KPT
FLOW INFINITE
AN ISO 9001:2015 & ISO 14001:2015
CERTIFIED COMPANY

Azadi Ka Amrit Mahotsav

WRAS
WATER REGULATIONS ADVISORY SCHEME

CBRI

1ST IN INDIA TO INTRODUCE PPRFR THERMAL FR + V0 FOR FIRE FIGHTING APPLICATIONS APPROVED BY CSIR-CBRI, ROORKEE

Largest range from 16mm to 400mm

Mono & Triple layer | Flame Retardant | PN 10, PN 16 & PN 20

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Thermal FR Composite Piping

www.kptpipes.com

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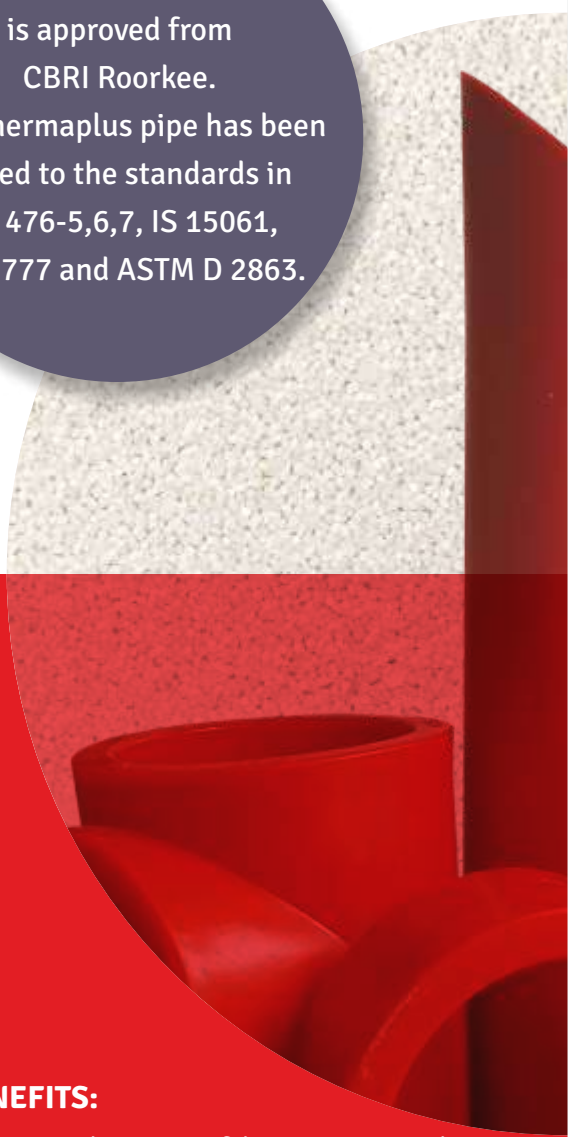
KPT Thermaplus (PPR-FR) pipes and fittings are designed specifically for fire sprinkler system. They are made from a special thermoplastic known chemically as Polypropylene Random Copolymer Flame Retardant (PPR-FR). KPT Thermaplus (PPR-FR) pipes and fittings provide unique advantages in sprinkler installations including superior hydraulics, ease of joining, increased hanger spacing in comparison to other thermoplastics and ease of assembly.

KPT Thermaplus (PPR-FR) is the new industry standard in automatic fire sprinkler piping system. KPT Thermaplus (PPR-FR) pipes and fittings are fully approved for use in all light and ordinary hazardous rooms or otherwise light hazardous applications as per NFPA 13, in both new and retrofit construction, such as:

- High-rise buildings (including apartments and hotels)
- Schools and Institutions
- One and Two family dwellings

KPT Thermaplus pipe is approved from CBRI Roorkee.
KPT Thermaplus pipe has been tested to the standards in BS 476-5,6,7, IS 15061, IS 12777 and ASTM D 2863.



When we talk about plastic and fire resistance, most people conjure up images of melting plastic in a campfire or bending plastic spoons with a lighter. While many plastics don't stand up well to heat and fire (namely polypropylene and polyethylene), it's not true of all thermoplastics. Specifically, Polypropylene Random Copolymer Flame Retardant (PPR-FR) is engineered to limit flammability and smoke protection.

In fact, many applications that specify PPR-FR piping because of its heat, pressure and corrosion resistance capabilities do so because it also satisfies strict regulations around flame and smoke resistance.

But what qualities should you look for in a thermoplastic piping system to ensure it satisfies your application's fire resistance requirements?

SYSTEM BENEFITS:

- No pre-cutting and expensive fabrication required
- Easily connected to other sprinkler piping system
- Flexibility in the piping for greater ease of installation
- Resistant to rust, scale and foreign contaminant build up, Inexpensive tools required for installation
- Easy repairing or modification on site
- Designed for a 50 year life expectancy

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KPT Thermaplus (PPR-FR) pipe and fittings is:

Connection by fusion welding
No sealants or adhesives are required for this permanent connection

Corrosion-proof
Prevents the clogging of the sprinkler with corrosive material. This ensures a long, low-maintenance service life as well as failure-free functioning of the system.

The production of pipes and fittings is controlled according to the highest quality standards on most modern injection moulding machines and extrusionlines. The high quality of our products is guaranteed by extensive controlsof incoming goods and the production process.

The KPT Thermaplus (PPR-FR) quality management system is certified according to DIN EN ISO 14001:2004, 9001:2015

Fusion technique - Processing
By the fusion of pipe and fitting the plastic melts to a homogeneous material unit. Pipe and fitting are heated quickly with specially provided welding tools and joined together - finished!

Double material thickness at T-joint – giving double safety at the otherwise critical point of a pipe system.

A permanent leakproof connection is created with the KPT Thermaplus (PPR-FR) fusion technique.

Weld-in saddle technique - Processing
Branches can easily be made by weld-in saddles, even post-installation. Material costs and processing time are reduced by using weld-in saddles. Whereas in case of tees three joints are to be processed, work is limited to mounting the saddle and the branch pipe only.

Simply drill the pipe; heat up the saddle, pipe wall and surface; connect the parts. Finished.

UV resistance
Pipes from KPT Thermaplus (PPR-FR)should not be installed (without protection) where subject to UV-radiation. All KPT Thermaplus (PPR-FR) pipes and fittings are supplied in UV-protected packaging to bridge transport and assembly time. Ultraviolet rays have an influence on all high polymeric plastics. Hence, pipes should not be stored unprotected outside for a long time. The maximum storage time is (outside) 6 months.

Fire bulkheading
All fire prevention systems which can prove equivalent licensing are suited for the KPT Thermaplus (PPR-FR) pipe pipe system.

Pipe friction loss
The pressure loss caused by friction is to be calculated hydraulically with the Hazen-Williams-formula. The value to be used for C is 150, applicable for calculations of sprinkler installations and water supply.

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Evaluating Fire Performance

There are several factors to consider when referencing PPR-FR fire resistance. The burn test video below provides a quick overview of key PPR-FR traits that contribute to its exceptional fire performance

2

Flame the Surface Spread Resistance

Flame spread resistance is an important property because keeping flames contained helps firefighters or extinguishing systems more quickly put out blazes, limiting property and equipment damage.

KPT Thermaplus (PPR-FR) flammability is tested in accordance with BS 76-7 (Class-1) & UL 94, which determines the flammability of plastic materials used in components and parts of finished products. Specifically, this test measures a material's resistance to burning, dripping, glow emission and burn through.
KPT Thermaplus (PPR-FR) has achieved the highest class-1, Horizontal burn rating available within the scope of the tests: 0.

3

Flammability

KPT Thermaplus (PPR-FR) is ideal for wet automatic fire sprinkler system due to its outstanding balance of properties such as light weight, excellent corrosion resistance, low friction loss and ease of fabrication. KPT Thermaplus (PPR-FR) uniquely offers outstanding resistance to fire and low smoke generation qualities. Because of these features, KPT Thermaplus (PPR-FR) system can be used in plenum spaces as defined by NBC-4, the National Building Code for the Installation of Air Conditioning and Ventilating Systems.

4

Thermal Conductivity

Extreme heat is capable of starting a fire if the proper fuel and oxygen are present. While firewalls are designed to stop the spread of smoke and flame through a building, they cannot stop heat transferred through the piping material.
Metal piping has a high thermal conductivity, and transfers heat very well. In rare circumstances, heat from a fire in one room has the potential to cause a fire in an adjacent room by transferring extreme heat through the piping. Conversely, PPR-FR has a low thermal conductivity, limiting the transference of heat through firewalls. It's worth noting that when working with highly flammable materials or if you're concerned about flammability, metal piping can stand up to heat better than PPR-FR. While PPR-FR limits burning after flame removal, it will still burn and eventually fail at a certain point before a metal system will.

If you have questions, please set up a call with our engineering support team.

5

Smoke Generation Resistance - As with flame, confining the spread of smoke to one area limits potential smoke damage to property. This is especially important in clean rooms, where particals can contaminate equipment and products. During burning, PPR-C will off gas and generate some smoke, but thanks to the engineering of the KPT Thermaplus (PPR-FR) polymer and compound, the amount of smoke is limited. In addition, the moment the flame is removed from the pipe, the material self extinguishes and stops any smoke production.

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Ignitability Resistance

Flash ignition temperature is the lowest temperature at which sufficient combustible gas can be ignited by a small external flame. KPT Thermaplus (PPR-FR) flash ignition temperature is 1112°F (600°C), making it far less susceptible to ignition than other thermoplastic materials.

Flash Ignition Temperature Comparison

MATERIAL	°C	°F
PPR-FR	600	1112
CPVC	482	900
Polyethylene	343	650
PVC Rigid	399	750
Paper	232	450

Burning Resistance

A material's burning resistance is measured using Limiting Oxygen Index (LOI), which is the percentage of oxygen needed in the surrounding atmosphere to sustain a flame. KPT Thermaplus (PPR-FR) pipe & fittings LOI is 24.3%. For reference, the Earth's atmosphere is made up of 21% oxygen.

Because of this, the instant a flame is extinguished from around the pipe, the material self extinguishes and burning stops. Conversely, once lit, polyethylene (PE) and ABS will continue to burn.

Limiting Oxygen Index Comparison

MATERIAL	LOI
PPR-C	24.3
CPVC	30
Polyethylene	17
ABS	18
Paper	12

Temperature Pressure rating

KPT Thermaplus (PPR-FR) pipes and fittings (1/2" - 16" (16 - 400 mm)) are rated for continuous service of 108 psi (7.6 Bar) at 176°F (80°C). KPT Thermaplus (PPR-FR) pipes and fittings are suitable for use in areas where ambient temperatures are within the range of 35°F (2°C) to 176° F (80°C).

Typical Physical properties

S.No.	Parameter	Method / Unit	Value
1	Melt Flow Index(g/10min)	g/10min	0.3 to 0.6
2	Tensile Strength at Yield(MPa)	MPa	48
3	Tensile Modulus (MPa)		
4	Modulus Elasticity		
5	Density	Kg/m³	949.5
6	Flame Spread	...	Class-1
7	Smoke Development	...	
8	Limiting Oxygen Index	%	24.3
9	Flammability	...	Flame (0)
10	Toxicity		
11	Ignitability	°C	(600) Not Easily Ignitable
12	Thermal Conductivity	Btu/hrs	0.013
13	Coefficient of Linear Expansion	MPa	1.0X10 ?
14	Flexural Modulus	MPa	1300
15	Melting Temperature Rate	°C	160 - 165

KPT PPR SDR 17.6/ S 8.3 PN 6

Pipe		Diameter	Wall Thickness	Internal Diameter	Water Content
Dimension	Packing Unit	d(mm)	S(mm)	di(mm)	l/m
160mm	6m	160	9.1	141.8	15.784
200mm	3m	200	11.4	177.2	24.649
250mm	3m	250	14.2	221.6	38.549
315mm	3m	315	17.9	279.2	61.193
355mm	3m	355	20.1	314.8	77.793
400mm	3m	400	22.7	354.6	98.707

KPT PPR SDR 11/ S 5 PN 10

Pipe		Diameter	Wall Thickness	Internal Diameter	Water Content
Dimension	Packing Unit	d(mm)	S(mm)	di(mm)	l/m
20mm	240m	20	1.9	16.2	0.206
25mm	180m	25	2.3	20.4	0.327
32mm	120m	32	2.9	26.2	0.539
40mm	75m	40	3.7	32.6	0.834
50mm	45m	50	4.6	40.8	1.307
63mm	30m	63	5.8	51.4	2.074
75mm	21m	75	6.8	61.4	2.959
90mm	15m	90	8.2	73.6	4.252
110mm	12m	110	10.0	90.0	6.359
160mm	6m	160	14.6	130.8	13.430
200mm	3m	200	18.2	163.6	21.010
250mm	3m	250	22.7	204.6	32.861
315mm	3m	315	28.6	257.8	52.172
355mm	3m	355	32.2	290.6	66.292
400mm	3m	400	36.3	327.4	84.145
450mm	3m	450	40.9	368.2	106.423

KPT PPR SDR 7.4/ S 3.2 PN 16

Pipe		Diameter	Wall Thickness	Internal Diameter	Water Content
Dimension	Packing Unit	d(mm)	S(mm)	di(mm)	l/m
16mm	300m	16	2.2	11.6	0.106
20mm	240m	20	2.8	14.4	0.163
25mm	180m	25	3.5	18.0	0.254
32mm	120m	32	4.4	23.2	0.423
40mm	75m	40	5.5	29.0	0.660
50mm	45m	50	6.9	36.2	1.029
63mm	30m	63	8.6	45.8	1.647
75mm	21m	75	10.3	54.4	2.323
90mm	15m	90	12.3	65.4	3.358
110mm	9m	110	15.1	79.8	4.999
160mm	6m	160	21.9	116.2	10.599
200mm	3m	200	27.4	145.2	16.550
250mm	3m	250	34.2	181.6	25.888
315mm	3m	315	43.4	228.2	40.879
355mm	3m	355	49.0	257	51.848

KPT PPR SDR 6/ S 2.5 PN 20

Pipe		Diameter	Wall Thickness	Internal Diameter	Water Content
Dimension	Packing Unit	d(mm)	S(mm)	di(mm)	l/m
16mm	240m	16	2.7	10.6	0.088
20mm	210m	20	3.4	13.2	0.137
25mm	150m	25	4.2	16.6	0.216
32mm	105m	32	5.4	21.2	0.353
40mm	60m	40	6.7	26.6	0.555
50mm	36m	50	8.3	33.4	0.876
63mm	24m	63	10.5	42.0	1.385
75mm	21m	75	12.5	50.0	1.963
90mm	12m	90	15.0	60.0	2.826
110mm	9m	110	18.3	73.4	4.229
160mm	3m	160	26.6	106.8	8.954
200mm	3m	200	33.2	133.6	14.011

KPT PPR SDR 26/ S 12.5 PN 4

Pipe		Diameter	Wall Thickness	Internal Diameter	Water Content
Dimension	Packing Unit	d(mm)	S(mm)	di(mm)	l/m
40mm	75m	40	1.8	36.4	1.040
50mm	45m	50	2.0	46.0	1.661
63mm	30m	63	2.5	58.0	2.641
75mm	21m	75	2.9	69.2	3.759
90mm	15m	90	3.5	83.0	5.408
110mm	12m	110	4.2	101.6	8.103
160mm	6m	160	6.2	147.6	17.102
200mm	3m	200	7.7	184.6	26.751
250mm	3m	250	9.5	231.0	41.888
315mm	3m	315	12.1	290.8	66.383
355mm	3m	355	13.6	327.8	84.350
400mm	3m	400	15.3	369.4	107.118
450mm	3m	450	17.2	415.6	135.588
500mm	3m	500	19.1	461.8	167.409
560mm	3m	560	21.4	517.2	209.984
630mm	3m	630	24.1	581.8	265.716

KPT PPR SDR 17.6/ S 8.3 PN 6

Pipe		Diameter	Wall Thickness	Internal Diameter	Water Content
Dimension	Packing Unit	d(mm)	S(mm)	di(mm)	l/m
160mm	6m	160	9.1	141.8	15.784
200mm	3m	200	11.4	177.2	24.649
250mm	3m	250	14.2	221.6	38.549
315mm	3m	315	17.9	279.2	61.193
355mm	3m	355	20.1	314.8	77.793
400mm	3m	400	22.7	354.6	98.707

KPT PPR SDR 17.6/ S 8.3 PN 6

Pipe		Diameter	Wall Thickness	Internal Diameter	Water Content
Dimension	Packing Unit	d(mm)	S(mm)	di(mm)	l/m
32mm	120m	32	1.8	28.4	0.633
40mm	75m	40	2.3	35.4	0.984
50mm	45m	50	2.9	44.2	1.534
63mm	30m	63	3.6	55.8	2.444
75mm	21m	75	4.3	66.4	3.461
90mm	15m	90	5.1	79.8	4.999
110mm	12m	110	6.3	97.4	7.447
160mm	6m	160	9.1	141.8	15.784
200mm	3m	200	11.4	177.2	24.649
250mm	3m	250	14.2	221.6	38.549
315mm	3m	315	17.9	279.2	61.193
355mm	3m	355	20.1	314.8	77.793
400mm	3m	400	22.7	354.6	98.707
450mm	3m	450	25.5	399.0	124.973
500mm	3m	500	28.4	443.2	154.195
560mm	3m	560	31.7	496.6	193.590
630mm	3m	630	35.7	558.6	244.947

KPT PPR SDR 9/ S 4 PN 12.5

Pipe		Diameter	Wall Thickness	Internal Diameter	Water Content	Weight
Dimension	Packing Unit	d(mm)	S(mm)	di(mm)	l/m	per mtrs
20mm	240m	20	2.2	15.6	0.190	0.113
25mm	180m	25	2.8	19.4	0.297	0.176
32mm	120m	32	3.6	24.9	0.486	0.289
40mm	75m	40	4.4	31.1	0.760	0.452
50mm	45m	50	5.6	38.9	1.187	0.706
63mm	30m	63	7.0	49.0	1.885	1.120
75mm	21m	75	8.3	58.3	2.671	1.587
90mm	15m	90	10.0	70.0	3.847	2.286
110mm	9m	110	12.2	85.6	5.746	3.415
125mm	6m	125	13.9	97.2	7.420	4.410
140mm	6m	140	15.6	108.9	9.308	5.531
160mm	6m	160	17.8	124.4	12.157	7.225
180mm	3m	180	20.0	140.0	15.386	9.144
200mm	3m	200	22.2	155.6	18.995	11.288
225mm	3m	225	25.0	175.0	24.041	14.287
250mm	3m	250	27.8	194.4	29.680	17.638
280mm	3m	280	31.1	217.8	37.230	22.125
315mm	3m	315	35.0	245.0	47.120	28.003
355mm	3m	355	39.4	276.1	59.846	35.566
400mm	3m	400	44.4	311.1	75.980	45.154
450mm	3m	450	50.0	350.0	96.163	57.148
500mm	3m	500	55.6	388.9	118.719	70.553
560mm	3m	560	62.2	435.6	148.921	88.502
630mm	3m	630	70.0	490.0	188.479	112.010

KPT PPR SDR 9/ S 4 PN 12.5

Pipe		Diameter	Wall Thickness	Internal Diameter	Water Content	Weight / mtrs
Dimension	Packing Unit	d(mm)	S(mm)	di(mm)	l/m	
20mm	240m	20	2.2	15.6	0.190	0.113
25mm	180m	25	2.8	19.4	0.297	0.176
32mm	120m	32	3.6	24.9	0.486	0.289
40mm	75m	40	4.4	31.1	0.760	0.452
50mm	45m	50	5.6	38.9	1.187	0.706
63mm	30m	63	7.0	49.0	1.885	1.120
75mm	21m	75	8.3	58.3	2.671	1.587
90mm	15m	90	10.0	70.0	3.847	2.286
110mm	9m	110	12.2	85.6	5.746	3,415
160mm	6m	160	17.8	124.4	12.157	7.225
200mm	3m	200	22.2	155.6	18.995	11.288
250mm	3m	250	27.8	194.4	29.680	17.638

Linear expansion of KPT Thermaplus (PPPR-FR) pipes and fittings

Pipe Length	Temperature Difference DT (°C)									
L(m)	10	20	30	40	50	60	70	80	90	95
1	0.8	1.5	2.3	3.0	3.8	4.5	5.3	6.0	6.8	7.5
2	1.5	2.3	3.0	3.8	4.5	5.3	6.0	6.8	7.5	8.3
3	2.3	3.0	3.8	4.5	5.3	6.0	6.8	7.5	8.3	9.0
4	3.0	3.8	4.5	5.3	6.0	6.8	7.5	8.3	9.0	9.8
5	3.8	4.5	5.3	6.0	6.8	7.5	8.3	9.0	9.8	10.5
6	4.5	5.3	6.0	6.8	7.5	8.3	9.0	9.8	10.5	11.3
7	5.3	6.0	6.8	7.5	8.3	9.0	9.8	10.5	11.3	12.0
8	6.0	6.8	7.5	8.3	9.0	9.8	10.5	11.3	12.0	12.8
9	6.8	7.5	8.3	9.0	9.8	10.5	11.3	12.0	12.8	13.5
10	7.5	8.3	9.0	9.8	10.5	11.3	12.0	12.8	13.5	14.3

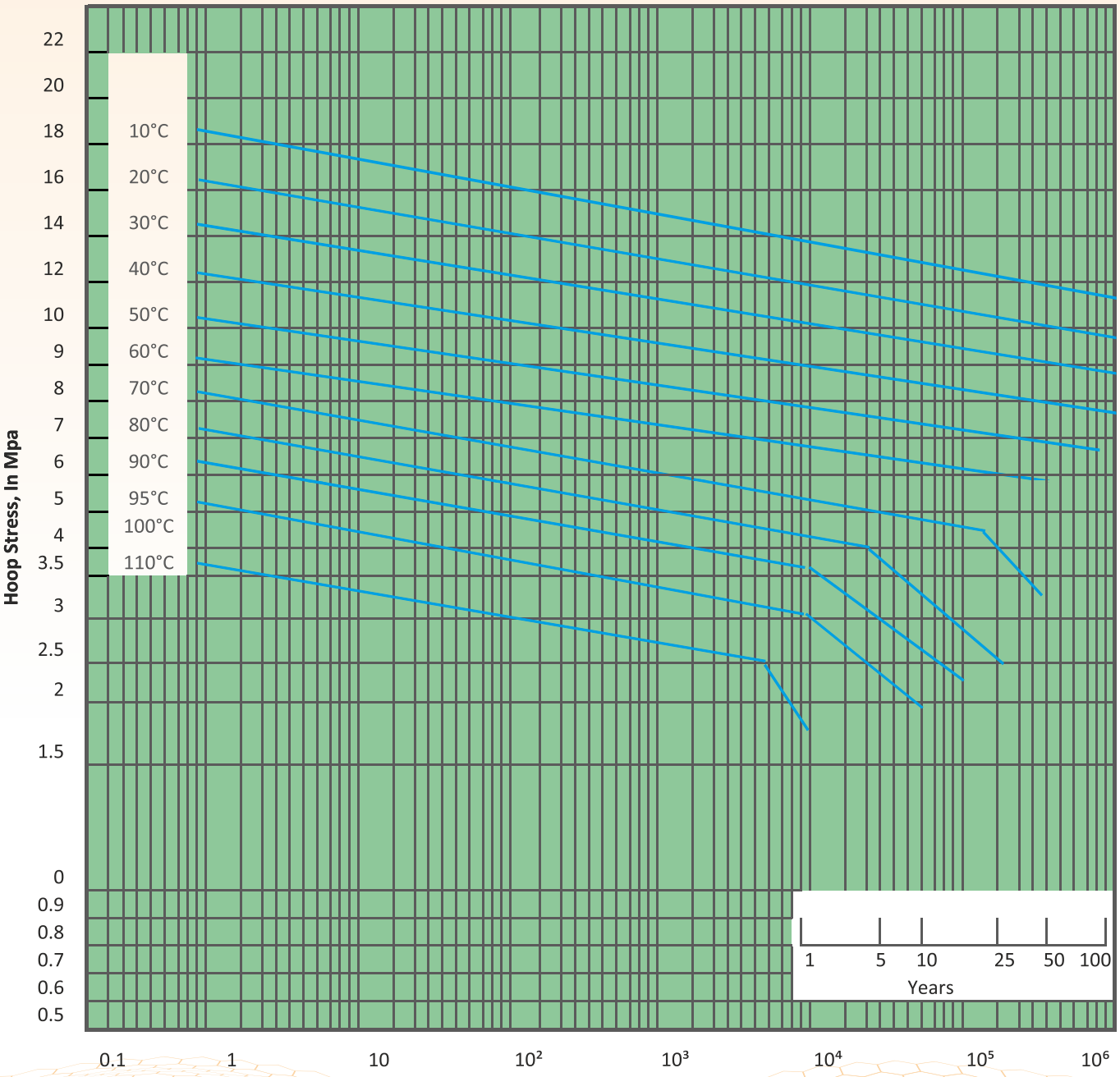
Note : Linear expension unit in mm

Support Intervals

Pipe Diameters mm	Temperature								
Size	0°C	20°C	30°C	40°C	50°C	60°C	70°C	80°C	95°C
16mm	80	60	60	50	50	45	40	30	25
20mm	90	65	65	60	60	55	50	40	35
25mm	110	80	75	70	70	65	60	50	45
32mm	120	95	95	85	80	75	70	60	55
40mm	145	110	110	90	90	85	80	70	60
50mm	170	130	120	110	110	100	95	75	70
63mm	190	150	140	130	120	110	100	90	75
75mm	210	160	150	140	130	120	110	100	85
90mm	220	160	160	150	150	140	125	105	90
110mm	250	180	180	170	170	160	140	125	110
160mm	260	210	210	190	180	170	150	135	120
200mm	270	250	240	230	220	210	200	190	150
250mm	290	280	270	260	250	240	230	215	170
315mm	325	315	305	295	285	270	260	245	205
355mm	345	335	325	315	300	285	275	260	215
400mm	365	355	345	335	320	305	290	275	230

Support Intervals(CM)

Long Term behaviour of Thermaplus pipes



For all size of KPT Thermaplus (PPR-FR) Pipe and Fittings

Allowable working pressure for KPT Thermaplus (PPR-FR) Pipe and Fittings

Temprature, in °C	Years of Service	Standard Dimension Ratio (SDR)			
		17.6	11	7.4	6
		PN-6	PN-10	PN-16	PN-20
		Allowable working pressure, in bar			
10	1	12.7	21.1	33.4	42.0
	5	12.0	20.0	31.6	39.8
	10	11.6	19.3	30.6	38.5
	25	11.2	18.7	29.6	37.3
	50	10.9	18.2	28.8	36.3
20	1	10.8	18.0	28.6	36.0
	5	10.2	16.9	26.8	33.8
	10	9.9	16.4	26.1	32.8
	25	9.6	16.0	25.3	31.8
	50	9.3	15.5	24.5	30.9
30	1	9.2	15.3	24.3	30.6
	5	8.6	14.4	22.8	28.7
	10	8.4	13.9	22.0	27.7
	25	8.1	13.4	21.3	26.8
	50	7.9	13.1	20.7	26.1
40	1	7.8	12.9	20.5	25.8
	5	7.3	12.1	19.2	24.2
	10	7.1	11.8	18.7	23.6
	25	6.8	11.3	18.0	22.6
	50	6.6	11.0	17.5	22.0
50	1	6.6	11.0	17.5	22.0
	5	6.1	10.2	16.2	20.4
	10	6.0	9.9	15.7	19.7
	25	5.8	9.6	15.2	19.1
	50	5.6	9.3	14.7	18.5
60	1	5.6	9.3	14.7	18.5
	5	5.2	8.6	13.7	17.2
	10	5.0	8.3	13.2	16.6
	25	4.8	8.0	12.6	15.9
	50	4.6	7.7	12.1	15.3
70	1	4.7	7.8	12.4	15.6
	5	4.3	7.2	11.4	14.3
	10	4.2	7.0	11.1	14.0
	25	3.6	6.1	9.6	12.1
	50	3.1	5.1	8.1	10.2
80	1	3.9	6.5	10.4	13.1
	5	3.5	5.7	9.1	11.5
	10	2.9	4.8	7.6	9.6
	25	2.3	3.8	6.1	7.6
95	1	2.8	4.6	7.3	9.2
	5	1.8	3.0	4.8	6.1
	10	1.5	2.6	4.0	5.1
110	1	1.0	2.1	4.1	5.0
	5	0.6	1.8	2.9	3.1

The bracketed values apply where testing can be shown to have been carried out for longer than one year at 110°C.

Recommended Time For Thermaplus Pipes Fusion Joints.

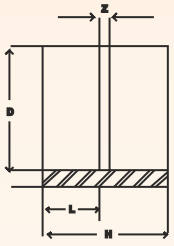
PIPE DIA. (MM)	WELDING DEPTH (MM)	HEATING TIME (SEC)	WELDING TIME (SEC)	COOLING TIME (MIN)
16	14.0	6	4	2
20	14.5	6	4	2
25	16.0	7	4	2
32	18.0	8	6	4
40	20.5	12	6	4
50	23.5	18	6	4
63	27.5	24	8	6
75	30.0	30	8	6
90	32.5	40	8	6
110	37.0	50	10	8
160	42.0	60	15	10

Recommended Time For Thermaplus Pipes Butt Joints.

PIPE DIA. (MM)	WELDING MACHINE TEMPERATURE °C	HEATING TIME (MIN)	WELDING TIME (SEC)	COOLING TIME (MIN)
200	220-240	30	180	15-20
250	220-240	30	240	16-24
315	225-240	30	300	20-25
355	225-240	30	360	25-30
400	223-240	30	420	30-35

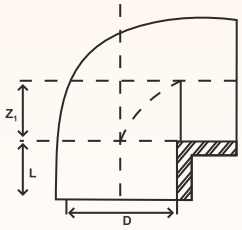
KPT PPR C Fittings

COUPLING



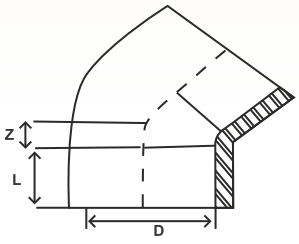
CODE	SIZE	D	L	Z	H
KPT C-0001	20 MM	19.2	14.5	3.9	32.9
KPT C-0002	25 MM	24.1	18.0	2.6	38.6
KPT C-0003	32 MM	31.0	18.4	3.0	39.8
KPT C-0004	40 MM	38.9	20.7	3.4	44.8
KPT C-0005	50 MM	48.0	24.4	3.1	51.9
KPT C-0006	63 MM	60.7	28.2	8.2	64.6
KPT C-0007	75 MM	71.9	31.5	4.0	67.0
KPT C-0008	90 MM	86.4	32.5	6.1	71.1
KPT C-0009	110 MM	106.8	38.8	3.0	80.6
KPT C-0010	160 MM	153.0	42.5	5.4	90.4

ELBOW 90°



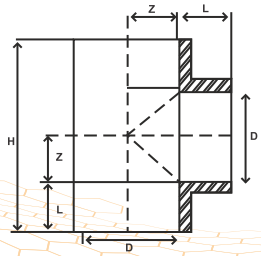
CODE	SIZE	D	L	Z
KPT E90-0021	20 MM	19.1	15.5	10.9
KPT E90-0022	25 MM	24.2	16.9	14.1
KPT E90-0023	32 MM	31.1	18.0	16.4
KPT E90-0024	40 MM	39.5	20.0	20.0
KPT E90-0025	50 MM	48.4	23.8	26.2
KPT E90-0026	63 MM	60.5	27.4	32.2
KPT E90-0027	75 MM	72.6	31.5	38.0
KPT E90-0028	90 MM	86.8	33.0	44.7
KPT E90-0029	110 MM	106.5	39.0	54.8
KPT E90-0030	160 MM	153.6	45.0	78.7
KPT E90-0031	200MM	...	...	...
KPT E90-0032	250MM	...	...	...
KPT E90-0033	315MM	...	...	...
KPT E90-0034	355MM	...	...	...
KPT E90-0035	400MM	...	...	...

ELBOW 45°



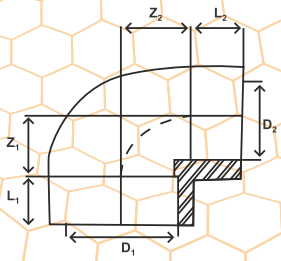
CODE	SIZE	D	L	Z
KPT E45-0041	20 MM	19.3	15.5	6.0
KPT E45-0042	25 MM	23.7	17.6	7.0
KPT E45-0043	32 MM	30.6	16.5	8.0
KPT E45-0044	40 MM	38.2	21.3	9.0
KPT E45-0045	50 MM	47.7	22.5	12.0
KPT E45-0046	63 MM	60.0	26.0	13.0
KPT E45-0047	75 MM	72.5	26.7	20.0
KPT E45-0048	90 MM	86.8	34.5	32.0
KPT E45-0049	110 MM	106.2	35.3	40.0
KPT E45-0050	160 MM	154.9	48.2	50.0
KPT E45-0051	200MM	...	...	...
KPT E45-0052	250MM	...	...	...
KPT E45-0053	315MM	...	...	...
KPT E45-0054	355MM	...	...	...
KPT E45-0055	400MM	...	...	...

EQUAL TEE



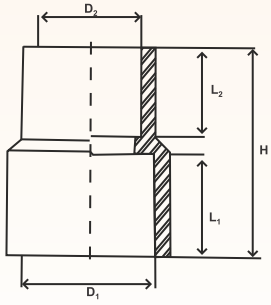
CODE	SIZE	D	L	Z	H
KPT ET-0061	20 MM	19.3	15.8	10.5	52.6
KPT ET-0062	25 MM	24.2	18.0	12.7	61.4
KPT ET-0063	32 MM	31.4	20.2	16.3	72.5
KPT ET-0064	40 MM	39.0	20.3	20.9	82.4
KPT ET-0065	50 MM	48.6	24.4	24.5	97.8
KPT ET-0066	63 MM	61.7	27.4	32.6	120.0
KPT ET-0067	75 MM	72.2	31.3	36.7	136.0
KPT ET-0068	90 MM	86.9	32.9	47.1	160.0
KPT ET-0069	110 MM	106.7	38.8	55.3	188.2
KPT ET-0070	160 MM	153.7	45.0	85.0	260.0
KPT ET-0071	200MM	...	...	...	...
KPT ET-0072	250MM	...	...	...	...
KPT ET-0073	315MM	...	...	...	...
KPT ET-0074	355MM	...	...	...	...
KPT ET-0075	400MM	...	...	...	...

REDUCING ELBOW



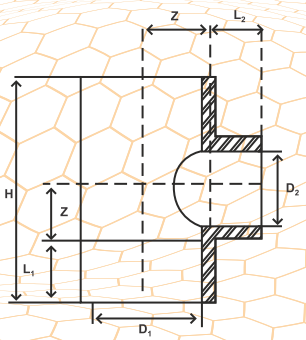
CODE	SIZE	D1	D2	L1	L2	Z1	Z2
KPT RE-0121	25/20	24.0	19.2	18.5	16.0	17.8	14.4
KPT RE-0122	32/20	31.3	19.2	21.1	16.0	18.3	18.0
KPT RE-0123	32/25	31.3	24.2	20.0	17.8	22.2	20.7
KPT RE-0124	40/20	38.7	19.2	21.6	16.3	19.6	24.2
KPT RE-0125	40/25	38.7	24.2	21.6	17.8	21.4	20.7
KPT RE-0126	40/32	38.6	31.2	21.9	19.8	24.2	25.3

REDUCER



CODE	SIZE	D1	D2	L1	L2	H
P-KPT R-0081	25/20	24.0	19.2	18.5	15.7	38.1
P-KPT R-0082	32/20	31.3	19.2	20.0	15.7	39.3
P-KPT R-0083	32/25	31.4	24.4	21.0	18.4	41.7
P-KPT R-0084	40/20	38.7	19.3	22.9	16.9	48.0
P-KPT R-0085	40/25	39.0	24.2	24.2	18.0	48.5
P-KPT R-0086	40/32	38.6	31.0	21.1	18.8	44.9
P-KPT R-0087	50/20	48.0	18.8	24.6	16.6	44.5
P-KPT R-0088	50/25	48.0	23.8	24.5	16.2	45.6
P-KPT R-0089	50/32	48.0	31.1	24.4	18.0	48.1
P-KPT R-0090	50/40	48.2	38.8	24.3	20.9	48.2
P-KPT R-0091	63/20	60.9	19.2	28.2	15.9	48.3
P-KPT R-0092	63/25	60.7	24.1	28.2	18.0	49.5
P-KPT R-0093	63/32	60.6	30.7	28.0	18.0	48.0
P-KPT R-0094	63/40	60.8	38.3	25.3	25.5	56.8
P-KPT R-0095	63/50	60.9	48.2	29.2	25.8	64.8
P-KPT R-0096	75/20	72.5	19.0	42.7	21.1	63.8
P-KPT R-0097	75/25	72.5	24.3	42.7	21.1	63.8
P-KPT R-0098	75/32	72.5	31.0	42.7	21.1	63.8
P-KPT R-0099	75/40	72.2	38.7	31.6	22.5	63.6
P-KPT R-0100	75/50	72.1	48.4	31.7	27.0	63.2
P-KPT R-0101	75/63	71.8	60.9	31.4	30.0	67.0
P-KPT R-0102	90/20	87.3	19.0	43.5	27.0	70.5
P-KPT R-0103	90/25	87.3	24.1	43.5	27.0	70.5
P-KPT R-0104	90/32	87.3	31.0	42.5	27.0	70.5
P-KPT R-0105	90/40	87.3	38.9	42.5	27.0	70.5
P-KPT R-0106	90/50	86.5	48.1	33.0	26.3	70.0
P-KPT R-0107	90/63	86.6	60.9	32.8	29.9	68.8
P-KPT R-0108	90/75	86.7	72.7	37.2	31.5	71.7
P-KPT R-0109	110/20	106.8	19.0	58.1	19.5	76.0
P-KPT R-0110	110/25	106.8	24.0	53.3	19.2	76.0
P-KPT R-0111	110/32	106.8	31.0	57.6	19.5	76.0
P-KPT R-0112	110/40	106.8	39.0	56.6	19.3	76.0
P-KPT R-0113	110/50	106.8	48.4	38.9	26.0	76.0
P-KPT R-0114	110/63	106.8	61.2	38.9	30.1	76.0
P-KPT R-0115	110/75	106.8	72.6	38.9	31.8	76.0
P-KPT R-0116	110/90	106.8	86.6	38.9	33.0	76.0
P-KPT R-0117	160/20	155.3	18.9	61.8	29.5	91.2
P-KPT R-0118	160/25	155.3	23.9	61.8	29.5	91.2
P-KPT R-0119	160/32	155.3	30.6	61.8	29.5	91.2
P-KPT R-0120	160/40	155.3	38.7	61.8	29.5	91.2
P-KPT R-0121	160/50	155.3	48.5	61.8	29.5	91.2
P-KPT R-0122	160/63	155.3	61.8	61.8	29.5	91.2
P-KPT R-0123	160/75	155.3	73.5	61.8	29.5	91.2
P-KPT R-0124	160/90	155.3	55.5	61.8	29.5	91.2
P-KPT R-0125	160/110	155.3	106.3	61.8	29.5	91.2

REDUCING TEE



CODE	SIZE	D1	D2	L1	L2	Z	H
P-KPT RT-0141	25/20/25	24.2	19.1	17.6	16.2	10.8	56.8
P-KPT RT-0142	32/20/32	31.1	19.1	19.8	16.5	11.3	62.2
P-KPT RT-0143	32/25/32	31.4	24.2	20.0	17.8	13.4	66.8
P-KPT RT-0144	40/20/40	39.0	19.1	21.4	16.5	11.1	65.0
P-KPT RT-0145	40/25/40	38.8	24.2	21.4	17.6	13.5	69.8
P-KPT RT-0146	40/32/40	38.8	31.0	21.4	19.5	16.8	76.4
P-KPT RT-0147	50/20/50	48.4	19.1	24.4	18.1	24.5	97.7
P-KPT RT-0148	50/25/50	48.6	24.1	24.3	17.9	24.7	98.0
P-KPT RT-0149	50/32/50	48.6	30.5	24.3	18.8	24.6	97.8
P-KPT RT-0150	50/40/50	48.6	38.7	22.4	22.0	26.1	96.9
P-KPT RT-0151	63/20/63	61.2	19.0	27.5	16.2	32.2	119.4
P-KPT RT-0152	63/25/63	61.3	23.8	27.5	19.4	32.2	119.4
P-KPT RT-0153	63/32/63	61.3	30.8	27.5	19.3	32.2	119.4
P-KPT RT-0154	63/40/63	61.3	38.9	27.3	22.5	32.4	119.4
P-KPT RT-0155	63/50/63	61.2	48.0	27.4	25.8	32.3	119.4
P-KPT RT-0156	75/20/75	72.5	19.0	31.4	15.9	26.4	115.5
P-KPT RT-0157	75/25/75	72.5	24.0	31.4	17.6	26.4	115.5
P-KPT RT-0158	75/32/75	72.5	30.9	31.4	19.7	26.4	115.5
P-KPT RT-0159	75/40/75	72.3	38.4	31.4	20.3	26.4	115.5
P-KPT RT-0160	75/50/75	72.3	47.9	31.4	29.8	26.4	115.5
P-KPT RT-0161	75/63/75	72.2	60.2	31.4	29.8	26.4	115.5
P-KPT RT-0162	90/20/90	86.5	19.0	32.8	15.6	31.3	128.1
P-KPT RT-0163	90/25/90	86.5	24.0	32.8	17.6	31.3	128.1
P-KPT RT-0164	90/32/90	86.5	31.0	32.8	19.5	31.3	128.1
P-KPT RT-0165	90/40/90	86.5	38.6	32.8	21.2	31.3	128.1
P-KPT RT-0166	90/50/90	86.5	48.1	32.8	26.0	31.3	128.1
P-KPT RT-0167	90/63/90	86.5	61.2	32.8	30.1	31.3	128.1
P-KPT RT-0168	90/75/90	86.5	72.4	32.9	31.7	46.9	159.5
P-KPT RT-0169	110/20/110	106.5	19.0	38.7	15.8	38.5	154.3
P-KPT RT-0170	110/25/110	106.5	24.2	38.7	17.7	38.5	154.3
P-KPT RT-0171	110/32/110	106.5	31.0	38.7	19.7	38.5	154.3
P-KPT RT-0172	110/40/110	106.5	38.9	38.7	21.5	38.5	154.3
P-KPT RT-0173	110/50/110	106.5	48.6	38.9	26.2	38.3	154.3
P-KPT RT-0174	110/63/110	106.7	61.3	39.0	30.2	38.2	154.3
P-KPT RT-0175	110/75/110	106.4	72.5	39.0	32.0	38.2	154.3
P-KPT RT-0176	110/90/110	106.7	87.1	38.9	33.0	54.8	187.4
P-KPT RT-0177	160/20/160	155.4	19.0	45.0	15.8	80.9	251.8
P-KPT RT-0178	160/25/160	155.4	23.8	45.0	18.5	80.9	251.8
P-KPT RT-0179	160/32/160	155.4	31.0	45.0	19.5	80.9	251.8
P-KPT RT-0180	160/40/160	155.4	38.9	45.0	21.5	80.9	251.8
P-KPT RT-0181	160/50/160	155.4	48.8	45.0	25.4	80.9	251.8
P-KPT RT-0182	160/63/160	157.5	61.9	45.0	27.6	80.9	251.8
P-KPT RT-0183	160/75/160	157.5	73.9	45.0	32.1	80.9	251.8
P-KPT RT-0184	160/90/160	157.5	88.5	45.0	33.0	80.9	251.8
P-KPT RT-0185	160/110/160	157.5	107.4	45.0	44.9	80.9	251.8

thermaplus
Thermal FR Composite Piping

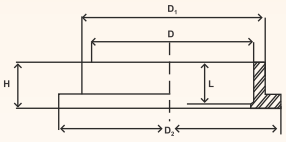
KPT FLOW INFINITE

AN ISO 9001:2015 & ISO 14001:2015 CERTIFIED COMPANY

FLANGE CORE(STUB END)

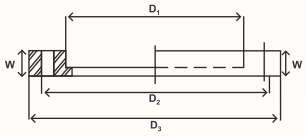
CODE	SIZE	D1	D3	W	No. of Bolt
P-KPT F-0221	90 MM	...	...	...	...
P-KPT F-0222	110 MM	...	...	...	...
P-KPT F-0223	160 MM	...	...	...	...
P-KPT F-0224	200 MM	217.0	292.1	24.5	8
P-KPT F-0225	250 MM	267.0	355.0	27.5	8
P-KPT F-0226	315 MM	323.0	406.4	32.6	12

FLANGE CORE(STUB END)



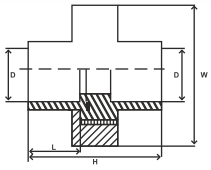
CODE	SIZE	D	D1	D2	L	H
P-KPT FC-0201	32 MM	31.1	42.9	50.5	19.9	23.3
P-KPT FC-0202	40 MM	31.1	49.6	60.2	20.3	25.8
P-KPT FC-0203	50 MM	48.1	62.6	72.3	22.2	27.2
P-KPT FC-0204	63 MM	61.0	80.7	95.0	20.9	35.4
P-KPT FC-0205	75 MM	72.6	95.0	111.3	31.9	39.0
P-KPT FC-0206	90 MM	87.1	111.8	129.4	24.2	42.1
P-KPT FC-0207	110 MM	106.8	133.3	151.0	25.4	43.3
P-KPT FC-0208	160 MM	155.0	194.4	214.0	31.0	52.8
P-KPT FC-0209	200MM	166.1	211.0	251.5	54.8	80.3
P-KPT FC-0210	250MM	213.8	261.4	312.0	80.5	84.4
P-KPT FC-0211	315MM	253.5	310.5	380.0	71.0	94.0
P-KPT FC-0212	355MM	300.0	355.0	427.0	63.8	119.0
P-KPT FC-0213	400MM	352.0	400.0	477.0	70.0	117.0

SLIP-ON (PPR FLANGES)



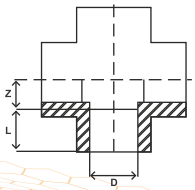
CODE	SIZE	D1	D2	D3	W
P-KPT F-0221	32 MM	43.6	97.0	115.7	20.6
P-KPT F-0222	40 MM	50.0	109.0	128.0	21.6
P-KPT F-0223	50 MM	62.5	122.0	140.7	22.5
P-KPT F-0224	63 MM	83.0	141.4	157.4	24.3
P-KPT F-0225	75 MM	97.0	175.3	172.3	26.2
P-KPT F-0226	90 MM	113.7	178.3	194.8	26.4
P-KPT F-0227	110 MM	135.7	197.9	216.0	30.6
P-KPT F-0228	160 MM	195.8	266.0	292.0	35.5

PLAIN UNION



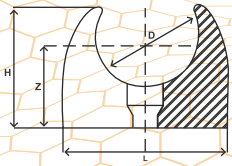
CODE	SIZE	D	L	W	H
P-KPT U-0241	20 MM	19.2	17.7	52.2	44.4
P-KPT U-0242	25 MM	24.2	18.6	51.4	55.2
P-KPT U-0243	32 MM	31.2	22.1	61.5	67.5
P-KPT U-0244	40 MM	39.2	29.2	79.0	79.9
P-KPT U-0245	50 MM	47.7	23.6	78.0	96.1
P-KPT U-0246	63 MM	60.7	27.7	89.0	107.6

4WAY/CROSS TEE



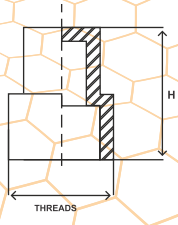
CODE	SIZE	D	L	Z
P-KPT CT-0261	20 MM	18.8	15.5	15.4
P-KPT CT-0262	25 MM	24.1	17.1	24.9
P-KPT CT-0263	32 MM	30.6	17.8	32.2
P-KPT CT-0264	40 MM	38.0	20.8	39.2
P-KPT CT-0265	50 MM	48.0	21.3	52.2
P-KPT CT-0266	63 MM	60.7	23.3	63.6

PIPE CLAMP



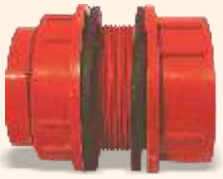
CODE	SIZE	D	L	Z	H
P-KPT PC-0281	20 MM	18.9	27.0	19.2	31.0
P-KPT PC-0282	25 MM	24.0	32.0	21.0	36.0
P-KPT PC-0283	32 MM	30.7	39.5	27.5	43.5
P-KPT PC-0284	40 MM	39.1	48.3	30.9	49.8
P-KPT PC-0285	50 MM	50.0	60.0	37.3	61.5
P-KPT PC-0286	63 MM	63.0	74.7	45.0	75.3

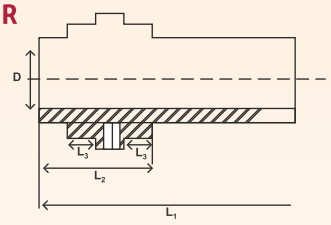
LONG PLUG



CODE	SIZE	THREADS	H
P-KPT LP-0301	1/2"	1/2"	69.7
P-KPT LP-0302	3/4"	3/4"	62.2
P-KPT LP-0303	1"	1"	73.6

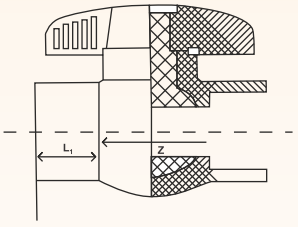
TANK CONNECTOR





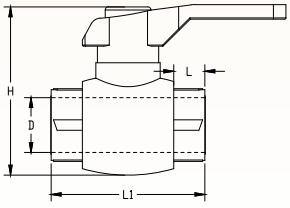
CODE	SIZE	D	L1	L2	L3
P-KPT TC-0321	20 MM	19.2	69.0	43.6	15.2
P-KPT TC-0322	25 MM	24.1	69.0	52.5	19.5
P-KPT TC-0323	32 MM	30.6	74.3	54.5	21.5
P-KPT TC-0324	40 MM	38.4	88.4	55.3	25.6
P-KPT TC-0325	50 MM	48.3	96.7	58.4	24.6
P-KPT TC-0326	63 MM	60.7	101.5	65.5	27.0

BALL VALVE



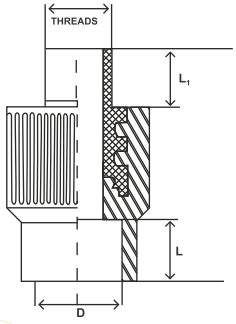
CODE	SIZE	D	L	Z	H
KPT BV-0341	20 MM	19.1	23.0	32.4	78.4
KPT BV-0342	25 MM	24.1	24.8	39.6	89.2
KPT BV-0343	32 MM	31.0	25.1	51.8	102.0
KPT BV-0344	40 MM	38.9	29.6	53.7	112.9
KPT BV-0345	50 MM	49.2	34.5	60.8	129.8
KPT BV-0346	63 MM	61.6	37.3	70.9	145.5
KPT BV-0347	75 MM	73.4	40.5	85.7	166.7
KPT BV-0348	90 MM	87.4	40.7	97.2	178.6
KPT BV-0349	110 MM	106.6	41.9	107.9	191.7

BALL VALVE PLASTIC (SINGLE LEVER)



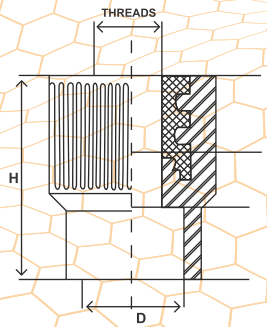
CODE	SIZE	D	L	L1	H
P-KPT BV-0351	20 MM	19.4	66.0	17.0	65.0
P-KPT BV-0352	25 MM	24.4	73.2	17.3	75.9
P-KPT BV-0353	32 MM	31.5	85.3	20.9	83.9
P-KPT BV-0354	40 MM	39.4	111.8	24.5	112.6
P-KPT BV-0355	50 MM	49.5	116.3	27.5	120.0
P-KPT BV-0356	63 MM	61.7	149.0	37.0	141.7
P-KPT BV-0357	75 MM	...	...	...	...
P-KPT BV-0358	90 MM	...	...	...	...
P-KPT BV-0359	110 MM	...	...	...	...

MALE THREADED COUPLING



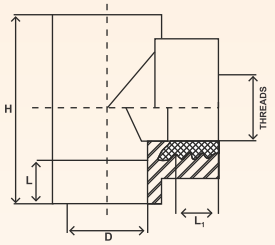
CODE	SIZE	THREADS	D	L	L1	H
P-KPT MTC-0360	16*1/2	½"	15.7	17.0	13.9	57.3
P-KPT MTC-0361	20*1/2	½"	19.2	16.2	14.2	57.0
P-KPT MTC-0362	25*1/2	½"	23.8	18.3	14.2	56.0
P-KPT MTC-0363	25*3/4	¾"	24.1	18.2	14.1	59.1
P-KPT MTC-0364	32*1/2	½"	31.1	19.8	14.0	64.5
P-KPT MTC-0365	32*3/4	¾"	31.1	20.3	14.2	67.8
P-KPT MTC-0366	32*1	1"	31.1	20.2	28.0	71.8
P-KPT MTC-0367	40*1	1"	38.7	21.6	28.0	76.0
P-KPT MTC-0368	40*1-1/4	1¼"	38.8	22.1	14.1	76.0
P-KPT MTC-0369	50*1-1/2	1½"	48.9	25.5	21.3	80.0
P-KPT MTC-0370	63*2	2"	62.2	29.5	26.3	95.2
P-KPT MTC-0371	75*2-1/2	2½"	72.0	32.4	24.9	100.5
P-KPT MTC-0372	90*3	3"	86.4	38.2	24.6	109.2
P-KPT MTC-0373	110*4	4"	104.9	38.1	25.5	119.0

FEMALE THREADED COUPLING



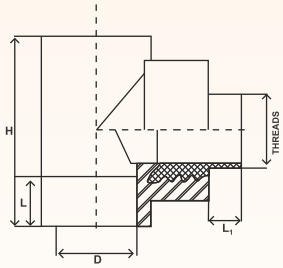
CODE	SIZE	THREADS	D	L	L1	H
P-KPT FTC-0390	16*1/2	½"	15.7	17.0	15.0	43.4
P-KPT FTC-0391	20*1/2	½"	19.2	16.0	15.0	43.2
P-KPT FTC-0392	20*3/4	¾"	23.6	18.0	14.9	41.8
P-KPT FTC-0393	25*1/2	½"	23.6	18.0	14.9	41.8
P-KPT FTC-0394	25*3/4	¾"	24.1	18.1	15.7	45.0
P-KPT FTC-0395	32*1/2	½"	31.1	20.0	15.0	50.5
P-KPT FTC-0396	32*3/4	¾"	31.1	20.4	16.0	52.0
P-KPT FTC-0397	32*1	1"	31.1	20.2	17.8	54.7
P-KPT FTC-0398	40*1	1"	38.7	21.6	27.0	62
P-KPT FTC-0399	40*1-1/4	1¼"	38.8	22.1	18.0	62.0
P-KPT FTC-0400	50*1-1/2	1½"	48.8	25.3	18.5	58.0
P-KPT FTC-0401	63*2	2"	61.5	28.6	25.6	68.1
P-KPT FTC-0402	75*2-1/2	2½"	71.8	31.7	20.2	89.2
P-KPT FTC-0403	90*3	3"	86.5	38.0	21.9	101.5
P-KPT FTC-0404	110*4	4"	106.1	38.2	26.3	116.8

FEMALE THREADED TEE



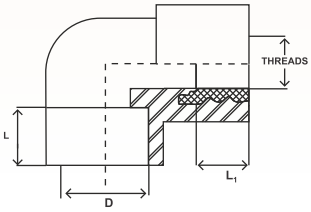
CODE	SIZE	THREADS	D	L	L1	H
P-KPT FTT-0421	20*1/2	½"	19.2	15.0	14.0	58.2
P-KPT FTT-0422	20*3/4	¾"	19.2	15.0	14.0	58.2
P-KPT FTT-0423	25*1/2	½"	24.2	14.9	14.0	62.2
P-KPT FTT-0424	25*3/4	¾"	24.2	16.2	13.9	63.8
P-KPT FTT-0425	32*1/2	½"	31.3	15.0	14.2	78.0
P-KPT FTT-0426	32*3/4	¾"	31.3	16.2	14.2	78.2
P-KPT FTT-0427	32*1	1"	31.2	17.7	15.8	77.8
P-KPT FTT-0428	40*1-1/4	1¼"	39.0	17.6	15.2	91.0

MALE THREADED TEE



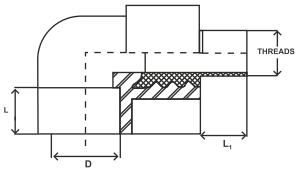
CODE	SIZE	THREADS	D	L	L1	H
P-KPT MTT-0441	20*1/2	½"	19.2	16.5	14.0	58.2
P-KPT MTT-0443	25*1/2	½"	24.2	18.2	14.0	62.2
P-KPT MTT-0444	25*3/4	¾"	24.2	17.6	13.9	63.8
P-KPT MTT-0445	32*1/2	½"	31.3	20.0	14.2	78.0
P-KPT MTT-0446	32*3/4	¾"	31.3	20.0	14.2	78.2
P-KPT MTT-0447	32*1	1"	31.2	20.0	15.8	77.8
P-KPT MTT-0448	40-1-1/4	1¼"	39.0	21.4	15.2	91.0

FEMALE THREADED ELBOW



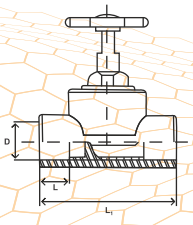
CODE	SIZE	THREADS	D	L	L1
P-KPT FTE-0461	20*1/2	½"	19.2	16.1	16.0
P-KPT FTE-0463	25*1/2	½"	24.1	17.9	15.0
P-KPT FTE-0464	25*3/4	¾"	24.2	17.9	16.0
P-KPT FTE-0465	32*1/2	½"	31.2	20.2	15.0
P-KPT FTE-0466	32*3/4	¾"	31.2	20.2	16.1
P-KPT FTE-0467	32*1	1"	31.2	20.3	18.3
P-KPT FTE-0468	40*1-1/4	1¼"	39.1	21.3	17.9

MALE THREADED ELBOW



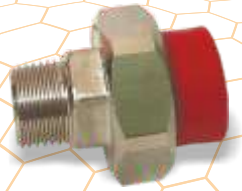
CODE	SIZE	THREADS	D	L	L1
P-KPT MTE-0481	20*1/2	½"	19.2	16.1	15.0
P-KPT MTE-0483	25*1/2	½"	24.1	17.9	15.0
P-KPT MTE-0484	25*3/4	¾"	24.2	18.0	14.2
P-KPT MTE-0485	32*1/2	½"	31.3	21.0	14.3
P-KPT MTE-0486	32*3/4	¾"	31.3	20.4	15.2
P-KPT MTE-0487	32*1	1"	31.3	20.1	27.0
P-KPT MTE-0488	40*1-1/4	1¼"	39.0	24.5	21.8

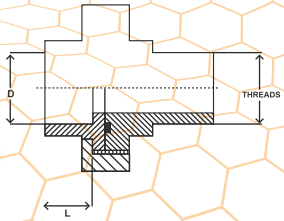
GATE VALVE



CODE	SIZE	D	L	L1
P-KPT GV-0501	20 MM	19.0	15.0	60.5
P-KPT GV-0502	25 MM	24.0	16.8	69.2
P-KPT GV-0503	32 MM	31.1	20.0	79.5
P-KPT GV-0504	40 MM	39.0	21.4	92.5
P-KPT GV-0505	50 MM	48.0	24.0	112.2
P-KPT GV-0506	63 MM	60.6	26.0	119.1

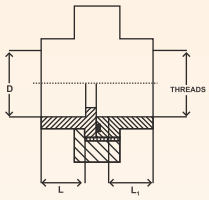
MALE THREADED UNION





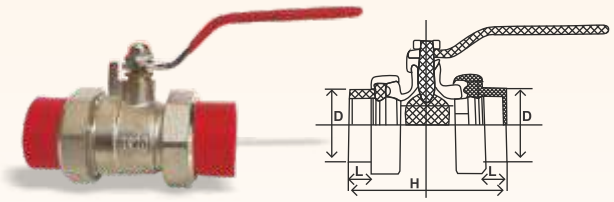
CODE	SIZE	THREADS	D	L
P-KPT MTU-0521	20*1/2	1/2"	19.2	17.8
P-KPT MTU-0522	25*3/4	3/4"	24.2	19.0
P-KPT MTU-0523	32*1	1"	31.3	23.5
P-KPT MTU-0524	40*1-1/4	1¼"	39.2	28.5
P-KPT MTU-0525	50*1-1/2	1½"	47.6	24.6
P-KPT MTU-0526	63*2	2"	60.6	28.1

FEMALE THREADED UNION



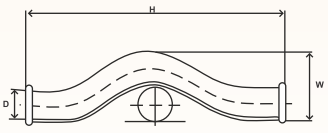
CODE	SIZE	THREADS	D	L	L1
P-KPT FTU-0541	20*1/2	1/2"	19.2	17.5	18.0
P-KPT FTU-0542	25*3/4	3/4"	24.2	19.0	18.5
P-KPT FTU-0543	32*1	1"	31.2	23.6	20.4
P-KPT FTU-0544	40*1-1/4	1¼"	39.2	28.4	23.0
P-KPT FTU-0545	50*1-1/2	1½"	47.7	23.6	31.5
P-KPT FTU-0546	63*2	2"	60.6	28.4	28.7

DOUBLE UNION BALL VALVE



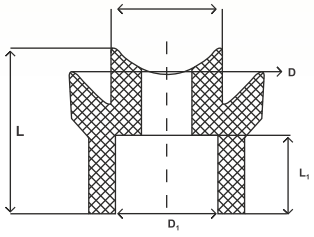
CODE	SIZE	D	L	H
P-KPT DUBV-0561	20 MM	18.7	16.3	84.1
P-KPT DUBV-0562	25 MM	23.8	17.4	95.7
P-KPT DUBV-0563	32 MM	30.8	21.8	107.3
P-KPT DUBV-0564	40 MM	38.9	25.2	125.3
P-KPT DUBV-0565	50 MM	48.7	27.3	147.0
P-KPT DUBV-0566	63 MM	61.4	29.0	168.5

BY PASS BEND



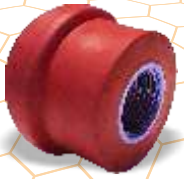
CODE	SIZE	D	W	H
P-KPT BPB-0581	25 MM	23.9	47.0	94.9
P-KPT BPB-0582	32 MM	31.2	58.0	106.0

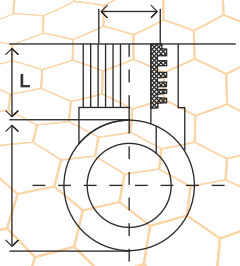
WELD IN SADDLE REDUCER



CODE	SIZE	D	D1	L	L1
P-KPT WIS R-0629	63/32	48.8	30.8	40.2	19.9
P-KPT WIS R-0630	75/32	48.8	30.8	40.2	19.9
P-KPT WIS R-0631	90/20	78.5	19.1	62.1	15.5
P-KPT WIS R-0632	90/25	78.5	24.2	62.1	17.5
P-KPT WIS R-0633	90/32	78.5	31.0	62.1	19.1
P-KPT WIS R-0634	90/40	79.2	38.9	62.1	21.4
P-KPT WIS R-0635	90/50	79.2	48.8	62.1	21.7
P-KPT WIS R-0636	90/63	79.2	62.7	62.1	27.5
P-KPT WIS R-0637	110/20	88.0	19.0	66.7	15.5
P-KPT WIS R-0638	110/25	88.0	24.0	66.7	17.3
P-KPT WIS R-0639	110/32	88.0	31.0	66.7	19.3
P-KPT WIS R-0640	110/40	88.0	39.1	66.7	21.5
P-KPT WIS R-0641	110/50	88.0	48.8	66.7	25.2
P-KPT WIS R-0642	110/63	88.0	62.4	66.7	27.4
P-KPT WIS R-0643	160/20	89.8	19.0	62.0	15.6
P-KPT WIS R-0644	160/25	89.8	23.9	62.0	17.3
P-KPT WIS R-0645	160/32	89.8	31.2	62.0	19.4
P-KPT WIS R-0646	160/40	89.8	38.8	62.0	21.3
P-KPT WIS R-0647	160/50	89.8	49.1	62.0	21.5
P-KPT WIS R-0648	160/63	89.8	62.5	62.0	27.3
P-KPT WIS R-0649	200/20	90.2	19.1	66.0	15.6
P-KPT WIS R-0650	200/25	90.2	24.1	66.0	17.7
P-KPT WIS R-0651	200/32	90.2	31.2	66.0	19.4
P-KPT WIS R-0652	200/40	90.2	39.0	66.0	21.4
P-KPT WIS R-0653	200/50	90.2	48.8	66.0	25.0
P-KPT WIS R-0654	200/63	90.2	62.5	66.0	27.3

WELD IN SADDLE FEMALE THREADED COUPLING

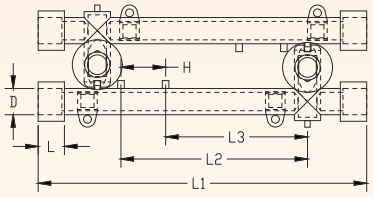




CODE	SIZE	THREADS	L	L1	H
P-KPT WIS M-0671	160*1/2	1/2"	16.3	49.2	41.3
P-KPT WIS M-0672	110*1/2	1/2"	16.3	49.2	41.3
P-KPT WIS M-0673	90*1/2	1/2"	16.3	49.2	41.3
P-KPT WIS M-0674	75*1/2	1/2"	16.3	49.2	41.3
P-KPT WIS M-0675	63*1/2	1/2"	16.3	49.2	41.3
P-KPT WIS M-0676	160*3/4	3/4"	16.0	49.1	41.3
P-KPT WIS M-0677	110*3/4	3/4"	16.0	49.1	41.3
P-KPT WIS M-0678	90*3/4	3/4"	16.0	49.1	41.3
P-KPT WIS M-0679	75*3/4	3/4"	16.0	49.1	41.3
P-KPT WIS M-0680	63*3/4	3/4"	16.0	49.1	41.3

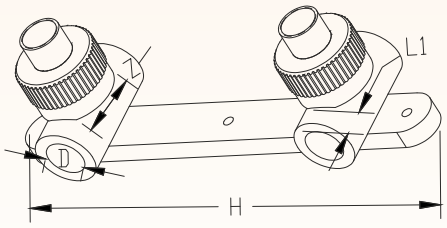
DOUBLE BATTERY TAP CONNECTOR

CODE	SIZE	THREADS	D	L	L1	L2	H
KPT DBTC F-0681	20*1/2	1/2"	19.1	17.3	248	101	30
KPT DBTC F-0682	25*1/2	1/2"	24	18.5	248	101	30



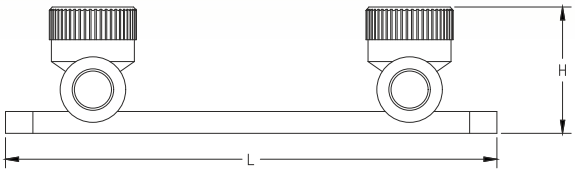
DOUBLE MALE THREADED TEE WITH DISK

CODE	SIZE	THREADS	D	L	Z	T
KPT DMTWD -0685	20*1/2	1/2"	19.1	16.0	25.3	150
KPT DMTWD -0686	25*1/2	1/2"	24.0	18.0	25.2	150



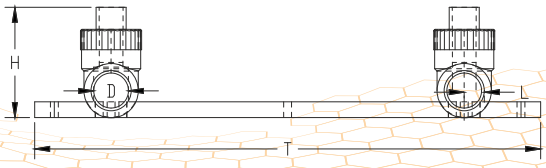
DOUBLE FEMALE THREADED TEE WITH DISK

CODE	SIZE	THREADS	D	L	Z	T
KPT DFTWD -0691	20*1/2	1/2"	19.1	16.0	25.3	150
KPT DFTWD -0692	25*1/2	1/2"	24.0	18.0	25.2	150



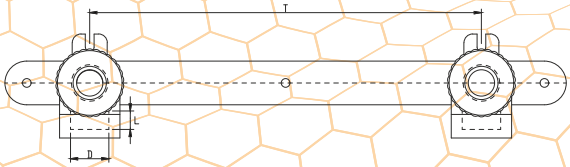
DOUBLE MALE ELBOW WITH DISK

CODE	SIZE	THREADS	D	L	Z
KPT DMEWD -0696	20*1/2	1/2"	18.7	15.8	16.0
KPT DMEWD -0697	25*1/2	1/2"	24.0	17.6	16.2



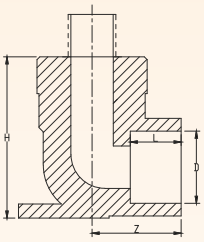
DOUBLE FEMALE ELBOW WITH DISK

CODE	SIZE	THREADS	D	L	Z
KPT DFEWD -0701	20*1/2	1/2"	18.7	15.8	16.0
KPT DFEWD -0702	25*1/2	1/2"	24.0	17.6	16.2



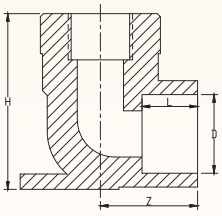
MALE THREADED ELBOW WITH DISK

CODE	SIZE	THREADS	D	L	Z	H
KPT MTEWD -0701	20*1/2	1/2"	19.1	15.8	15.0	65
KPT MTEWD -0702	25*1/2	1/2"	24.0	17.6	16.2	70



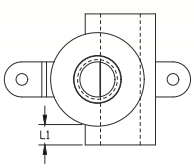
FEMALE THREADED ELBOW WITH DISK

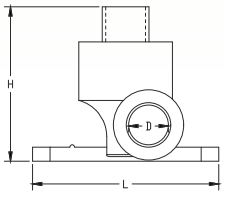
CODE	SIZE	THREADS	D	L	Z	H
KPT FTEWD -0706	20*1/2	1/2"	19.1	15.8	15.0	50
KPT FTEWD -0707	25*1/2	1/2"	24.0	17.6	16.2	55



MALE THREADED TEE WITH DISK

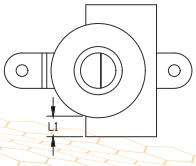
CODE	SIZE	THREADS	D	L	Z	H
KPT MTTWD -0711	20*1/2	1/2"	19.1	16.0	56.0	165
KPT MTTWD -0712	25*1/2	1/2"	24.0	17.2	57.7	170

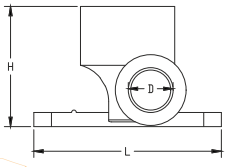




FEMALE THREADED TEE WITH DISK

CODE	SIZE	THREADS	D	L	Z	H
KPT FTTWD -0716	20*1/2	1/2"	19.1	16.0	56.0	150
KPT FTTWD -0717	25*1/2	1/2"	24.0	17.2	57.8	155





CONCEALED VALVE

CODE	SIZE	D	L	L1
KPT CV-0721	20 MM	19.0	15.0	60.5
KPT CV-0722	25 MM	24.3	17.2	68.1
KPT CV-0723	32 MM	31.0	20.0	79.7

FUSION METHOD

The process of joining PPR-C pipes and fittings is very simple and results and inseparable watertight joints. It is carried out using a simple welding machine that fuses the internal surface of the fitting and the external surface of the pipe, so that the material of the pipe and the fitting will be bonded together.

THE FOLLOWING DESCRIBE THE STEPS OF THE WELDING PROCESS

Prepare the welding machine by fitting it with the welding dies of the diameters to be welded. Connect the plug to the 220V power supply socket and wait until the green light on the machine goes out indicating the welding machine has reached the working temperature.

- Cut the pipe at right angles to the pipe axis using suitable pipe cutter.
- Remove any burrs or cutting chips by deburring the cutting area.
- Mark the welding depth on the pipe using suitable marker.
- Insert the end of the pipe without turning into the heating sleeve up to the marked welding depth and at the same time slide the fitting without turning into the other side of the heating tool up to the stop. It is essential to observe the mentioned heating times (refer to the below table)
- Leave the pipe and fitting into the heating tool until the heating time is elapsed.
- At the end of the heating time, remove the pipe and fitting from the heating tool and push them immediately against each other up to the mark indicating the welding depth. At this stage the depth mark will be covered with the welding bead.
- During this process, do not rotate the pipe and fitting relative to each other.
- Allow the joint to cool fully before using.

STEP 01

STEP 02

RESULT

HOLE REPAIRING

If a hole is accidentally made in the pipe (with a drill bit or screws) and if the hole is in only one side of the pipe, it can be repaired using the hole repairing die, bearing in mind that the pipe size must be compatible with the die diameter.

THE REPAIR PROCEDURE IS AS FOLLOWS:

- Clean and dry the part to be repaired.
- Fit the male part of the Hole repairing die into the hole; it must melt the surface to be adjusted by the operator to suit the pipe thickness, to ensure that the die cannot be inserted too far and melt the other side of the pipe. To make this adjustment, undo the screw which fixes the bush and then move it along the die.
- At same time as the male part of the die melts the area around the hole, the female part melts the repair bar usually supplied with die. Once the heating time has passed (5sec.) the repair bar must be inserted in the hole. When this operation is complete, wait for everything to cool and then cut of the excess part of the repair bar.
- If the diameter of the hole to be repaired is greater that of the die, or both sides of the pipe are punctured, the piece of pipe must be cut out and the repair made using normal pipe fittings.

STEP 01

STEP 02

RESULT

FUSION TECHNIQUE II

WELD-IN SADDLE TECHNIQUE

Branches can easily be made by weld-in saddles, even at a later stage of installation. By using weld-in saddles you save material and time. Whereas in case of tees three joints have to be welded, installation of saddle is restricted to mounting the saddle and branch pipe only.

Steps Follows

- Drill the pipe
- Warm up the saddle
- Pipe wall and outside pipe
- Connect the elements

STEP 01

STEP 02

RESULT

ADVANCED BUTT WELDING TECHNOLOGY

KPT is having advanced US and Italian made machines to perform butt welding procedures on sizes above 110MM. Internationally butt jointing is the most suitable and acceptable procedure for sizes like 160MM, 200MM, 250MM and beyond to adhere to the best quality and durable international standards

Step 01

Step 02

Step 02

Result

Jointing method of KPT piping systems

CUTTING

1. Cut the pipe right angle to its axis using burr free cutter.
2. Ensure that pipes is free from burrs or cutting chip
3. Clean the pipe & fitting perfectly before welding.
4. Mark welding depth at the end of pipes.

HEATING

1. Mount the suitable dies on heating element of welding machine according to the diameter of Pipe and fitting to be welded.
2. Connect the welding machine to 220/230 volts A.C. power supply.
3. Select 260 Deg. C. temperatures on the welding machine thermostat.
4. Wait for reaching the required working temperature.
5. Insert the pipe and the fitting in the dies by exerting light pressure.
6. For heating time, refer the table given for different sizes of Pipes.

WELDING

1. After heating, quickly insert pipe into the fitting by exerting light pressure.
2. Any misalignment should be corrected immediately after insertion to avoid any Stress in the weld.
3. Allow the joint to cool as per cooling time given in table. This type of connection ensures perfect sealing even under the severe working Conditions.

Recommended Time For PPR Systems Fusion Joints

PIPE DIA. (MM)	WELDING DEPTH (MM)	HEATING TIME (SEC)	WELDING TIME (SEC)	COOLING TIME (MIN)
16	14.00	6	4	2
20	14.50	6	4	2
25	16.00	7	4	2
32	18.00	8	6	4
40	20.50	12	6	4
50	23.50	18	6	4
63	27.50	24	8	6
75	30.00	30	8	6
90	32.50	40	8	6
110	37.00	50	10	8
160	42.00	60	15	10

Recommended Time For PPR Systems Butt Joints

PIPE DIA. (MM)	WELDING MACHINE TEMPERATURE °C	HEATING TIME (MIN)	WELDING TIME (SEC)	COOLING TIME (MIN)
200	220-240	30	180	15-20
250	220-240	30	240	16-24
315	225-240	30	300	20-25
355	225-240	30	360	25-30
400	223-240	30	420	30-35

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Project No. SSP-0521

BRIEF EVALUATION REPORT

BS: 476-Part 5: IGNITABILITY EVALUATION FOR MATERIALS

Date of Evaluation	:	**3rd December, 2021.**
Sponsor	:	**M/s KPT PIPING SYSTEM PRIVATE LIMITED, KHASRA NO. 122/69, CENTRAL HOPE TOWN, SELAQUI, SAHASPUR, DEHRADUN, UTTARAKHAND-248197**
Description of Product	:	**THERMAPLUS FIRE RETARDANT PIPES** (KPT piping system Thermaplus brand fire retardant pipes of diameter 32mm OD & 22mm ID were tested in bunch.) **Thickness: 5 mm; Nominal Bulk Density: 949.5 kg/m^3.** (Product description has been prepared on the basis of the information provided by the sponsor).
Specimen dimensions	:	**228 mm x 228 mm x 32 mm**
Results	:	
Duration of exposure to specified flame	:	**10 s**
Duration of flaming after removal of specified flame	:	**NIL**
Time for burning to reach the edge of specimen	:	**Not applicable**
Extent of burning of specimen within 20 s.	:	**NIL**
Extent of burning of specimen within 20 s.	:	**' P ' Not Easily Ignitable**

The evaluation results relate only to the behaviour of the specimens of a product under the particular conditions of the evaluation, they are not intended to be the sole criterion for assessing the potential fire hazard of the materials in use.

Rakesh Kumar

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CO-INVESTIGATOR

(Dr. A. ARAVIND KUMAR)
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Project No. SSP-0521

BRIEF EVALUATION REPORT

BS: 476–PART 6: METHOD OF EVALUATION FOR FIRE PROPAGATION FOR PRODUCTS

Date of Evaluation	:	**28th–29th December, 2021**
Sponsor	:	**M/s KPT PIPING SYSTEM PRIVATE LIMITED, KHASRA NO. 122/69, CENTRAL HOPE TOWN, SELAQUI, SAHASPUR, DEHRADUN, UTTARAKHAND-248197.**
Description of Product	:	**THERMAPLUS FIRE RETARDANT PIPES** (KPT piping system Thermaplus brand fire retardant pipes of diameter 32mm OD & 22mm ID were tested in bunch.) **Thickness: 5 mm; Nominal Bulk Density: 949.5 kg/m^3.** (Product description has been prepared on the basis of the information provided by the sponsor).
Specimen dimensions	:	**225 mm x 225 mm x 32 mm**

Results

Number of specimens evaluated	:	**Three**
Fire Propagation Index, I	:	**25.5**
Sub–indices	:	**i_1 = 9.3 i_2 = 10.9 i_3 = 5.3**

The evaluation results relate only to the behaviour of the specimens of a product under the particular conditions of the evaluation, they are not intended to be the sole criterion for assessing the potential fire hazard of the materials in use.

Rakesh Kumar

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ROORKEE-247667 (Uttarakhand)

Project No. SSP-0521

BRIEF EVALUATION REPORT

BS: 476–PART 7: METHOD FOR CLASSIFICATION OF THE SURFACE SPREAD OF FLAME

Date of Evaluation : **6th December, 2021.**

Sponsor : **M/s KPT PIPING SYSTEM PRIVATE LIMITED,**
KHASRA NO. 122/69,
CENTRAL HOPE TOWN, SELAQUI, SAHASPUR,
DEHRADUN,
UTTARAKHAND-248197

Description of Product : **THERMAPLUS FIRE RETARDANT PIPES**
(KPT piping system Thermaplus brand fire retardant pipes of diameter 32mm OD & 22mm ID were tested in bunch.)
Thickness: 5 mm;
Nominal Bulk Density: 949.5 kg/m^3.
(Product description has been prepared on the basis of the information provided by the sponsor).

Specimen dimensions : **900 mm x 270 mm x 32 mm**

Observation : **Evaluation results**

Specimen	Spread of Flame at 1.5 min mm	Spread of Flame at Termination/10 min mm
01	NIL	NIL
02	NIL	NIL
03	NIL	NIL
04	NIL	NIL
05	NIL	NIL
06	NIL	NIL

Classification : **CLASS–1**

Remark : **Melting of the specimen was observed without any flame.**

The evaluation results relate only to the behaviour of the specimens of a product under the particular conditions of the evaluation, they are not intended to be the sole criterion for assessing the potential fire hazard of the materials in use.

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ROORKEE 247667 (Uttarakhand)

Project No. SSP-0521

BRIEF EVALUATION REPORT

IS: 15061–2000: HORIZONTAL FLAMMABILITY EVALUATION OF MATERIALS

Date of Evaluation : **17th December, 2021.**

Sponsor : **M/s KPT PIPING SYSTEM PRIVATE LIMITED, KHASRA NO. 122/69, CENTRAL HOPE TOWN, SELAQUI, SAHASPUR, DEHRADUN, UTTARAKHAND-248197**

Description of Product : **THERMAPLUS FIRE RETARDANT PIPES**
(KPT piping system Thermaplus brand fire retardant pipes of diameter 32mm OD & 22mm ID were tested in bunch.)
Thickness: 5 mm;
Nominal Bulk Density: 949.5 kg/m^3.
(Product description has been prepared on the basis of the information provided by the sponsor).

Specimen dimensions : **356 mm x 100 mm x 32 mm**

Test Method : **Annexure A, Clause 3.2**

Results:

Test No.	Warp Wise			Weft Wise		
	Burnt Length (mm)	Burning Time(s)	Burning rate(mm/min)	Burnt Length (mm)	Burning Time(s)	Burning rate(mm/min)
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0
5	0	0	0	0	0	0
Max. Burn rate warp wise: 0 Zero (mm/min)				**Max. Burn rate weft wise: 0 Zero (mm/min)**		

The evaluation results relate only to the behaviour of the specimens of a product under the particular conditions of the evaluation, they are not intended to be the sole criterion for assessing the potential fire hazard of the materials in use.

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Project No. SSP – 0521

BRIEF EVALUATION REPORT

ASTM D 2863: Determination of Limiting Oxygen Index of Products

Date of Evaluation	:	**13th December, 2021**
Sponsor	:	**M/s KPT PIPING SYSTEM PRIVATE LIMITED, KHASRA NO. 122/69, CENTRAL HOPE TOWN, SELAQUI, SAHASPUR, DEHRADUN, UTTARAKHAND-248197**
Description of Product	:	**THERMAPLUS FIRE RETARDANT PIPES** (KPT piping system Thermaplus brand fire retardant pipes of diameter 32mm OD & 22mm ID were tested.) **Thickness: 5 mm; Nominal Bulk Density: 949.5 kg/m^3.** (Product description has been prepared on the basis of the information provided by the sponsor).
Specimen dimensions	:	**120 mm x 10 mm x 5 mm**

Results

Limiting Oxygen Index	:	**24.3**
Remark	:	**Melting of the specimen was observed.**

The evaluation results relate only to the behaviour of the specimens of a product under the particular conditions of the evaluation, they are not intended to be the sole criterion for assessing the potential fire hazard of the materials in use.

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SHRIRAM INSTITUTE FOR INDUSTRIAL RESEARCH

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Website : www.shriraminstitute.org
E-mail id : customercare@shriraminstitute.org

TEST CERTIFICATE NO. : C1/0000075377

Issued To:
Client Code : K0407
KANHA PLASTICS PVT LTD
122/69, CENTRAL HOPE TOWN
SELAQUI, INDUSTRIAL AREA
DEHRADUN
UTTARAKHAND-248002
Kind Attn: MR DHAWAL

Date 08/03/2017
Job No. 1702-1-141-2377
Booking No. RG1617/1/10445
Booking Date 21/02/2017
Customer Ref No. -
Customer Ref Date 17/02/2017

Sample Description :
ONE SAMPLE DESCRIBED AS PPR-C PIPE AS PER IS 15801:2008, DN 110 MM, SDR - 7.4/PN 16 WAS RECEIVED.
The Sampling was not carried out by Shriram Institute for Industrial Research.The sample details provided in the test certificate are based on declaration by the party.

AS PER UL 94

S.No	Tests	Results Obtained	Requirements	Conformity
I.	Flammability Test: I) For Specimen Conditioned @ 23±2°C & 50±5 % RH for 48 hours			
a.	Flaming combustion time of any specimen after either application of the test flame, Sec.		Less than or equal to 30 second for 94 V-2	Yes
	i) First Application	2, 2, 2,3, 2		
	ii) Second Application	3, 2, 2, 3, 2		
b.	Total flaming combustion time after 10 flame applications for each set of five specimens, Sec.	23	Less than or equal to 250 second for 94 V-2	Yes
c.	Flaming or glowing combustion of any specimen upto the holding clamp	No specimen burnt with flaming or glowing combustion up to holding clamp	Not have any specimen that burn with flamming or glowing combustion up to holding clamp for 94 V-2	Yes
d.	Ignition of dry absorbent surgical cotton located 12 inches (305 mm), below the test specimen by the dripping flamming particles	Dripped flaming particles of all the specimen burnt only briefly which ignites the dry absorbent surgical cotton.	Permitted for 94 V-2	Yes

AUTHORISED SIGNATORY
EMPLOYEE CODE : (1159)

Phone : 91-11-27667267, 27667983, 27667860 Fax : 91-11-27667676, 27667207

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TEST CERTIFICATE NO. : C1/0000075377

e.	Glowing combustion time of any specimen after the second removal of the test flame,Sec	0, 0, 0, 0, 0	Less than or equal to 60 second for 94 V-2	Yes
II)	For Specimen Conditioned @ 70±1°C for 168 hours			
a.	Flaming combustion time of any specimen after either application of the test flame, Sec. i) First Application ii) Second Application	 3, 3, 2, 3, 4 4, 3, 4, 4, 3	Less than or equal to 30 second for 94 V-2	Yes
b.	Total flaming combustion time after 10 flame applications for each set of five specimens, Sec.	33	Less than or equal to 250 second for 94 V-2	Yes
c.	Flaming or glowing combustion of any specimen upto the holding clamp	No specimen burnt with flaming or glowing combustion up to holding clamp	Not have any specimen that burn with flamming or glowing combustion up to holding clamp for 94 V-2	Yes
d.	Ignition of dry absorbent surgical cotton located 12 inches (305 mm), below the test specimen by the dripping flamming particles	Driped flaming particles of all the specimen burnt only briefly which ignite the dry absorbent surgical cotton.	Permitted 94 V-2	Yes
e.	Glowing combustion time of any specimen after the second removal of the test flame,Sec	0, 0, 0, 0, 0	Less than or equal to 60 second for 94 V-2	Yes

Note:- On the basis of the above observations the sample conforms to Grade of UL 94 V-2.

*****

D.O.R 21-02-2017
D.O.C 08-03-2017

AUTHORISED SIGNATORY
EMPLOYEE CODE :(4159)

Phone : 91-11-27667267, 27667983, 27667860 Fax : 91-11-27667676, 27667207

SHRIRAM INSTITUTE FOR INDUSTRIAL RESEARCH

(A unit of Shriram Scientific and Industrial Research Foundation)

19, University Road, Delhi – 110007 (India)
An ISO - 9001, 14001 & OHSAS 18001 Certified Institute
Website : www.shriraminstitute.org
E-mail id : customercare@shriraminstitute.org

TEST CERTIFICATE NO. : C1/0000075378

Issued To:
Client Code : K0407
KANHA PLASTICS PVT LTD
122/69, CENTRAL HOPE TOWN
SELAQUI, INDUSTRIAL AREA
DEHRADUN
UTTARAKHAND-248002
Kind Attn: MR DHAWAL

Date 08/03/2017
Job No. 1702-1-141-2378
Booking No. RG1617/1/10445
Booking Date 21/02/2017
Customer Ref No. -
Customer Ref Date 17/02/2017

Sample Description :
ONE SAMPLE DESCRIBED AS PPR-C PIPE COUPLING 110,WAS RECEIVED.
The Sampling was not carried out by Shriram Institute for Industrial Research.The sample details provided in the test certificate are based on declaration by the party.

AS PER UL 94

S.No	Tests	Results Obtained	Requirements	Conformity
1.	Flammability Test: I) For Specimen Conditioned @ 23±2°C & 50±5 % RH for 48 hours			
a.	Flaming combustion time of any specimen after either application of the test flame, Sec. i) First Application ii) Second Application	2, 3,3,2, 2 3, 2,3, 3, 3	Less than or equal to 30 second for 94 V-2	Yes
b.	Total flaming combustion time after 10 flame applications for each set of five specimens, Sec.	26	Less than or equal to 250 second for 94 V-2	Yes
c.	Flaming or glowing combustion of any specimen upto the holding clamp	No specimen burnt with flaming or glowing combustion up to holding clamp	Not have any specimen that burn with flamming or glowing combustion up to holding clamp for 94 V-2	Yes
d.	Ignition of dry absorbent surgical cotton located 12 inches (305 mm), below the test specimen by the dripping flamming particles	Dripped flaming particles of all the specimen burnt only briefly which ignites the dry absorbent surgical cotton.	Permitted for 94 V-2	Yes

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TEST CERTIFICATE NO. : C1/0000075378

e.	Glowing combustion time of any specimen after the second removal of the test flame,Sec	0, 0, 0, 0, 0	Less than or equal to 60 second for 94 V-2	Yes
II)	For Specimen Conditioned @ 70±1°C for 168 hours			
a.	Flaming combustion time of any specimen after either application of the test flame, Sec. i) First Application ii) Second Application	 3,4, 3, 4, 3 4, 3, 4, 4, 4	Less than or equal to 30 second for 94 V-2	Yes
b.	Total flaming combustion time after 10 flame applications for each set of five specimens, Sec.	36	Less than or equal to 250 second for 94 V-2	Yes
c.	Flaming or glowing combustion of any specimen upto the holding clamp	No specimen burnt with flaming or glowing combustion up to holding clamp	Not have any specimen that burn with flamming or glowing combustion up to holding clamp for 94 V-2	Yes
d.	Ignition of dry absorbent surgical cotton located 12 inches (305 mm), below the test specimen by the dripping flamming particles	Driped flaming particles of all the specimen burnt only briefly which ignite the dry absorbent surgical cotton.	Permitted 94 V-2	Yes
e.	Glowing combustion time of any specimen after the second removal of the test flame,Sec	0, 0, 0, 0, 0	Less than or equal to 60 second for 94 V-2	Yes

Note:- On the basis of the above observations the sample conforms to Grade of UL 94 V-2.

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CERTIFICATES & APPRECIATIONS

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AN ISO 9001:2015 & ISO 14001:2015 CERTIFIED COMPANY

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