



Your Complete Piping Solutions

PP-R

Hot & Cold Water System





COMPANY BACKGROUND

Cew Sin Plastic Pipe (243310-M) was founded in 1992 and is a renowned plastic pipe manufacturer in Malaysia that specializes in Unplasticized Polyvinyl Chloride (PVC-U) Pipes and Fittings, Polypropylene Random (PP-R) Pipes and Fittings and High-Density Polyethylene (HDPE) Pipes. Cew Sin (CS) uses primarily PVC-U, PP-R and HDPE raw materials to manufacture high-quality, safe and reliable plastic pipes and fittings for a wide range of applications, including water supply, drainage, sewage, cable and wire conduits for a wide spectrum of industries such as construction, infrastructure, utility, agriculture and many more. It is our cutting-edge technology and proven track record of quality excellence that has made us a respected leader in the market.

CS is also committed to providing green solutions for our customers. We offer environmentally friendly, lead-free options for our pipes and fittings. Our products also comply with various national and international professional certifications as part of our pursuit of quality excellence. At the same time, we invest heavily in Research and Development because we believe in continuously upgrading the quality of our products, as befitting our status as a market leader in Malaysia.

We owe our achievements in the plastic pipe manufacturing industry to sound management, professional production, continuous upgrades and efficient services. Our endeavours over the years have made us a well-trusted brand in both the domestic and international market.

We are ISO 9001:2015 Quality Management System certified, while stringent measures are adopted to ensure a high product quality that meets our local and export customers' needs. Our products are also endorsed by SIRIM QAS (Standard of Industrial and Research Institute in Malaysia) and TÜV SÜD certified according to local and international standards.

Apart from international certification, our pipes and fittings meet the requirements of the Malaysian National Water Authority (Suruhanjaya Perkhidmatan Air Negara or SPAN), Jabatan Air Negeri Sabah, and the State Water Authority of Sarawak.

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OUR COMMITMENTS AND SERVICES

VISION

To become the leading manufacturer and distributor of complete PVC-U, PP-R and HDPE pipping systems in the region.

MISSION

To ensure total customer satisfaction through continuously improving our products, resources, facilities and services.

QUALITY POLICIES

- ◆ Customer satisfaction is our top priority
- ◆ Strive to be the best in the industry
- ◆ People competency is the key driver
- ◆ Plan for and commit to continuous improvement



STATE-OF-THE-ART LABORATORY

CS strongly believes in the importance of high-quality, durable, safe and reliable products. We have a comprehensive range of equipment in our laboratory where all products are rigorously tested in compliance with local and international standards. Fine raw materials and compounds are assessed in terms of temperature, pressure and energy input, while pipe samples are put under stringent impact and tensile strength inspections. Our dedicated Research and Development team is also always working on developing new ways to upgrade the quality of our pipes and fittings as according to industry standards.

OFFICIAL CERTIFICATIONS

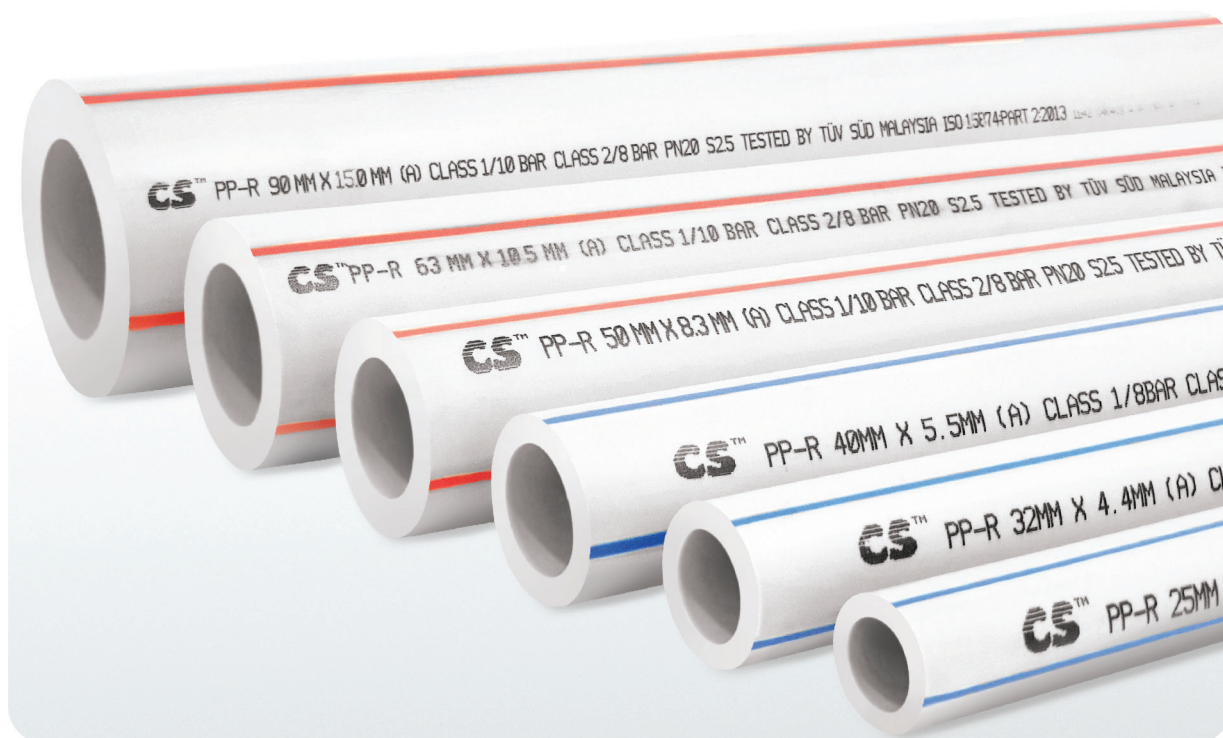
CS's wide range of products adheres to ISO 9001 certification, as well as both local and international standards, including but not limited to:

- ♦ SIRIM (Standard and Industrial Research Institute of Malaysia)
- ♦ TÜV SÜD Malaysia



POLYPROPYLENE-RANDOM (PP-R) PIPES

MS2286:2012
(ISO 15874:2013)



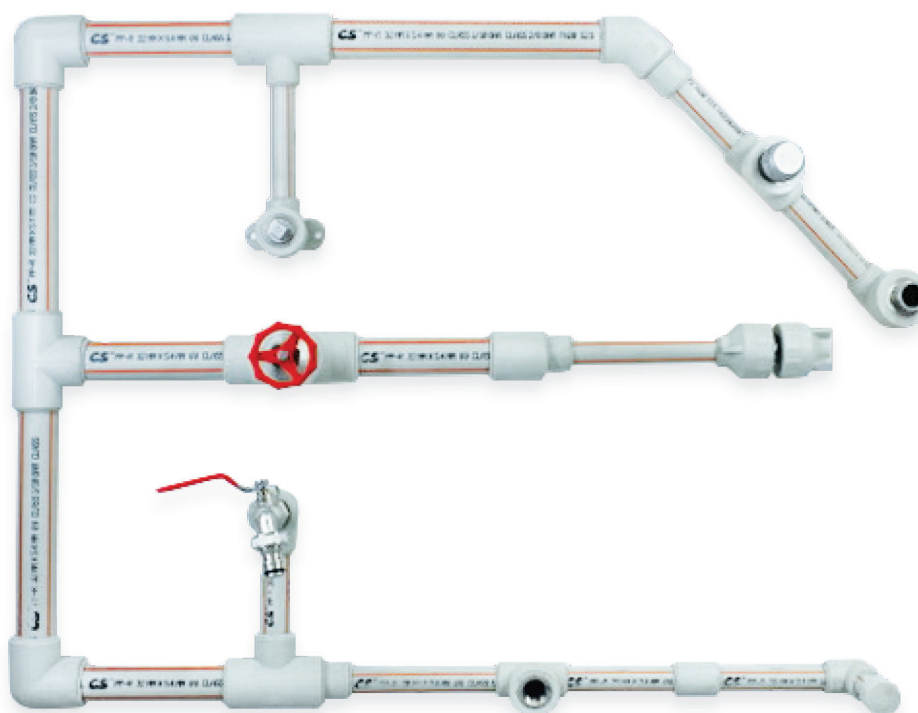
Pipes made of PP-R are the new standard in piping systems because of the material's impressive list of advantages. PP-R pipes are one of the longest lasting and most chemically inert piping materials in the world. They are resistant to corrosion, chemically safe, sustainable, reliable and are able to withstand both hot and cold water.

They are also environmentally friendly and great for eco-friendly or sustainable projects. A study focusing on the ecological footprint of various piping materials found that PP-R pipes emit less carbon dioxide.

PP-R is a hydrophobic material, which means it will not interact with water, hence extending its lifespan. PP-R pipes are resistant to erosion even in slurry applications and will not leach, wear out or clog up after years of service. It is even resistant to hard water.

POLYPROPYLENE-RANDOM (PP-R) PIPES

MS2286:2012
(ISO 15874:2013)



CS's PP-R pipes are highly recommended for use in luxury developments such as elite residential areas and hotels because of its natural insulation properties that reduce and dampen noise created by water flow and the water hammering effect, ensuring a quiet environment for residents. Our PP-R pipes also come in a wide range and can withstand water temperatures of up to 70°C, short term peak temperature up to 95°C and a service life of minimum 50 years. Details are summarized in Table 1, pg 9. They are also odourless and tasteless, making them safe for the transportation of drinking water and can endure impact and bending stresses.

CS manufactures a comprehensive range of PP-R pipes with sizes from 20mm to 160mm. Fusion jointing is the only assembly method for PP-R pipes. Fusion jointing is an extremely simple, secure and reliable way of creating leak proof and homogenous joints. It is recommended to use CS's welding machines for the best effects.

POLYPROPYLENE-RANDOM (PP-R) PIPES

MS2286:2012
(ISO 15874:2013)



The picture is an illustration of PP-R riser pipe used in plumbing system.

Features:

- ◆ Able to withstand chilled, hot and cold water
- ◆ Able to endure up to 70°C water temperature and maximum transient temperature is up to 95°C
- ◆ Suitable for use in luxury residential developments, hotels, the industrial sector and more
- ◆ Environmentally friendly and produces less carbon dioxide
- ◆ Long lifespan due to chemical and abrasion resistant nature
- ◆ Low maintenance and will not leach, wear out or clog up
- ◆ Impressive reduction of noise transmission
- ◆ Odourless, tasteless and safe for transportation of drinking water
- ◆ Joined by simple, secure and reliable fusion jointing

PP-R PIPES & FITTINGS FOR 50 YEARS SERVICE LIFE

Our system comply with ISO 15874 and MS 2286 and it is applicable for two service conditions, which is Class 1 and Class 2.

Application Class	Service period total (years)	Time of operation years/ hr	Operating Temperature °C	Typical field of application
1	50 years	49 years	60	Hot water 60°C
		1 year	80	
	Malfunction temperature	100 hr	95	
2	50 years	49 years	70	Hot water 70°C
		1 year	80	
	Malfunction temperature	100 hr	95	

Citation: ISO 15874-1:2013 / MS 2286-1:2012 Table 1 Classification of service conditions

The above table illustrates the classification of service conditions and the performance requirements for piping systems conforming to ISO 15874 and MS 2286. Both standards define typical application classes as:

- ◆ **Class 1 (supply of 60°C hot water, 50 years' service life)**
- ◆ **Class 2 (supply of 70°C hot water, 50 years' service life)**

According to the standards, the maximum design pressure system is divided into four category which is 4 bar, 6 bar, 8 bar or 10 bar. This information is indicated to each pipe in the following format.

Example: CS PP-R PN 10 (Blue Stripe)

Class 1/6 bar, Class 2/4 bar indicates that the pipe is intended for use:

- ◆ **in 60°C hot water installation with 6 bar service pressure and 50 years' service life (class 1/6 bar)**
- ◆ **in 70°C hot water installation with 4 bar service pressure and 50 years' service life (class 2/4 bar)**

CS PP-R 20MM X 1.9MM (A) CLASS 1/6 BAR CLASS 2/4 BAR PN10 S 5 TESTED BY TÜV SÜD MS2286: PART 2: 2012 / ISO15874: PART 2: 2013 HH:NN DDMMYY (MC No.) MFG BY CSSB

PP-R PIPES PRESSURE READING TABLE

The table below explains on the design pressure P_D rating to S series of PP-R pipes for hot water application. Moreover, the tables also illustrates on the PN rating to S series of PP-R pipe for cold water application. CS PP-R Pipe indicated with red stripes is for hot water application while blue stripes is for cold water application.

Nominal size DN/OD	Mean outside diameter		Wall Thickness	Pipe Series	SDR	PN	PN (bar) @20°C using safety factor 1.4	P_D rating for pipe application class 1 60°C	P_D rating for pipe application class 2 70°C
	$d_{em,min}$	$d_{em,max}$	e_{min} and e_n						
20	20.0	20.3	1.9	S 5.0	11.0	10	14	6	4
			2.8	S 3.2	7.4	16	22	8	6
			3.4	S 2.5	6.0	20	28	10	8
25	25.0	25.3	2.3	S 5.0	11.0	10	14	6	4
			3.5	S 3.2	7.4	16	22	8	6
			4.2	S 2.5	6.0	20	28	10	8
32	32.0	32.3	2.9	S 5.0	11.0	10	14	6	4
			4.4	S 3.2	7.4	16	22	8	6
			5.4	S 2.5	6.0	20	28	10	8
40	40.0	40.4	3.7	S 5.0	11.0	10	14	6	4
			5.5	S 3.2	7.4	16	22	8	6
			6.7	S 2.5	6.0	20	28	10	8
50	50.0	50.5	4.6	S 5.0	11.0	10	14	6	4
			6.9	S 3.2	7.4	16	22	8	6
			8.3	S 2.5	6.0	20	28	10	8
63	63.0	63.6	5.8	S 5.0	11.0	10	14	6	4
			8.6	S 3.2	7.4	16	22	8	6
			10.5	S 2.5	6.0	20	28	10	8
75	75.0	75.7	6.8	S 5.0	11.0	10	14	6	4
			10.3	S 3.2	7.4	16	22	8	6
			12.5	S 2.5	6.0	20	28	10	8
90	90.0	90.9	8.2	S 5.0	11.0	10	14	6	4
			12.3	S 3.2	7.4	16	22	8	6
			15.0	S 2.5	6.0	20	28	10	8
110	110.0	111.0	10.0	S 5.0	11.0	10	14	6	4
			15.1	S 3.2	7.4	16	22	8	6
			18.3	S 2.5	6.0	20	28	10	8
160	160.0	161.5	14.6	S 5.0	11.0	10	14	6	4
			21.9	S 3.2	7.4	16	22	8	6
			26.6	S 2.5	6.0	20	28	10	8

Pipe series and their design pressure for each application:

S 5.0 / SDR 11.0 (PN 10)	class 1/6 bar	class 2/4 bar
S 3.2 / SDR 7.4 (PN 16)	class 1/8 bar	class 2/6 bar
S 2.5 / SDR 6.0 (PN 20)	class 1/10 bar	class 2/8 bar

PRODUCT CODE

PP-R PIPE NEW CODE

PS-PPR20-025-4.0-GY

GROUP+
SERIES

MATERIAL

NOMINAL
PRESSURE

DIAMETER
SIZES

LENGTH

COLOUR

PP-R FITTINGS NEW CODE

F-PPR-DES-020-GY

GROUP+
SERIES

MATERIAL

PRODUCT

DIAMETER
SIZES

COLOUR

GROUP

P	PIPE
F	FITTINGS
A	ACCESSORIES

SERIES

S	SIRIM
C	CUSTOM MADE

MATERIAL

PPR	POLYPROPYLENE RANDOM
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NOMINAL PRESSURE

10	PN10
16	PN16
20	PN20

DIAMETER / SIZES

020	20MM
025	25MM
032	32MM
040	40MM
050	50MM
063	63MM
075	75MM
090	90MM
110	110MM
125	125MM
140	140MM
160	160MM

LENGTH

4.0	4.0 MTR
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COLOR

GY	GREY
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FITTINGS

EE	ELBOW 90°
EE45	ELBOW 45°
TEE	EQUAL TEE
RT	REDUCING TEE
DES	SOCKET
RB	REDUCING BUSH
RS	REDUCING SOCKET
EC	END CAP
SV	STOP VALVE
TME	THREADED MALE ELBOW 90°
TFE	THREADED FEMALE ELBOW 90°
TFEB	THREADED FEMALE ELBOW 90° (BRACKET)
TMT	THREADED MALE TEE
TFT	THREADED FEMALE TEE
TMS	THREADED MALE SOCKET
TFS	THREADED FEMALE SOCKET

OTHER - STRIPE COLOUR

	BLUE - COLD WATER
	RED - HOT WATER

POLYPROPYLENE - RANDOM (PP-R) PIPES

PP-R PIPE (PN 10)

COLOR: GREY | PN 10, SDR 11, ISO SERIES 5 | (ISO 15874, MS 2286)

PRODUCT CODE	NOMINAL / SIZES (MM)	OUTSIDE DIAMETER (MM)		PN10 WALL THICKNESS (MM)
		MIN	MAX	
PS-PPR10-020-4.0-GY	20	20.00	20.30	1.90
PS-PPR10-025-4.0-GY	25	25.00	25.30	2.30
PS-PPR10-032-4.0-GY	32	32.00	32.30	2.90
PS-PPR10-040-4.0-GY	40	40.00	40.40	3.70
PS-PPR10-050-4.0-GY	50	50.00	50.50	4.60
PS-PPR10-063-4.0-GY	63	63.00	63.60	5.80
PS-PPR10-075-4.0-GY	75	75.00	75.70	6.80
PS-PPR10-090-4.0-GY	90	90.00	90.90	8.20
PS-PPR10-110-4.0-GY	110	110.00	111.00	10.00
PS-PPR10-160-4.0-GY	160	160.00	161.50	14.60

PP-R PIPE (PN 16)



COLOR: GREY | PN 16, SDR 7.4, ISO SERIES 3.2 | (ISO 15874, MS 2286)

PRODUCT CODE	NOMINAL / SIZES (MM)	OUTSIDE DIAMETER (MM)		PN16 WALL THICKNESS (MM)
		MIN	MAX	
PS-PPR16-020-4.0-GY	20	20.00	20.30	2.80
PS-PPR16-025-4.0-GY	25	25.00	25.30	3.50
PS-PPR16-032-4.0-GY	32	32.00	32.30	4.40
PS-PPR16-040-4.0-GY	40	40.00	40.40	5.50
PS-PPR16-050-4.0-GY	50	50.00	50.50	6.90
PS-PPR16-063-4.0-GY	63	63.00	63.60	8.60
PS-PPR16-075-4.0-GY	75	75.00	75.70	10.30
PS-PPR16-090-4.0-GY	90	90.00	90.90	12.30
PS-PPR16-110-4.0-GY	110	110.00	111.00	15.10
PS-PPR16-160-4.0-GY	160	160.00	161.50	21.90

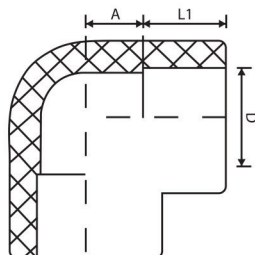
PP-R PIPE (PN 20)

COLOR: GREY | PN 20, SDR 6, ISO SERIES 2.5 | (ISO 15874, MS 2286)

PRODUCT CODE	NOMINAL / SIZES (MM)	OUTSIDE DIAMETER (MM)		PN20 WALL THICKNESS (MM)
		MIN	MAX	
PS-PPR20-020-4.0-GY	20	20.00	20.30	3.40
PS-PPR20-025-4.0-GY	25	25.00	25.30	4.20
PS-PPR20-032-4.0-GY	32	32.00	32.30	5.40
PS-PPR20-040-4.0-GY	40	40.00	40.40	6.70
PS-PPR20-050-4.0-GY	50	50.00	50.50	8.30
PS-PPR20-063-4.0-GY	63	63.00	63.60	10.50
PS-PPR20-075-4.0-GY	75	75.00	75.70	12.50
PS-PPR20-090-4.0-GY	90	90.00	90.90	15.00
PS-PPR20-110-4.0-GY	110	110.00	111.00	18.30
PS-PPR20-160-4.0-GY	160	160.00	161.50	26.60

 FOR COLD WATER SERVICE AVAILABLE IN S 5 (PN 10), S 3.2 (PN 16) and S 2.5 (PN 20) PIPE
 FOR HOT WATER SERVICE AVAILABLE IN S 3.2 (PN 16) and S 2.5 (PN 20) PIPE
 * KINDLY INDICATE C (COLD) / H (HOT) WHEN PLACING ORDER

POLYPROPYLENE - RANDOM (PP-R) FITTINGS

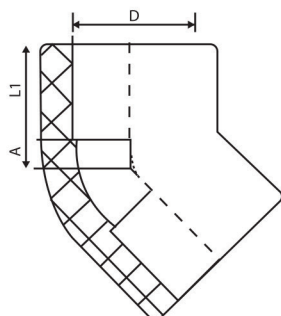


ELBOW 90°

PP-R (Polypropylene-Random) | ISO 15874, MS 2286 | Colour : Grey | Joint Type : Socket Welded Joint

PRODUCT CODE	Ø (MM)	D (MM)	A (MM)	L1 (MM)
F-PPR-EE-020-GY	20	19.25	11.16	16.00
F-PPR-EE-025-GY	25	24.30	12.57	18.00
F-PPR-EE-032-GY	32	31.30	18.10	20.00
F-PPR-EE-040-GY	40	39.20	21.20	22.00
F-PPR-EE-050-GY	50	49.30	27.70	25.00
F-PPR-EE-063-GY	63	62.20	32.70	29.00
F-PPR-EE-075-GY	75	74.10	37.50	31.50
F-PPR-EE-090-GY	90	88.80	49.60	34.00
F-PPR-EE-110-GY	110	108.30	57.60	39.00
* F-PPR-EE-160-GY	160	158.20	92.50	58.50

* Control item

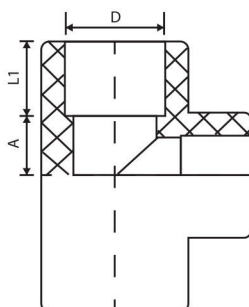


ELBOW 45°

PP-R (Polypropylene-Random) | ISO 15874, MS 2286 | Colour : Grey | Joint Type : Socket Welded Joint

PRODUCT CODE	Ø (MM)	D (MM)	A (MM)	L1 (MM)
F-PPR-EE45-020-GY	20	19.25	5.00	16.00
F-PPR-EE45-025-GY	25	24.30	6.00	18.00
F-PPR-EE45-032-GY	32	31.30	7.00	20.00
F-PPR-EE45-040-GY	40	39.20	9.00	22.00
F-PPR-EE45-050-GY	50	49.30	12.00	25.00
F-PPR-EE45-063-GY	63	62.20	16.00	29.00
F-PPR-EE45-075-GY	75	74.10	16.50	31.50
F-PPR-EE45-090-GY	90	88.80	22.00	34.00
F-PPR-EE45-110-GY	110	108.30	33.00	39.00
* F-PPR-EE45-160-GY	160	158.20	49.50	58.50

* Control item



EQUAL TEE

PP-R (Polypropylene-Random) | ISO 15874, MS 2286 | Colour : Grey | Joint Type : Socket Welded Joint

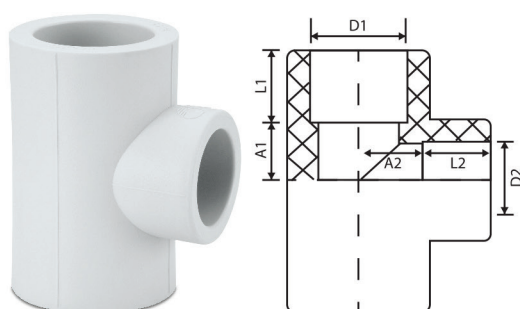
PRODUCT CODE	Ø (MM)	D (MM)	A (MM)	L1 (MM)
F-PPR-TEE-020-GY	20	19.25	11.50	16.00
F-PPR-TEE-025-GY	25	24.30	14.00	18.00
F-PPR-TEE-032-GY	32	31.30	18.50	20.00
F-PPR-TEE-040-GY	40	39.20	21.50	22.00
F-PPR-TEE-050-GY	50	49.30	27.50	25.00
F-PPR-TEE-063-GY	63	62.20	34.00	29.00
F-PPR-TEE-075-GY	75	74.10	37.80	31.50
F-PPR-TEE-090-GY	90	88.80	47.50	34.00
F-PPR-TEE-110-GY	110	108.30	59.50	39.00
* F-PPR-TEE-160-GY	160	158.20	91.50	58.50

* Control item

POLYPROPYLENE - RANDOM (PP-R) FITTINGS

REDUCING TEE

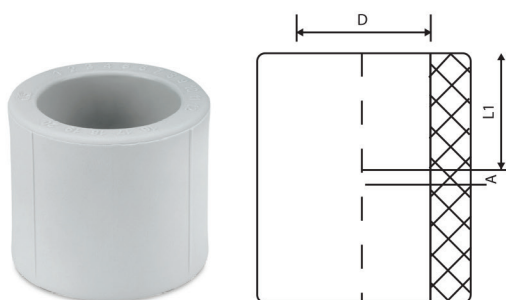
PP-R (Polypropylene-Random) | ISO 15874, MS 2286 | Colour : Grey | Joint Type : Socket Welded Joint



PRODUCT CODE	Ø (MM)	D1 (MM)	A1 (MM)	L1 (MM)	D2 (MM)	A2 (MM)	L2 (MM)
F-PPR-RT-025X020-GY	25X20	24.30	14.00	18.00	19.25	16.00	16.00
F-PPR-RT-032X020-GY	32X20	31.30	18.50	20.00	19.25	22.00	16.00
F-PPR-RT-032X025-GY	32X25	31.30	18.50	20.00	24.30	20.00	18.00
F-PPR-RT-040X020-GY	40X20	39.20	21.50	22.00	19.25	31.00	16.00
F-PPR-RT-040X025-GY	40X25	39.20	21.50	22.00	24.30	26.00	18.00
F-PPR-RT-040X032-GY	40X32	39.20	21.50	22.00	31.30	24.00	20.00
F-PPR-RT-050X020-GY	50X20	49.30	27.50	25.00	19.25	36.00	16.00
F-PPR-RT-050X025-GY	50X25	49.30	27.50	25.00	24.30	34.00	18.00
F-PPR-RT-050X032-GY	50X32	49.30	27.50	25.00	31.30	32.00	20.00
F-PPR-RT-050X040-GY	50X40	49.30	27.50	25.00	39.20	30.00	22.00
F-PPR-RT-063X025-GY	63X25	62.20	34.00	29.00	24.30	45.00	18.00
F-PPR-RT-063X032-GY	63X32	62.20	34.00	29.00	31.30	43.00	20.00
F-PPR-RT-063X040-GY	63X40	62.20	34.00	29.00	39.20	41.00	22.00
F-PPR-RT-063X050-GY	63X50	62.20	34.00	29.00	49.30	38.00	25.00
F-PPR-RT-090X032-GY	90X32	88.80	47.50	34.00	31.30	57.00	20.00
F-PPR-RT-090X040-GY	90X40	88.80	47.50	34.00	39.20	55.00	22.00
F-PPR-RT-090X050-GY	90X50	88.80	47.50	34.00	49.30	52.00	25.00
F-PPR-RT-090X063-GY	90X63	88.80	47.50	34.00	62.20	48.00	29.00
F-PPR-RT-110X050-GY	110X50	108.30	59.50	39.00	49.30	61.00	25.00
F-PPR-RT-110X063-GY	110X63	108.30	63.00	39.00	62.20	57.00	29.00

SOCKET

PP-R (Polypropylene-Random) | ISO 15874, MS 2286 | Colour : Grey | Joint Type : Socket Welded Joint



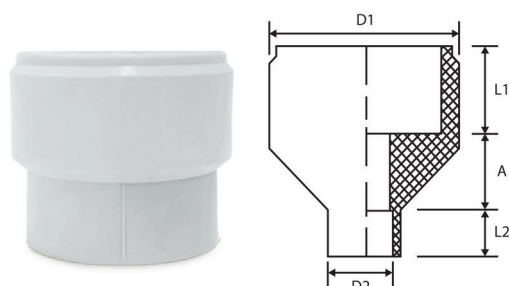
PRODUCT CODE	Ø (MM)	D (MM)	A (MM)	L1 (MM)
F-PPR-DES-020-GY	20	19.25	2.00	16.00
F-PPR-DES-025-GY	25	24.30	2.00	18.00
F-PPR-DES-032-GY	32	31.30	3.00	20.00
F-PPR-DES-040-GY	40	39.20	3.00	22.00
F-PPR-DES-050-GY	50	49.30	3.00	25.00
F-PPR-DES-063-GY	63	62.20	4.00	29.00
F-PPR-DES-075-GY	75	74.10	2.00	31.50
F-PPR-DES-090-GY	90	88.80	5.00	34.00
F-PPR-DES-110-GY	110	108.30	5.00	39.00
* F-PPR-DES-160-GY	160	158.20	9.00	58.50

* Control item

POLYPROPYLENE - RANDOM (PP-R) FITTINGS

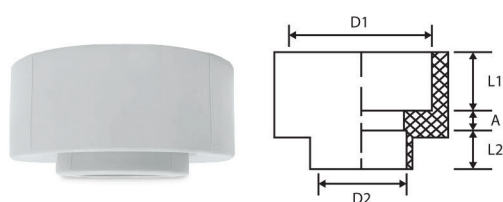
REDUCING BUSH

PP-R (Polypropylene-Random) | ISO 15874, MS 2286 | Colour : Grey | Joint Type : Socket Welded Joint



PRODUCT CODE	Ø (MM)	D1 (MM)	L1 (MM)	A (MM)	D2 (MM)	L2 (MM)
F-PPR-RB-025X020-GY	25X20	25.80	18.10	4.42	19.26	16.05
F-PPR-RB-032X020-GY	32X20	32.30	16.70	6.70	19.35	15.97
F-PPR-RB-032X025-GY	32X25	31.66	20.84	3.66	24.33	18.36
F-PPR-RB-040X020-GY	40X20	40.31	18.49	9.16	19.48	16.24
F-PPR-RB-040X025-GY	40X25	40.05	18.70	7.66	24.50	17.88
F-PPR-RB-040X032-GY	40X32	40.21	23.58	6.55	31.38	20.25
F-PPR-RB-050X020-GY	50X20	50.05	21.62	12.19	19.55	16.15
F-PPR-RB-050X025-GY	50X25	49.84	21.42	10.24	24.64	18.00
F-PPR-RB-050X032-GY	50X32	49.55	21.48	8.37	31.46	20.05
F-PPR-RB-050X040-GY	50X40	57.24	29.82	5.48	39.12	22.23
F-PPR-RB-063X020-GY	63X20	62.28	24.20	22.46	19.45	16.14
F-PPR-RB-063X025-GY	63X25	62.88	24.84	19.28	24.50	18.06
F-PPR-RB-063X032-GY	63X32	62.44	24.30	14.42	31.70	20.10
F-PPR-RB-063X040-GY	63X40	63.02	24.45	8.63	39.29	22.01
F-PPR-RB-063X050-GY	63X50	62.81	33.31	5.86	49.03	25.04

REDUCING SOCKET

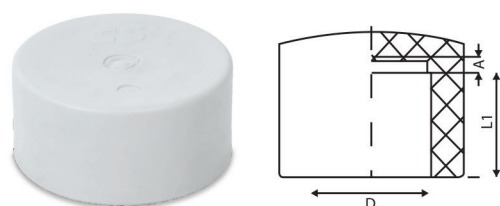


PRODUCT CODE	Ø (MM)	D1 (MM)	L1 (MM)	A (MM)	D2 (MM)	L2 (MM)
F-PPR-RS-075X063-GY	75X63	74.00	31.00	4.42	62.20	29.00
F-PPR-RS-090X063-GY	90X63	88.45	33.90	5.15	62.00	29.30
F-PPR-RS-090X075-GY	90X75	88.25	34.40	14.00	74.10	30.90
F-PPR-RS-110X063-GY	110X63	108.00	38.60	3.40	62.20	29.35
F-PPR-RS-110X090-GY	110X90	108.15	38.80	5.35	89.00	34.20
* F-PPR-RS-160X110-GY	160X110	158.20	58.50	3.00	108.30	42.00

* Control item

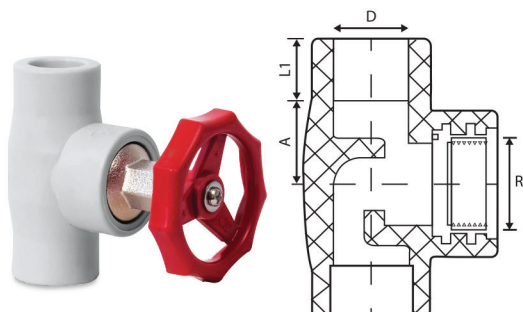
END CAP

PP-R (Polypropylene-Random) | ISO 15874, MS 2286 | Colour : Grey | Joint Type : Socket Welded Joint



PRODUCT CODE	Ø (MM)	D (MM)	A (MM)	L1 (MM)
F-PPR-EC-020-GY	20	19.25	2.00	16.00
F-PPR-EC-025-GY	25	24.30	3.00	18.00
F-PPR-EC-032-GY	32	31.30	5.00	20.00
F-PPR-EC-040-GY	40	39.20	2.00	22.00
F-PPR-EC-050-GY	50	49.30	6.50	25.00
F-PPR-EC-063-GY	63	62.20	3.00	29.00

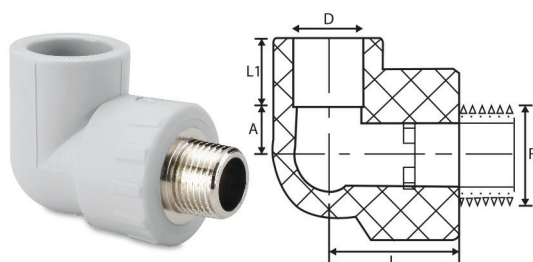
POLYPROPYLENE - RANDOM (PP-R) FITTINGS



STOP VALVE

PP-R (Polypropylene-Random) | ISO 15874, MS 2286 | Colour : Grey | Joint Type : Fusion / Threaded

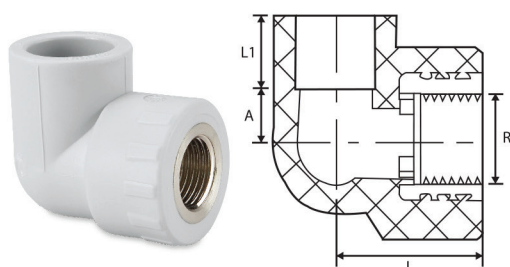
PRODUCT CODE	Ø (MM) x R (INCH)	D (MM)	A (MM)	L (MM)	L1 (MM)
F-PPR-SV-020X1/2-GY	20X1/2"	19.25	19.00	31.90	16.00
F-PPR-SV-025X3/4-GY	25X3/4"	24.30	24.60	36.00	17.40
F-PPR-SV-032X1-GY	32X1"	31.30	32.65	45.00	19.40



THREADED MALE ELBOW 90°

PP-R (Polypropylene-Random) | ISO 15874, MS 2286 | Colour : Grey | Joint Type : Fusion / Threaded

PRODUCT CODE	Ø (MM) x R (INCH)	D (MM)	A (MM)	L (MM)	L1 (MM)
F-PPR-TME-020X1/2-GY	20X1/2"	19.25	11.50	35.16	16.00
F-PPR-TME-020X3/4-GY	20X3/4"	19.25	11.50	35.16	16.00
F-PPR-TME-025X1/2-GY	25X1/2"	24.30	14.00	39.57	18.00
F-PPR-TME-025X3/4-GY	25X3/4"	24.30	14.00	39.57	18.00
F-PPR-TME-032X3/4-GY	32X3/4"	31.30	16.00	43.10	20.00
F-PPR-TME-032X1-GY	32X1"	31.30	18.50	48.10	20.00

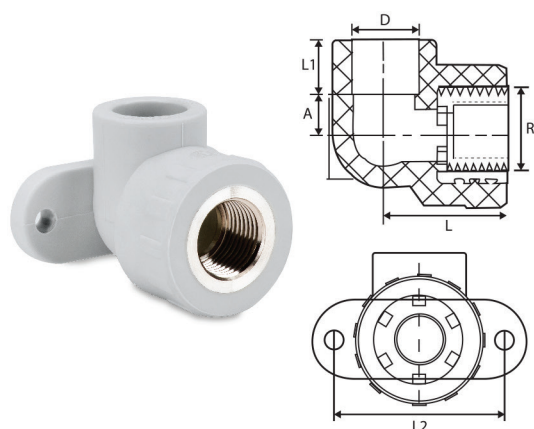


THREADED FEMALE ELBOW 90°

PP-R (Polypropylene-Random) | ISO 15874, MS 2286 | Colour : Grey | Joint Type : Fusion / Threaded

PRODUCT CODE	Ø (MM) x R (INCH)	D (MM)	A (MM)	L (MM)	L1 (MM)
F-PPR-TFE-020X1/2-GY	20X1/2"	19.25	11.50	35.16	16.00
F-PPR-TFE-020X3/4-GY	20X3/4"	19.25	11.50	35.16	16.00
F-PPR-TFE-025X1/2-GY	25X1/2"	24.30	14.00	39.57	18.00
F-PPR-TFE-025X3/4-GY	25X3/4"	24.30	14.00	39.57	18.00
F-PPR-TFE-032X3/4-GY	32X3/4"	31.30	16.00	43.10	20.00
F-PPR-TFE-032X1-GY	32X1"	31.30	18.50	48.10	20.00

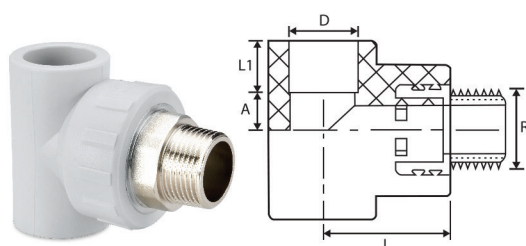
POLYPROPYLENE - RANDOM (PP-R) FITTINGS



THREADED FEMALE ELBOW 90°(BRACKET)

PP-R (Polypropylene-Random) | ISO 15874, MS 2286 | Colour : Grey | Joint Type : Fusion / Threaded

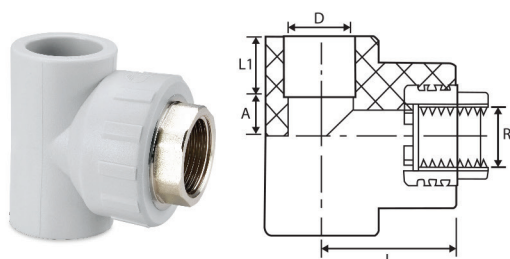
PRODUCT CODE	Ø (MM) x R (INCH)	D (MM)	A (MM)	L (MM)	L1 (MM)	L2 (MM)
F-PPR-TFEB-020X1/2-GY	20x1/2"	19.25	11.50	35.16	16.00	54.00



THREADED MALE TEE

PP-R (Polypropylene-Random) | ISO 15874, MS 2286 | Colour : Grey | Joint Type : Fusion / Threaded

PRODUCT CODE	Ø (MM) x R (INCH)	D (MM)	A (MM)	L (MM)	L1 (MM)
F-PPR-TMT-020X1/2-GY	20X1/2"	19.25	11.50	35.16	16.00
F-PPR-TMT-025X1/2-GY	25X1/2"	24.30	14.00	39.57	18.00
F-PPR-TMT-025X3/4-GY	25X3/4"	24.30	14.00	39.57	18.00
F-PPR-TMT-032X3/4-GY	32X3/4"	31.30	18.50	42.10	20.00
F-PPR-TMT-032X1-GY	32X1"	31.30	18.50	48.10	20.00

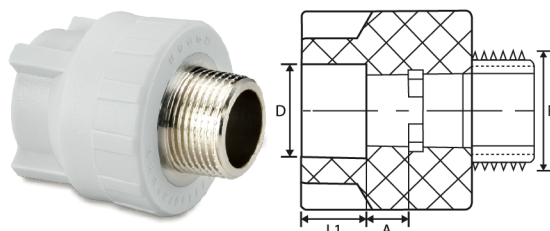


THREADED FEMALE TEE

PP-R (Polypropylene-Random) | ISO 15874, MS 2286 | Colour : Grey | Joint Type : Fusion / Threaded

PRODUCT CODE	Ø (MM) x R (INCH)	D (MM)	A (MM)	L (MM)	L1 (MM)
F-PPR-TFT-020X1/2-GY	20X1/2"	19.25	11.50	35.16	16.00
F-PPR-TFT-025X1/2-GY	25X1/2"	24.30	14.00	39.57	18.00
F-PPR-TFT-025X3/4-GY	25X3/4"	24.30	14.00	39.57	18.00
F-PPR-TFT-032X3/4-GY	32X3/4"	31.30	18.50	42.10	20.00
F-PPR-TFT-032X1-GY	32X1"	31.30	18.50	48.10	20.00

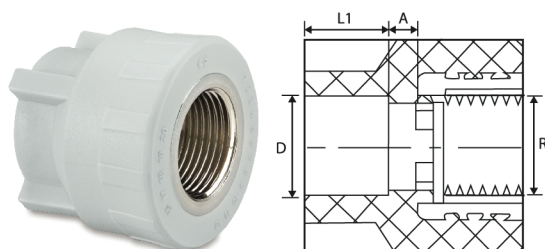
POLYPROPYLENE - RANDOM (PP-R) FITTINGS



THREADED MALE SOCKET

PP-R (Polypropylene-Random) | ISO 15874, MS 2286 | Colour : Grey | Joint Type : Fusion / Threaded

PRODUCT CODE	Ø (MM) x R (INCH)	D (MM)	A (MM)	L1 (MM)
F-PPR-TMS-020X1/2-GY	20X1/2"	19.25	10.00	16.00
F-PPR-TMS-020X3/4-GY	20X3/4"	19.25	11.00	16.00
F-PPR-TMS-025X1/2-GY	25X1/2"	24.30	10.00	18.00
F-PPR-TMS-025X3/4-GY	25X3/4"	24.30	9.00	18.00
F-PPR-TMS-032X3/4-GY	32X3/4"	31.30	9.00	20.00
F-PPR-TMS-032X1-GY	32X1"	31.30	16.50	20.00
F-PPR-TMS-040X1-1/4-GY	40X1 1/4"	39.20	11.00	22.00
F-PPR-TMS-050X1-1/2-GY	50X1 1/2"	49.30	9.00	25.00
F-PPR-TMS-063X2-GY	63X2"	62.20	11.00	19.00



THREADED FEMALE SOCKET

PP-R (Polypropylene-Random) | ISO 15874, MS 2286 | Colour : Grey | Joint Type : Fusion / Threaded

PRODUCT CODE	Ø (MM) x R (INCH)	D (MM)	A (MM)	L1 (MM)
F-PPR-TFS-020X1/2-GY	20X1/2"	19.25	5.00	16.00
F-PPR-TFS-020X3/4-GY	20X3/4"	19.25	6.00	16.00
F-PPR-TFS-025X1/2-GY	25X1/2"	24.30	5.00	18.00
F-PPR-TFS-025X3/4-GY	25X3/4"	24.30	4.00	18.00
F-PPR-TFS-032X3/4-GY	32X3/4"	31.30	4.00	20.00
F-PPR-TFS-032X1-GY	32X1"	31.30	17.50	20.00
F-PPR-TFS-040X1-1/4-GY	40X1 1/4"	39.20	12.00	22.00
F-PPR-TFS-050X1-1/2-GY	50X1 1/2"	49.30	9.00	25.00
F-PPR-TFS-063X2-GY	63X2"	62.20	10.00	19.00

FUSION JOINTING

Fusion Jointing is the only method of installation for PP-R pipes. 2 pipes are slightly melted and joined together to create a homogenous bond, essentially turning 2 lengths of pipe into a single system. It is a fuss-free method with no cement or glue needed, greatly lowering the risk of any solvents that could affect the bond and the water quality. Fusion jointed pipes are leak proof, reliable and durable. CS offers 2 types of welding machines for use with pipes of different sizes.

Features:

- ◆ Able to withstand chilled, hot and cold water
- ◆ Able to endure up to 70°C water temperature
- ◆ Suitable for use in luxury residential developments, hotels, the industrial sector and more
- ◆ Environmentally friendly and produces less carbon dioxide
- ◆ Long lifespan due to chemical and abrasion resistant nature
- ◆ Low maintenance and will not leach, wear out or clog up
- ◆ Impressive reduction of noise transmission
- ◆ Odourless, tasteless and safe for transportation of drinking water
- ◆ Joined by simple, secure and reliable fusion jointing

PP-R PIPE WELDING MACHINE

CS's Welding Machines offer a simple, leak-free and secure method to fusion joint 2 lengths of PP-R pipes together. They are conveniently sized so you can use them at home. Each machine comes with easy to understand instructions. The heating, welding and cooling times for pipes differs depending on their size. A comprehensive and easy to understand chart is attached below for your reference. CS's welding machines are suitable for use on pipes between 20mm and 110mm in size. For pipes above 110mm, please use a Butt Fusion Machine.

WELDING MACHINE



A-PPRMCA2063-RD



A-PPRMCA75110-RD

WELDING DEPTH, HEATING & COOLING TIME

The table below provides the necessary information for a good welding joint for various CS Pipe and fitting sizes.

PIPE DIAMETER (MM)	WELDING DEPTH (MM)	HEATING TIME (SEC.)	WELDING TIME (SEC.)	COOLING TIME (MIN.)
20	14.0	5	4	2
25	15.0	7	4	2
32	16.5	8	6	4
40	18.0	12	6	4
50	20.0	18	6	4
63	24.0	24	8	6
75	26.0	30	8	8
90	29.0	40	8	8
110	32.5	50	10	8

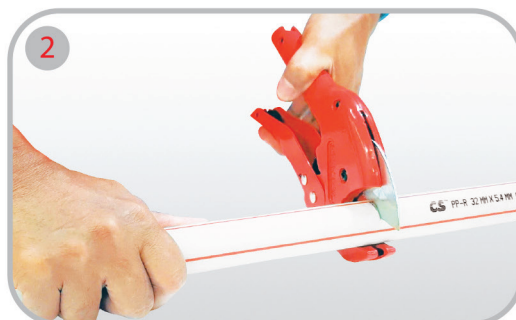
Note: Heating time starts when both pipe and fitting are pushed into correct depth. Welding time begins when joints are connected. Cooling time is the time taken for the joint to be completely cured. Never reduce cooling time by pouring water by other means.

HOW TO JOIN PP-R PIPES

Homogeneous Joint using a heating process known as fusion jointing. It is a simple process and the results are leak proof tight joints and maintenance free.



Mark the socket depth on the pipe end.



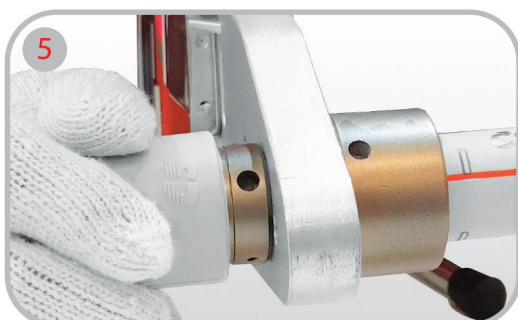
Cut the pipe with a proper tool and deburr the pipe from inside and outside to avoid vibration, noise and clogs from debris.



Mark the welding depth of the pipe end.



Insert the end of the pipe into the heating sleeve up to the marked welding depth and slide the fitting into the other side of the heading tool, up to the a stop.



Leave both pipe and fitting on the heating tool until the heating time is elapsed.



Remove the pipe and fitting and push them immediately into each other up to the mark indicating the welding depth.



Do not rotate the pipe and fitting relative to each other. Allow the join to cool fully before using.

NOTEPAD



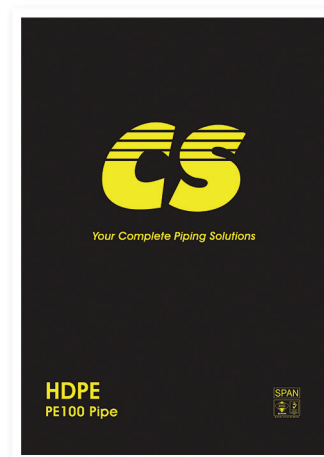
OTHER CS CATALOGUES



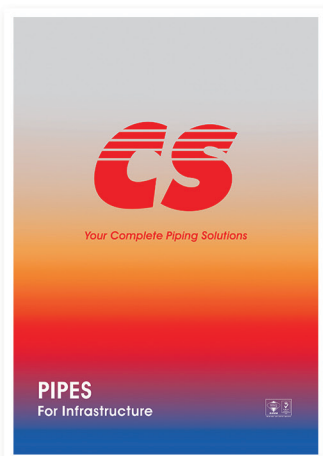
PVC-U Pressure Pipe System



PVC-U Rainwater Drainage System



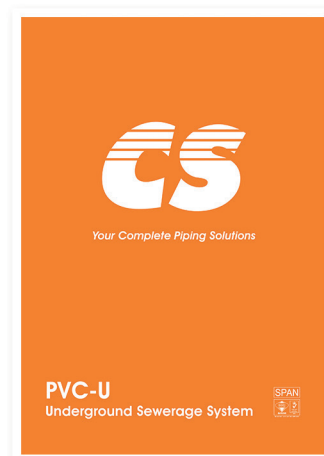
HDPE PE100 Pipe



Pipes For Infrastructure



PVC-U Soil, Waste, Vent System



PVC-U Underground Sewerage System



Your Complete Piping Solutions



Water Storage Tank, Waste Water Management
& Road Safety Management

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