



*Your Complete Piping Solutions*

**HDPE**  
**PE100 Pipe**





# COMPANY BACKGROUND

Cew Sin Plastic Pipe Sdn. Bhd. (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 SLS (Singapore Laboratory Services) 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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**THE  
NEW  
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## OUR COMMITMENTS AND SERVICES



## VISION

To become the leading manufacturer and distributor of complete PVC-U, PP-R and HDPE piping 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.

## OUR ACCREDITED CERTIFICATION BODIES

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



## HIGH DENSITY POLYETHYLENE (HDPE) PIPES

High Density Polyethylene (HDPE) is a popular material for pipes due to its flexible, durable and outstanding chemical and environmental stress resistant properties. HDPE pipeline systems are widely used in water supply, rural irrigation, sewerage and drainage, as well as electrical and communication conduit applications.

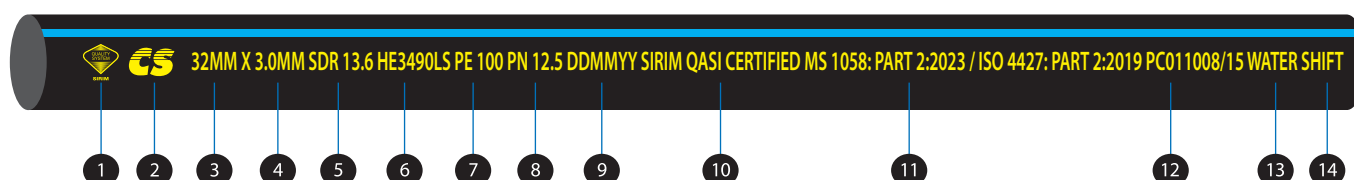
HDPE pipes can also be installed by boring instead of the open-trench method. The advantage of installation via boring, or Horizontal Directional Drilling is that this method is less disruptive to surroundings, minimizes hauling associated both with excavation and paving and can result in lower costs for installation and also longer material life cycles. The HDPE pipe is also resistant to internal build up or abrasion and provides a leak-free, fully restrained system.

CS's products are classified and tested according to local and international standards for portable water application. Our HDPE pipes can be supplied in straight lengths or in coils, which reduce the need for joints and fittings.

### Features:

- ◆ Low maintenance due to its chemical and abrasion resistance nature
- ◆ Flexible, lightweight and easy to transport and install
- ◆ Cost effective with high weathering resistance
- ◆ Joined by simple, secure and reliable fusion jointing

### CS Pipe Marking



- |  |                                       |
|--|---------------------------------------|
| ① SIRIM Logo    | ⑧ Nominal Pressure                    |
| ② CEW SIN Logo  | ⑨ Production Period                   |
| ③ Dimension O.D (Nominal Diameter)   | ⑩ Certification Body                  |
| ④ Dimension W.T (Minimum Wall Thickness)   | ⑪ Standard References and Conformance |
| ⑤ SDR Series   | ⑫ SIRIM Licenses No.                  |
| ⑥ Material Code  | ⑬ "Water"                             |
| ⑦ Material Designation   | ⑭ Shift Number                        |



## PRODUCT CODE

### PE 100 HDPE PIPE NEW CODE

**HS-1.P016-160-012-BK**

GROUP+  
SERIES

MATERIAL  
DESIGNATION

NOMINAL  
PRESSURE

DIAMETER  
SIZES

LENGTH

COLOUR

#### GROUP

|   |           |
|---|-----------|
| H | HDPE PIPE |
|---|-----------|

#### SERIES

|   |             |
|---|-------------|
| S | SIRIM       |
| C | CUSTOM MADE |

#### MATERIAL DESIGNATION

|    |       |
|----|-------|
| 1. | PE100 |
|----|-------|

#### NOMINAL PRESSURE

|       |         |
|-------|---------|
| P006  | PN 06   |
| P008  | PN 08   |
| P010  | PN 10   |
| P12.5 | PN 12.5 |
| P016  | PN 16   |
| P020  | PN 20   |

#### 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 |
| 180 | 180MM |
| 200 | 200MM |
| 225 | 225MM |
| 250 | 250MM |
| 280 | 280MM |
| 315 | 315MM |
| 355 | 355MM |
| 400 | 400MM |
| 450 | 450MM |
| 500 | 500MM |
| 560 | 560MM |
| 630 | 630MM |

#### LENGTH

|     |           |
|-----|-----------|
| 006 | 6.0 MTR   |
| 012 | 12.0 MTR  |
| 050 | 50.0 MTR  |
| 100 | 100.0 MTR |
| 250 | 250.0 MTR |

#### COLOR

|    |       |
|----|-------|
| BK | BLACK |
|----|-------|



# HIGH DENSITY POLYETHYLENE PIPE (HDPE) / (PE 100)

**MS 1058: PART 2: 2023**  
(ISO 4427: PART 2: 2019)



PE 100 is the upgraded version of PE 80. Technological advancements made it possible for PE 100 pipes to withstand a higher operating pressure with the same wall thickness as a PE 80 pipe, or alternatively, withstand the same operating pressure with thinner walls. PE 100 HDPE pipes are also less sensitive to surface damage during laying and have improved resistance to rapid crack growth. This means that if a fast crack begins to grow in a PE 100 pipe, it will stop after only a short distance. HDPE PE 100 pipes also use less polymer and provides for a larger bore and increased flow capacity.

## Features:

- ◆ More durable and able to withstand higher pressures
- ◆ Low maintenance due to its chemical and abrasion resistance nature
- ◆ Flexible, lightweight and easy to transport and install
- ◆ Cost effective with high weathering resistance
- ◆ Joined by simple, secure and reliable fusion jointing
- ◆ Long lasting and termite proof



# HIGH DENSITY POLYETHYLENE PIPE (HDPE) / (PE 100)

MS 1058: PART 2: 2023

(ISO 4427: PART 2: 2019)

## CLASS PN 10 (SDR 17)

| PRODUCT CODE         | NOMINAL SIZES<br>(MM) | OUTSIDE DIAMETER |        | PN 10 WALL THICKNESS |       | WEIGHT KG / METER |
|----------------------|-----------------------|------------------|--------|----------------------|-------|-------------------|
|                      |                       | MIN              | MAX    | MIN                  | MAX   |                   |
|                      |                       | (MM)             |        | (MM)                 |       |                   |
| HS-1.P010-032-100-BK | 32                    | 32.00            | 32.30  | 2.00                 | 2.30  | 0.194             |
| HS-1.P010-040-100-BK | 40                    | 40.00            | 40.40  | 2.40                 | 2.80  | 0.295             |
| HS-1.P010-050-100-BK | 50                    | 50.00            | 50.40  | 3.00                 | 3.40  | 0.453             |
| HS-1.P010-063-100-BK | 63                    | 63.00            | 63.40  | 3.80                 | 4.30  | 0.722             |
| HS-1.P010-075-100-BK | 75                    | 75.00            | 75.50  | 4.50                 | 5.10  | 1.019             |
| HS-1.P010-090-100-BK | 90                    | 90.00            | 90.60  | 5.40                 | 6.10  | 1.465             |
| HS-1.P010-110-100-BK | 110                   | 110.00           | 110.70 | 6.60                 | 7.40  | 2.180             |
| HS-1.P010-125-006-BK | 125                   | 125.00           | 125.80 | 7.40                 | 8.30  | 2.780             |
| HS-1.P010-140-006-BK | 140                   | 140.00           | 140.90 | 8.30                 | 9.30  | 3.525             |
| HS-1.P010-160-006-BK | 160                   | 160.00           | 161.00 | 9.50                 | 10.60 | 4.555             |
| HS-1.P010-180-006-BK | 180                   | 180.00           | 181.10 | 10.70                | 11.90 | 5.760             |
| HS-1.P010-200-006-BK | 200                   | 200.00           | 201.20 | 11.90                | 13.20 | 7.111             |
| HS-1.P010-225-006-BK | 225                   | 225.00           | 226.40 | 13.40                | 14.90 | 9.019             |
| HS-1.P010-250-006-BK | 250                   | 250.00           | 251.50 | 14.80                | 16.40 | 11.052            |
| HS-1.P010-280-006-BK | 280                   | 280.00           | 281.70 | 16.60                | 18.40 | 13.885            |
| HS-1.P010-315-006-BK | 315                   | 315.00           | 316.90 | 18.70                | 20.70 | 17.583            |
| HS-1.P010-355-006-BK | 355                   | 355.00           | 357.20 | 21.10                | 23.40 | 22.379            |
| HS-1.P010-400-006-BK | 400                   | 400.00           | 402.40 | 23.70                | 26.20 | 28.282            |
| HS-1.P010-450-006-BK | 450                   | 450.00           | 452.70 | 26.70                | 29.50 | 35.382            |
| HS-1.P010-500-006-BK | 500                   | 500.00           | 503.00 | 29.70                | 32.80 | 44.270            |
| HS-1.P010-560-006-BK | 560                   | 560.00           | 563.40 | 33.20                | 36.70 | 55.470            |
| HS-1.P010-630-006-BK | 630                   | 630.00           | 633.80 | 37.40                | 41.30 | 70.250            |

## CLASS PN 12.5 (SDR 13.6)

| PRODUCT CODE          | NOMINAL SIZES<br>(MM) | OUTSIDE DIAMETER |        | PN 12.5 WALL THICKNESS |       | WEIGHT KG / METER |
|-----------------------|-----------------------|------------------|--------|------------------------|-------|-------------------|
|                       |                       | MIN              | MAX    | MIN                    | MAX   |                   |
|                       |                       | (MM)             |        | (MM)                   |       |                   |
| HS-1.P12.5-025-100-BK | 25                    | 25.00            | 25.30  | 2.00                   | 2.30  | 0.149             |
| HS-1.P12.5-032-100-BK | 32                    | 32.00            | 32.30  | 2.40                   | 2.80  | 0.231             |
| HS-1.P12.5-040-100-BK | 40                    | 40.00            | 40.40  | 3.00                   | 3.50  | 0.362             |
| HS-1.P12.5-050-100-BK | 50                    | 50.00            | 50.40  | 3.70                   | 4.20  | 0.550             |
| HS-1.P12.5-063-100-BK | 63                    | 63.00            | 63.40  | 4.70                   | 5.30  | 0.877             |
| HS-1.P12.5-075-100-BK | 75                    | 75.00            | 75.50  | 5.60                   | 6.30  | 1.242             |
| HS-1.P12.5-090-100-BK | 90                    | 90.00            | 90.60  | 6.70                   | 7.50  | 1.780             |
| HS-1.P12.5-110-100-BK | 110                   | 110.00           | 110.70 | 8.10                   | 9.10  | 2.636             |
| HS-1.P12.5-125-006-BK | 125                   | 125.00           | 125.80 | 9.20                   | 10.30 | 3.397             |
| HS-1.P12.5-140-006-BK | 140                   | 140.00           | 140.90 | 10.30                  | 11.50 | 4.220             |
| HS-1.P12.5-160-006-BK | 160                   | 160.00           | 161.00 | 11.80                  | 13.10 | 5.553             |
| HS-1.P12.5-180-006-BK | 180                   | 180.00           | 181.10 | 13.30                  | 14.80 | 7.046             |
| HS-1.P12.5-200-006-BK | 200                   | 200.00           | 201.20 | 14.70                  | 16.30 | 8.645             |
| HS-1.P12.5-225-006-BK | 225                   | 225.00           | 226.40 | 16.60                  | 18.40 | 10.977            |
| HS-1.P12.5-250-006-BK | 250                   | 250.00           | 251.50 | 18.40                  | 20.40 | 13.522            |
| HS-1.P12.5-280-006-BK | 280                   | 280.00           | 281.70 | 20.60                  | 22.80 | 16.943            |
| HS-1.P12.5-315-006-BK | 315                   | 315.00           | 316.90 | 23.20                  | 25.70 | 21.473            |
| HS-1.P12.5-355-006-BK | 355                   | 355.00           | 357.20 | 26.10                  | 28.90 | 27.225            |
| HS-1.P12.5-400-006-BK | 400                   | 400.00           | 402.40 | 29.40                  | 32.50 | 34.524            |
| HS-1.P12.5-450-006-BK | 450                   | 450.00           | 452.70 | 33.10                  | 36.60 | 43.731            |
| HS-1.P12.5-500-006-BK | 500                   | 500.00           | 503.00 | 36.80                  | 40.60 | 53.960            |
| HS-1.P12.5-560-006-BK | 560                   | 560.00           | 563.40 | 41.20                  | 45.50 | 67.700            |
| HS-1.P12.5-630-006-BK | 630                   | 630.00           | 633.80 | 46.30                  | 51.10 | 85.620            |



# HIGH DENSITY POLYETHYLENE PIPE (HDPE) / (PE 100)

MS 1058: PART 2: 2023

(ISO 4427: PART 2: 2019)

## CLASS PN 16 (SDR 11)

| PRODUCT CODE         | NOMINAL SIZES<br>(MM) | OUTSIDE DIAMETER |        | PN 16 WALL THICKNESS |       | WEIGHT KG / METER |
|----------------------|-----------------------|------------------|--------|----------------------|-------|-------------------|
|                      |                       | MIN              | MAX    | MIN                  | MAX   |                   |
|                      |                       | (MM)             |        | (MM)                 |       |                   |
| HS-1.P016-020-100-BK | 20                    | 20.00            | 20.30  | 2.00                 | 2.30  | 0.117             |
| HS-1.P016-025-100-BK | 25                    | 25.00            | 25.30  | 2.30                 | 2.70  | 0.171             |
| HS-1.P016-032-100-BK | 32                    | 32.00            | 32.30  | 3.00                 | 3.40  | 0.279             |
| HS-1.P016-040-100-BK | 40                    | 40.00            | 40.40  | 3.70                 | 4.20  | 0.431             |
| HS-1.P016-050-100-BK | 50                    | 50.00            | 50.40  | 4.60                 | 5.20  | 0.669             |
| HS-1.P016-063-100-BK | 63                    | 63.00            | 63.40  | 5.80                 | 6.50  | 1.057             |
| HS-1.P016-075-100-BK | 75                    | 75.00            | 75.50  | 6.80                 | 7.60  | 1.476             |
| HS-1.P016-090-100-BK | 90                    | 90.00            | 90.60  | 8.20                 | 9.20  | 2.139             |
| HS-1.P016-110-100-BK | 110                   | 110.00           | 110.70 | 10.00                | 11.10 | 3.172             |
| HS-1.P016-125-006-BK | 125                   | 125.00           | 125.80 | 11.40                | 12.70 | 4.115             |
| HS-1.P016-140-006-BK | 140                   | 140.00           | 140.90 | 12.70                | 14.10 | 5.090             |
| HS-1.P016-160-006-BK | 160                   | 160.00           | 161.00 | 14.60                | 16.20 | 6.732             |
| HS-1.P016-180-006-BK | 180                   | 180.00           | 181.10 | 16.40                | 18.20 | 8.506             |
| HS-1.P016-200-006-BK | 200                   | 200.00           | 201.20 | 18.20                | 20.20 | 10.495            |
| HS-1.P016-225-006-BK | 225                   | 225.00           | 226.40 | 20.50                | 22.70 | 13.282            |
| HS-1.P016-250-006-BK | 250                   | 250.00           | 251.50 | 22.70                | 25.10 | 16.334            |
| HS-1.P016-280-006-BK | 280                   | 280.00           | 281.70 | 25.40                | 28.10 | 20.478            |
| HS-1.P016-315-006-BK | 315                   | 315.00           | 316.90 | 28.60                | 31.60 | 25.922            |
| HS-1.P016-355-006-BK | 355                   | 355.00           | 357.20 | 32.20                | 35.60 | 32.907            |
| HS-1.P016-400-006-BK | 400                   | 400.00           | 402.40 | 36.30                | 40.10 | 41.777            |
| HS-1.P016-450-006-BK | 450                   | 450.00           | 452.70 | 40.90                | 45.10 | 52.902            |
| HS-1.P016-500-006-BK | 500                   | 500.00           | 503.00 | 45.40                | 50.10 | 65.280            |
| HS-1.P016-560-006-BK | 560                   | 560.00           | 563.40 | 50.80                | 56.00 | 81.780            |
| HS-1.P016-630-006-BK | 630                   | 630.00           | 633.80 | 57.20                | 63.10 | 103.610           |

## CLASS PN 20 (SDR 9)

| PRODUCT CODE         | NOMINAL SIZES<br>(MM) | OUTSIDE DIAMETER |        | PN 20 WALL THICKNESS |       | WEIGHT KG / METER |
|----------------------|-----------------------|------------------|--------|----------------------|-------|-------------------|
|                      |                       | MIN              | MAX    | MIN                  | MAX   |                   |
|                      |                       | (MM)             |        | (MM)                 |       |                   |
| HS-1.P020-020-100-BK | 20                    | 20.00            | 20.30  | 2.30                 | 2.70  | 0.133             |
| HS-1.P020-025-100-BK | 25                    | 25.00            | 25.30  | 3.00                 | 3.40  | 0.212             |
| HS-1.P020-032-100-BK | 32                    | 32.00            | 32.30  | 3.60                 | 4.10  | 0.328             |
| HS-1.P020-040-100-BK | 40                    | 40.00            | 40.40  | 4.50                 | 5.10  | 0.512             |
| HS-1.P020-050-100-BK | 50                    | 50.00            | 50.40  | 5.60                 | 6.30  | 0.793             |
| HS-1.P020-063-100-BK | 63                    | 63.00            | 63.40  | 7.10                 | 8.00  | 1.266             |
| HS-1.P020-075-100-BK | 75                    | 75.00            | 75.50  | 8.40                 | 9.40  | 1.779             |
| HS-1.P020-090-100-BK | 90                    | 90.00            | 90.60  | 10.10                | 11.30 | 2.566             |
| HS-1.P020-110-100-BK | 110                   | 110.00           | 110.70 | 12.30                | 13.70 | 3.813             |
| HS-1.P020-125-006-BK | 125                   | 125.00           | 125.80 | 14.00                | 15.60 | 4.932             |
| HS-1.P020-140-006-BK | 140                   | 140.00           | 140.90 | 15.70                | 17.40 | 6.130             |
| HS-1.P020-160-006-BK | 160                   | 160.00           | 161.00 | 17.90                | 19.80 | 8.044             |
| HS-1.P020-180-006-BK | 180                   | 180.00           | 181.10 | 20.10                | 22.30 | 10.175            |
| HS-1.P020-200-006-BK | 200                   | 200.00           | 201.20 | 22.40                | 24.80 | 12.587            |
| HS-1.P020-225-006-BK | 225                   | 225.00           | 226.40 | 25.20                | 27.90 | 15.930            |
| HS-1.P020-250-006-BK | 250                   | 250.00           | 251.50 | 27.90                | 30.80 | 19.577            |
| HS-1.P020-280-006-BK | 280                   | 280.00           | 281.70 | 31.30                | 34.60 | 24.609            |
| HS-1.P020-315-006-BK | 315                   | 315.00           | 316.90 | 35.20                | 38.90 | 31.132            |
| HS-1.P020-355-006-BK | 355                   | 355.00           | 357.20 | 39.70                | 43.80 | 39.540            |
| HS-1.P020-400-006-BK | 400                   | 400.00           | 402.40 | 44.70                | 49.30 | 50.155            |
| HS-1.P020-450-006-BK | 450                   | 450.00           | 452.70 | 50.30                | 55.50 | 63.504            |
| HS-1.P020-500-006-BK | 500                   | 500.00           | 503.00 | 55.80                | 61.50 | 78.250            |
| HS-1.P020-560-006-BK | 560                   | 560.00           | 563.40 | 62.50                | 68.90 | 98.180            |
| HS-1.P020-630-006-BK | 630                   | 630.00           | 633.50 | 70.30                | 77.50 | 124.240           |





# PE100 AND PE80 STANDARD DIMENSION RATIO AND WORKING PRESSURE RATING

| Pipe Series             |                             |                  |                  |                  |                   |                  |                  |                  |                  |                  |
|-------------------------|-----------------------------|------------------|------------------|------------------|-------------------|------------------|------------------|------------------|------------------|------------------|
|                         | SDR 9<br>S 4                |                  | SDR 11<br>S 5    |                  | SDR 13.6<br>S 6.3 |                  | SDR 17<br>S 8    |                  | SDR 21<br>S 10   |                  |
|                         | Nominal pressure, PN in bar |                  |                  |                  |                   |                  |                  |                  |                  |                  |
| PE 100                  | PN 20                       |                  | PN 16            |                  | PN 12.5           |                  | PN 10            |                  | PN 8             |                  |
| PE 80                   | PN 16                       |                  | PN 12.5          |                  | PN 10             |                  | PN 8             |                  | PN 6             |                  |
| Nominal<br>Size<br>(mm) | Wall Thickness              |                  |                  |                  |                   |                  |                  |                  |                  |                  |
|                         | e <sub>min</sub>            | e <sub>max</sub> | e <sub>min</sub> | e <sub>max</sub> | e <sub>min</sub>  | e <sub>max</sub> | e <sub>min</sub> | e <sub>max</sub> | e <sub>min</sub> | e <sub>max</sub> |
| 20                      | 2.3                         | 2.7              | 2.0              | 2.3              | -                 | -                | -                | -                | -                | -                |
| 25                      | 3.0                         | 3.4              | 2.3              | 2.7              | 2.0               | 2.3              | -                | -                | -                | -                |
| 32                      | 3.6                         | 4.1              | 3.0              | 3.4              | 2.4               | 2.8              | 2.0              | 2.3              | -                | -                |
| 40                      | 4.5                         | 5.1              | 3.7              | 4.2              | 3.0               | 3.5              | 2.4              | 2.8              | 2.0              | 2.3              |
| 50                      | 5.6                         | 6.3              | 4.6              | 5.2              | 3.7               | 4.2              | 3.0              | 3.4              | 2.4              | 2.8              |
| 63                      | 7.1                         | 8.0              | 5.8              | 6.5              | 4.7               | 5.3              | 3.8              | 4.3              | 3.0              | 3.4              |
| 75                      | 8.4                         | 9.4              | 6.8              | 7.6              | 5.6               | 6.3              | 4.5              | 5.1              | 3.6              | 4.1              |
| 90                      | 10.1                        | 11.3             | 8.2              | 9.2              | 6.7               | 7.5              | 5.4              | 6.1              | 4.3              | 4.9              |
| 110                     | 12.3                        | 13.7             | 10.0             | 11.1             | 8.1               | 9.1              | 6.6              | 7.4              | 5.3              | 6.0              |
| 125                     | 14.0                        | 15.6             | 11.4             | 12.7             | 9.2               | 10.3             | 7.4              | 8.3              | 6.0              | 6.7              |
| 140                     | 15.7                        | 17.4             | 12.7             | 14.1             | 10.3              | 11.5             | 8.3              | 9.3              | 6.7              | 7.5              |
| 160                     | 17.9                        | 19.8             | 14.6             | 16.2             | 11.8              | 13.1             | 9.5              | 10.6             | 7.7              | 8.6              |
| 180                     | 20.1                        | 22.3             | 16.4             | 18.2             | 13.3              | 14.8             | 10.7             | 11.9             | 8.6              | 9.6              |
| 200                     | 22.4                        | 24.8             | 18.2             | 20.2             | 14.7              | 16.3             | 11.9             | 13.2             | 9.6              | 10.7             |
| 225                     | 25.2                        | 27.9             | 20.5             | 22.7             | 16.6              | 18.4             | 13.4             | 14.9             | 10.8             | 12.0             |
| 250                     | 27.9                        | 30.8             | 22.7             | 25.1             | 18.4              | 20.4             | 14.8             | 16.4             | 11.9             | 13.2             |
| 280                     | 31.3                        | 34.6             | 25.4             | 28.1             | 20.6              | 22.8             | 16.6             | 18.4             | 13.4             | 14.9             |
| 315                     | 35.2                        | 38.9             | 28.6             | 31.6             | 23.2              | 25.7             | 18.7             | 20.7             | 15.0             | 16.6             |
| 355                     | 39.7                        | 43.8             | 32.2             | 35.6             | 26.1              | 28.9             | 21.1             | 23.4             | 16.9             | 18.7             |
| 400                     | 44.7                        | 49.3             | 36.3             | 40.1             | 29.4              | 32.5             | 23.7             | 26.2             | 19.1             | 21.2             |
| 450                     | 50.3                        | 55.5             | 40.9             | 45.1             | 33.1              | 36.6             | 26.7             | 29.5             | 21.5             | 23.8             |
| 500                     | 55.8                        | 61.5             | 45.4             | 50.1             | 36.8              | 40.6             | 29.7             | 32.8             | 23.9             | 26.4             |
| 560                     | 62.5                        | 68.9             | 50.8             | 56.0             | 41.2              | 45.5             | 33.2             | 36.7             | 26.7             | 29.5             |
| 630                     | 70.3                        | 77.5             | 57.2             | 63.1             | 46.3              | 51.1             | 37.4             | 41.3             | 30.0             | 33.1             |
| 710                     | 79.3                        | 87.4             | 64.5             | 71.1             | 52.2              | 57.6             | 42.1             | 46.5             | 33.9             | 37.4             |
| 800                     | 89.3                        | 98.4             | 72.6             | 80.0             | 58.8              | 64.8             | 47.4             | 52.3             | 38.1             | 42.1             |
| 900                     | -                           | -                | 81.7             | 90.0             | 66.1              | 72.9             | 53.3             | 58.8             | 42.9             | 47.3             |
| 1000                    | -                           | -                | 90.8             | 100.0            | 73.5              | 79.9             | 59.3             | 65.4             | 47.7             | 52.6             |

## JOINTING METHOD

There are five assembly methods for HDPE pipes: **Butt Fusion / Welding, Electro Fusion, Compression Fitting, Socket Fusion and Mechanical Bolt Type Couplings.**

### Butt Fusion / Welding



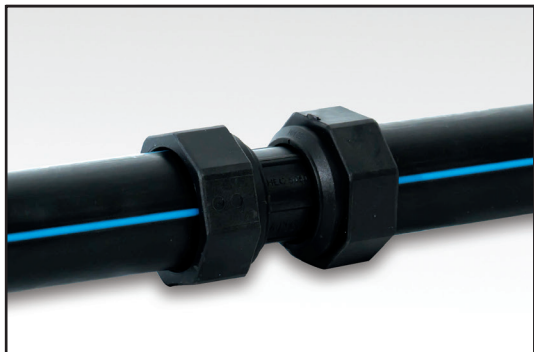
Butt Fusion or Welding is an economical, permanent and flow efficient joining method done by parallelly heating both ends of the pipes to the desired temperature using a metal plate at an aligned position. The heated ends of the pipes are then pushed into the correct depth with sufficient force and left to cool. The usage of support structures is recommended during the jointing of long pipes.

### Electro Fusion



Electro Fusion is a joining method which requires a prefabricated fitting (double socket coupler) equipped with heating elements within the bore. Squared and scraped pipe ends are inserted into the coupler and a current is supplied through the two connection terminals. The heating elements melt the pipe and fitting and fuses the jointing surfaces. The assembly is held stationary for the cooling process to occur. The joints should be allowed to cool before handling.

### Compression Fitting



Compression Fitting is commonly used to join PE to PE or other pipes with bolt type and stab type couplings. The couplings consist of a body, threaded compression nut, an O-ring acting as an elastomer seal ring and a stiffener along with a grip ring. When compressed, the seal and grip rings provide gripping to the outside of the pipe, thus creating a pressure-tight seal.

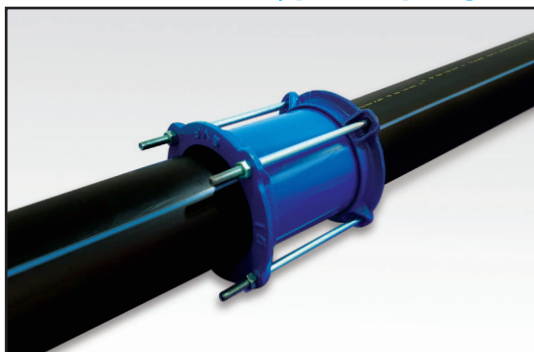
## JOINTING METHOD

### Socket Fusion



Fusion jointing is when two pipes are slightly melted and joined together to create a homogenous bond, essentially turning two lengths of pipe into a single system. No cement or glue is 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.

### Mechanical Bolt Type Couplings



There are many styles and varieties of “Bolt Type” couplings available to join HDPE pipe to HDPE pipe or other types of pipes such as PVC, Mild steel and Ductile iron in sizes from 90mm and larger. Components for this style of fitting are shown in picture. As with the mechanical compression fittings, these couplings work on the general principle of compressing an elastomeric gasket around each pipe end to be joined, to form a seal. The gasket, when compressed against the outside of the pipe by tightening the bolts, produces a pressure seal and it expands a little and shortens slightly due to Poisson’s effect.





## NOTEPAD

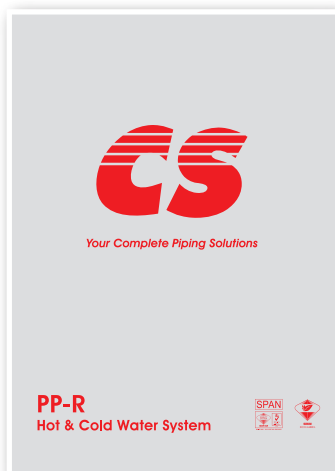




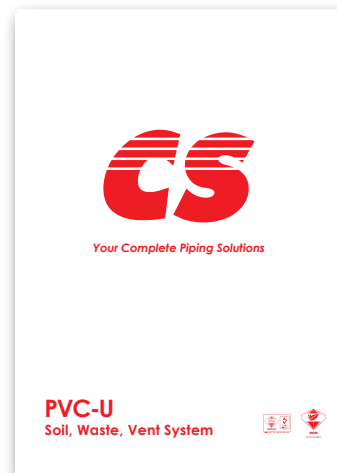
## OTHER CS CATALOGUES



**PVC-U Rainwater  
Drainage System**



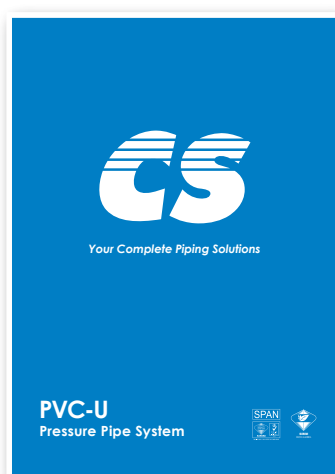
**PP-R Hot & Cold Water  
System**



**PVC-U Soil, Waste, Vent  
System**



**Pipes For Infrastructure**



**PVC-U Pressure Pipe  
System**



**PVC-U Underground  
Sewerage System**



*Your Complete Piping Solutions*



Water Storage Tank, Waste Water Management  
& Road Safety Management

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