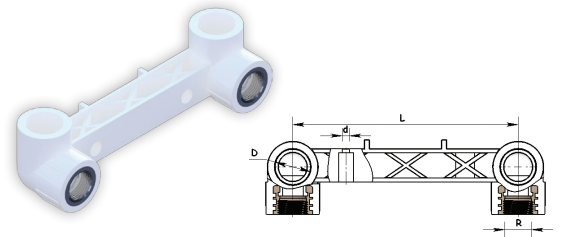
SINGLE BATTERY CONNECTION (MALE)

Code	Size	Package	Box	D	R	L
P2157-020012	20x1/2"	25	150	20	1/2"	25
P2157-025012	25x1/2"	25	100	25	1/2"	27



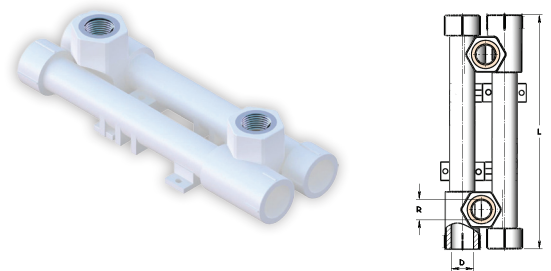
DOUBLE BATTERY CONNECTION

Code	Size	Package	Box	D	R	L
P1159-020012	20x1/2"	5	40	20	1/2"	150
P1159-025012	25x1/2"	5	40	25	1/2"	150



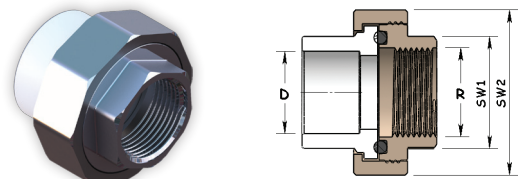
ADJUSTABLE DOUBLE BATTERY CONNECTION

Code	Size	Package	Box	D	R	L
P2160-020012	20x1/2"			20	1/2"	230
P2160-025012	25x1/2"			25	1/2"	230



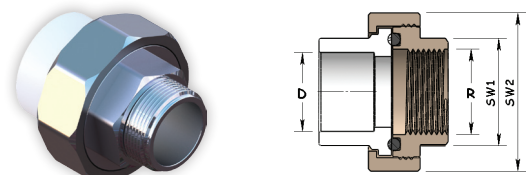
FEMALE TRANSITION UNION

Code	Size	Package	Box	D	R	L
P2153-020012	20x1/2"	50	250	20	1/2"	36
P2153-025034	25x3/4"	50	200	25	3/4"	38
P2153-032100	32x1"	25	100	32	1"	42
P2153-040114	40x1 1/4"	10	40	40	1 1/4"	53
P2153-050112	50x1 1/2"	10	40	50	1 1/2"	57
P2153-063200	63x2"	5	20	63	2"	62
P2153-075212	75x2 1/2"	2	12	75	2 1/2"	68



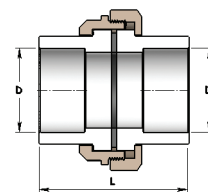
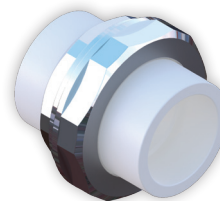
MALE TRANSITION UNION

Code	Size	Package	Box	D	R	L
P2154-020012	20x1/2"	50	250	20	1/2"	44
P2154-025034	25x3/4"	50	150	25	3/4"	49
P2154-032100	32x1"	25	100	32	1"	63
P2154-040114	40x1 1/4"	10	40	40	1 1/4"	58
P2154-050112	50x1 1/2"	10	40	50	1 1/2"	65
P2154-063200	63x2"	5	20	63	2"	98
P2154-075212	75x2 1/2"	2	12	75	2 1/2"	117



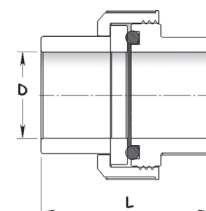
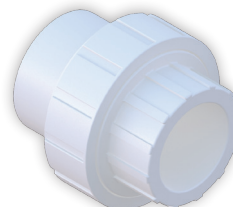
METAL CONNECTION UNION WELDED

Code	Size	Package	Box	D	L
P2155-200020	20x1/2"			20	
P2155-250025	25x3/4"			25	
P2155-320032	32x1"			32	
P2155-040040	40x1 1/4"			40	
P2155-050050	50x1 1/2"			50	
P2155-063063	63x2"			63	



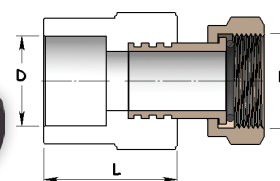
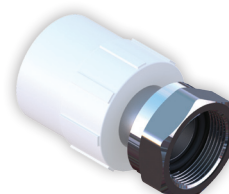
PPR-C CONNECTION UNION WELDED

Code	Size	Package	Box	D	L
P2156-020020	20			20	40
P2156-025025	25			25	46
P2156-032032	32			32	52
P2156-040040	40			40	60
P2156-050050	50			50	72
P2156-063063	63			63	87
P2156-075075	75			75	100
P2156-090090	90			90	117
P2156-110110	110			110	136



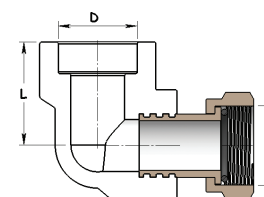
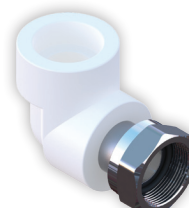
NIPPLE WITH LOOSE NUTH

Code	Size	Package	Box	D	R	L
P2163-020012	20x1/2"	50	250	20	1/2"	32
P2163-025034	25x3/4"	50	200	25	3/4"	36



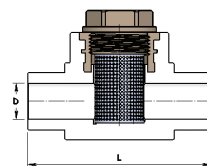
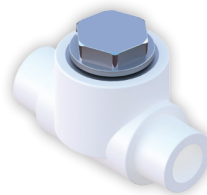
ELBOW WITH LOOSE NUTH

Code	Size	Package	Box	D	R	L
P2164-020012	20x1/2"	25	150	20	1/2"	29
P2164-025034	25x3/4"	25	100	25	3/4"	33



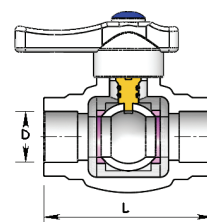
FILTER (MALE/FEMALE)

Code	Size	Package	Box	D	R	L
P2176-000020	20x1/2"	20	100	20	1/2"	71
P2176-000025	25x3/4"	20	80	25	3/4"	80



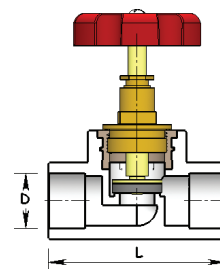
PPR-C BALL VALVE

Code	Size	Package	Box	D	L
P2171-000020	20	20	80	20	74
P2171-000025	25	10	50	25	83
P2171-000032	32	5	40	32	99
P2171-000040	40	1	20	40	111
P2171-000050	50	5	15	50	118
P2171-000063	63	1	10	63	144
P2171-000075	75	1	8	75	162



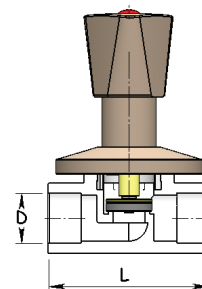
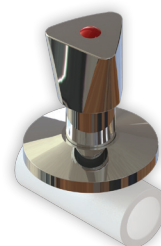
PPR-C VALVE

Code	Size	Package	Box	D	L
P1170-000020	20	20	60	20	69
P1170-000025	25	10	50	25	78
P1170-000032	32	10	30	32	88



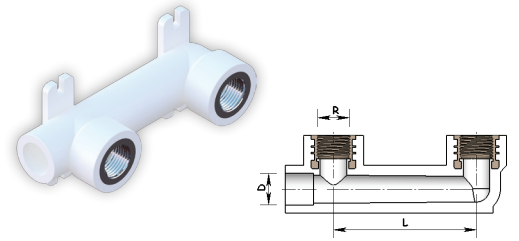
PPR-C CHROME PLATED VALVE

Code	Size	Package	Box	d	D	L
P1172-000020	20	1	20		20	69
P1172-000025	25	1	20		25	78
P1172-000032	32	1	20		32	88



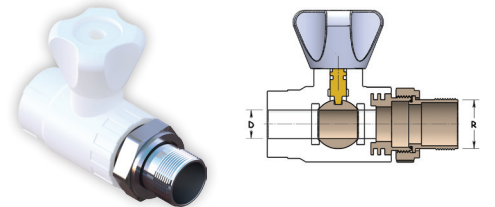
DOUBLE BATTERY LUSTERATION

Code	Size	Package	Box	D	R	L
P2162-020012	20x1/2"	5	40	20	1/2"	90
P2162-025012	25x1/2"	5	40	25	1/2"	90



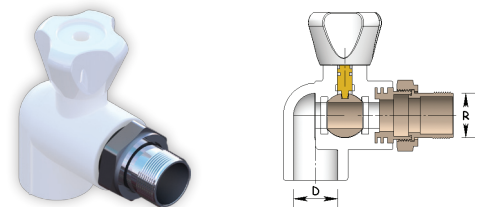
RADIATOR VALVE (STRAIGHT)

Code	Size	Package	Box	D	R
P2178-020012	20 x 1/2"			20	1/2"



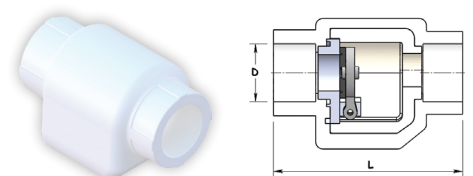
RADIATOR VALVE (STRAIGHT)

Code	Size	Package	Box	D	R
P2179-020012	20 x 1/2"			20	1/2"
P2179-025034	25 x 3/4"			25	3/4"



CHECK VALVE

Code	Size	Package	Box	D	L
P2177-000020	20	20	100	20	78,4
P2177-000025	25	20	80	25	83,4



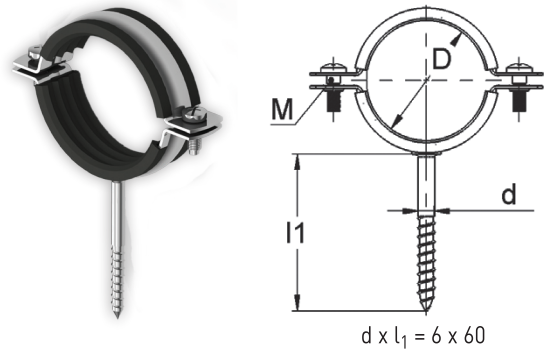
COMBI BOILER FITTING SET

Code	Package	Box
P2198-000001	1	50



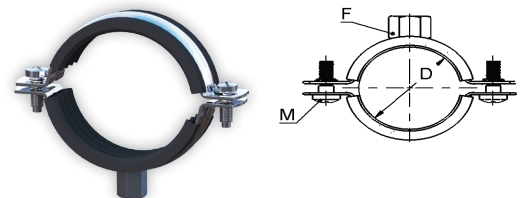
METAL PIPE CLAMP WITH SCREW

Code	Size	Package	Clamping Distance D	Fastenning Screw M
P2143-000012	1/2"	400	20-24	M5x15
P2143-000034	3/4"	350	25-28	M5x15
P2143-000001	1"	300	32-35	M5x15
P2143-000114	1 1/4"	200	39-46	M6x18
P2143-000112	1 1/2"	175	48-53	M6x18
P2143-000002	2"	125	59-66	M6x18
P2143-000212	2 1/2"	100	68-77	M6x18
P2143-000003	3"	90	87-94	M6x25
P2143-000004	4"	75	110-116	M6x25
P2143-000005	5"	60	135-143	M6x25
P2143-000006	6"	50	162-170	M6x25
P2143-000008	8"	30	207-219	M6x25



METAL PIPE CLAMP WITH NUT

Code	Size	Package	Clamping Distance D	Fastenning Screw M	Fastenning Nut F
P2143-120012	1/2"	550	20-24	M5x15	M8
P2143-340034	3/4"	500	25-28	M5x15	M8
P2143-100001	1"	350	32-35	M5x15	M8
P2143-114114	1 1/4"	250	39-46	M6x18	M8
P2143-112112	1 1/2"	225	48-53	M6x18	M8
P2143-200002	2"	150	59-66	M6x18	M8
P2143-000212	2 1/2"	125	68-77	M6x18	M8
P2143-300003	3"	100	87-94	M6x25	M10
P2143-400004	4"	100	110-116	M6x25	M10
P2143-500005	5"	60	135-143	M6x25	M10
P2143-600006	6"	50	162-170	M6x25	M10
P2143-800008	8"	30	207-219	M6x25	M10



FULL WELDING SET

Code	Package	Box
P2190-000003	1 (20-63)	1
P2190-000004	1 (40-110)	1



WELDING MACHINE

Code	Package	Box
P2190-000003	1	1
P2190-000004	1	1



PIPE CUTTER

Code		Box
P2194-000001	(16-42 mm)	60
P2194-000002	(40-63 mm)	50
P2194-000003	(63-11 mm)	30



HEATING TOOLS

Code	Size	Package / Box
P2192-000020	20	1
P2192-000025	25	1
P2192-000032	32	1
P2192-000040	40	1
P2192-000050	50	1
P2192-000063	63	1
P2192-000075	75	1
P2192-000090	90	1
P2192-000110	100	1



METAL SPHERICAL VALVE

Code	Size	Package	Box
P2173-000012	1/2"	2	50
P2173-000034	3/4"	2	40
P2173-000100	1"	1	25
P2173-000114	1 1/4"	1	20
P2173-000112	1 1/2"	1	15
P2173-000200	2"	1	10
P2173-000212	2 1/2"	1	8



6. WELDING PROCESS

The most common method for connecting PPR-C pipes and fittings is the thermo fusion welding.

Tools and equipments for welding process:

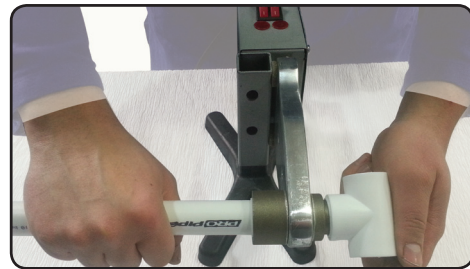
1. Welding Machine
2. Pipe cutter specially designed for cutting PPR-C pipes
3. Heating tools with Teflon coating
4. Tape rule
5. Marker or special pencil
6. Thawless cloth

Welding Process



1. Heating tools have to be tightly assembled with fusion device while they are cold. Connect the plug and heat the welding machine until 260 °C.

NOTE: Never use water to cold the welding machine.



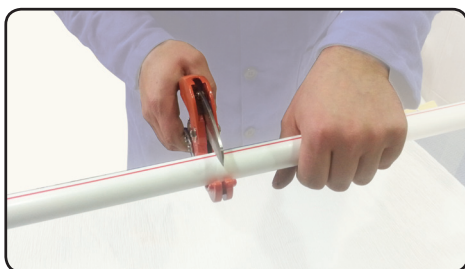
4. Insert pipe and fitting into the heating tools.



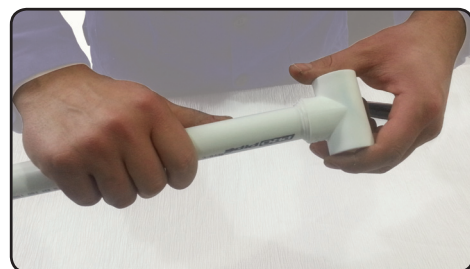
2. Measure required length to be cut and welding depth.



5. After heat pipe and fitting sufficiently, take of them from welding machine and insert heated pipe into the fitting quickly. Push the pipe without any rotation until it reaches the marked welding depth.



3. Cut pipe at right angle



6. Slight alignment is allowed during specified assembly time. Heating tools have to be wiped with a clean cloth after each welding

7. ELONGATION

PROPIPE PPR-C pipe systems extend when subjected to heat in accordance with their different material characteristics. The longitudinal expansion of the PROPIPE PPR-C pipes with aluminium foil or composite pipe is considerably much less than that of the standard plastic pipe. This longitudinal expansion can be calculated by a formula which has given following section. While longitudinal expansion can be calculated, temperature difference and max. operating temperature is important. The longitudinal expansion due to occur from mount and ambient temperature is compensated by different mounting techniques.

Calculation For Longitudinal Expansion

The longitudinal expansion is calculated by the following formula:

$$\Delta l = \alpha \times L \times \Delta t$$

The meaning is:

Δl = Longitudinal expansion (mm)

α = coefficient of longitudinal expansion (mm/m °C)

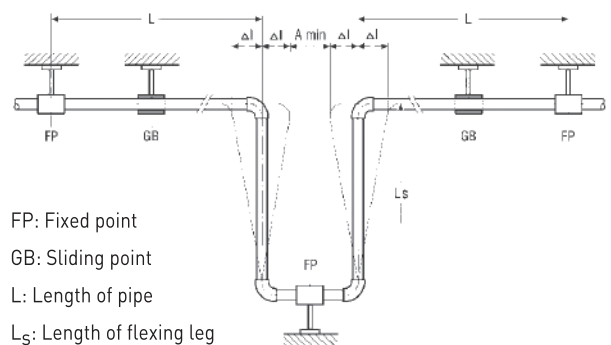
PROPIPE standard pipes $\alpha = 0,150 \text{ mm/m } ^\circ\text{C}$

PROPIPE composite pipes $\alpha = 0,030 \text{ mm/m } ^\circ\text{C}$

PROPIPE aluminium foil pipes $\alpha = 0,057 \text{ mm/m } ^\circ\text{C}$

L = Length of pipe (m)

Δt = difference between ambient temperature and operating temperature (°C)



EXAMPLE:

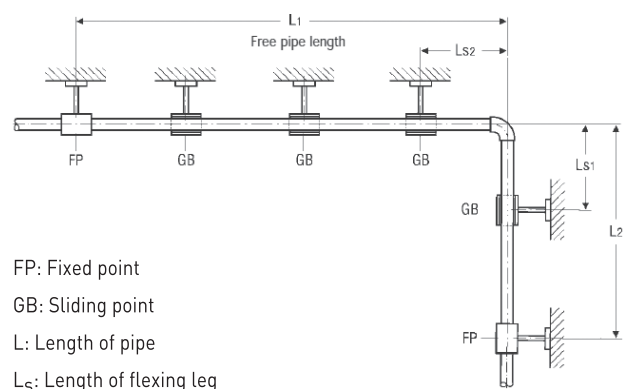
Calculation of longitudinal expansion amount ΔL

Difference between ambient temperature

and hot water temperature $\Delta t = 40 \text{ K}$

$\alpha = 0,15 \text{ mm/m } ^\circ\text{K}$, $L = 10,0 \text{ m}$, $\Delta t = 40 \text{ K } (^\circ\text{C})$

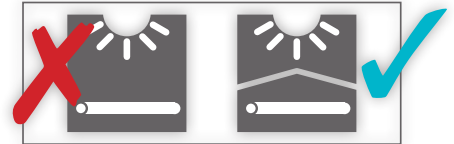
$\Delta L = \alpha \times L \times \Delta t = 0,15 \times 10,0 \times 40 = 60 \text{ mm} = \Delta L$



8. STORAGE AND USAGE INSTRUCTIONS

While PROPIPE PPR-C pipes and fittings are stored, transported and used, the following installation instructions should be carefully followed.

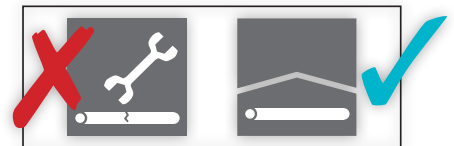
- Although PROPIPE PPR-C pipes and fittings are reliable to the high operating temperatures, they shouldn't be exposed UV radiation directly.



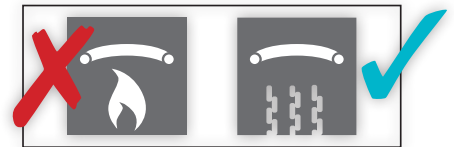
- Raw of PPR-C material begins to lose its characteristics at temperatures below 0 °C. Its resistance against impact decreases, and it becomes brittle. For this reason, PROPIPE PPR-C pipes and fittings should not be used in areas where it is similar for water to freeze inside the pipe. If it's necessary to use the pipe, it must be insulated appropriately.



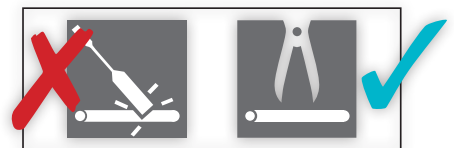
- It is recommended to join PPR-C fittings with metal threads only with fitting having the same identical type of threading. Threaded couplings must be sealed with a teflon tape or special sealant only.



- The pipe should be cut by the special scissors and at right angle. Avoid sharp devices which sparkle.



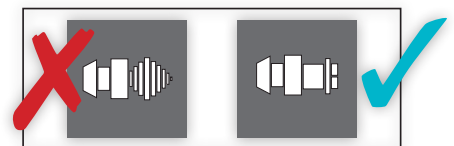
- PPR-C pipes must be avoid sharp impacts and strokes.



- Do not use flames to work the pipes and obtain bends or crossovers.



- Welding machine has to be earthed and pipes and fittings have to be wiped with a clean cloth. Do not rotate pipe and fittings during welding process



9. ADVANTAGES OF PROPIPE PIPES AND FITTINGS

Advantages of PROPIPE PPR-C pipes and fittings are in the following sentences:

- Elasticity and sound-absorbent properties of pipes and fittings prevent the propagation of noise and vibration caused by water flowing and fluid hammer.
- Elasticity of material allows the pipe cross-section to expand as the volume of the frozen liquid inside the pipe increases
- They are highly resistant to chemical etching by acid and alkaline agents within a wide range of concentrations and temperatures therefore these materials are not exposed to corrosion.
- They have mirror-finished insides to be manufactured according to suitable scales in standards.
- They are a poor heat conductor and therefore behave as an excellent thermal insulator
- They are highly abrasion-proof for fast water flows.
- They are suitable for use in seismic risk areas
- They are a very poor electric conductor, preventing the risk of punctured pipes or fittings due to stray currents
- They offer decreased flow resistance because of their smooth surfaces designed to prevent scaling

They are used over 50 years and more according to working temperatures and pressures.

10. APPLIED OF STANDARDS

PROPIPE pipe and fittings are manufactured according to international standards, TSE and our company provides these standards.

They are manufactured according to the following product standards:

TS EN ISO 15874-2 : This standard specifies the characteristics of pipes made from polypropylene (PP) for piping systems intended to be used for hot and cold water installations

TS EN ISO 15874-3 : This standard specifies the characteristics of fittings for polypropylene (PP) piping systems intended to be used for hot and cold water installations

TS 11755-5,6 : This standard specifies the characteristics of fittings which are made from polypropylene material.

DIN 8077 : This standard specifies polypropylene pipes and dimensions.

DIN 8078 : This standard specifies polypropylene pipes , general quality requirements and tests.

DIN 1988 : This standard specifies technical requirements of potable water

DIN 16928 : This standard specifies norms about installations of polypropylene pipes and fittings.

DIN 16962 : This standard specifies PPR-C pipes and fittings for pressurized pipes.

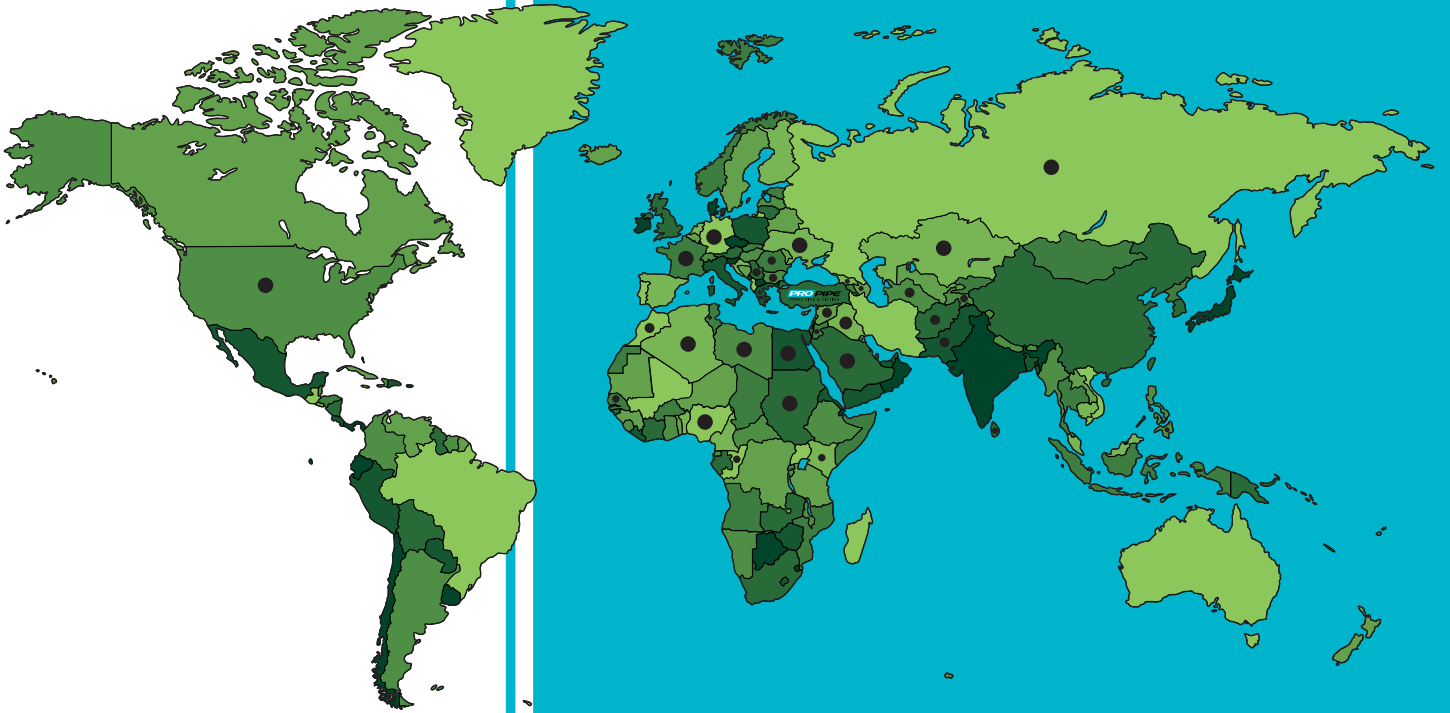
DVS 2207 : This standard specifies regulation of welding of thermoplastic pipes and fittings

DVS 2208 : This standard specifies machinery and equipment for welding thermoplastic pipes and fittings

PRO PIPE®

PPR-C PIPE & FITTING

Afghanistan, Algeria, America, Azerbaijan, Bahrain, Bulgaria, Congo, Dubai, Egypt, France, Georgia, Germany, Greece, Iraq, Jordan, Kazakhstan, Kenya, Kuwait, Lebanon, Libia, Morocco, Nigeria, Pakistan, Palestine, Philipines, Romania, Russia, Saudi Arabia, Senegal, Sri Lanka, Sudan, Syria, Tajikistan, Tunisia, Turkish Republic of North Cyprus, Turkmenistan, Ukraine.



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