

PE Product Range

# Utility Systems

The right solutions  
for water, gas and industrial applications





GF Piping Systems Indonesia

# The Company

## Part of a strong corporation

GF comprises three divisions: GF Piping Systems, GF Casting Solutions, and GF Machining Solutions. Founded in 1802, the Corporation is headquartered in Switzerland and present in 34 countries with 137 companies, 59 of them production facilities.

We are currently serve South East Asia through 5 sales companies and representative offices. GF Piping Systems has an extensive partner and distribution network in SEA which ensures high level customer and technical support.

GF Piping Systems expanded non-corrosive pipes and fitting market in Indonesia with opened a representative office. As the leading flow solution provider for the safe and sustainable transport of fluids, GF Piping Systems decided to strengthen in its market-leading production facilities by acquired PT Eurapipe Solutions Indonesia in 2016 and it has been renamed to PT Georg Fischer Indonesia.

PT Georg Fischer Indonesia as known as GF Piping Systems Indonesia has more than 20 years experiences and a strong reputation as a high quality Polyethylene (PE) pipes and fittings. The main GF Piping Systems Indonesia production facility located in Karawang, West Java. It has high technology machine, and high-loaded testing tools that comply with International standards. Other than that to support and serve our customers, we open sales and marketing office in Jakarta.



-  Sales / Representative office
-  Production facility
-  Partners covered



# Features

The nominal pressure rating (PN) assigned to reference standard of PE pipe equates to performance at 20°C. In situations where the temperature of the pipe wall is greater than 20°C, the MAOP of the pipe is reduced. Therefore the PE pipe system will be de-rated as temperature increases.

## Installation

Pipes can be easily cut, prepared and installed by the following methods:

- Butt fusion joining system
- ELGEF Plus Electrofusion joining system
- iJOINT Mechanical joining system (compression fittings and flanges)
- IR Plus fusion system
- Mechanical flange joining system
- Waga MULTI/JOINT Mechanical joining system

## Typical fittings

- Fabricated
- Electrofusion
- Moulded butt weld
- Mechanical couplings
- Compression fittings

## Valves

- Metal and thermoplastic ball valve
- Metal and thermoplastic butterfly valves
- Metal and thermoplastic diaphragm valves

## Instrumentation\*

- Multi-Parameter
- Flow sensors
- pH/ORP Electrodes and Electronics
- Conductivity/Resistivity Electrodes and Electronics
- Level, Temperature, Pressure Sensors
- Chlorine
- Dissolved Oxygen

## Features

- Corrosion resistance
- Chemical resistance
- Smooth bore
- Abrasion resistance
- Weather resistance
- Light weight for easy installation
- Flexible
- High impact strength
- Long life
- Trenchless construction installation

## Product range

Size : d20 - d1200

Pressure rating : PN6 - PN25

| Length Pipe (m) |       |     |        |      |
|-----------------|-------|-----|--------|------|
| Size            | 5.8 m | 6 m | 11.8 m | 12 m |
| d20 - d1200     | ✓     | ✓   | ✓      | ✓    |



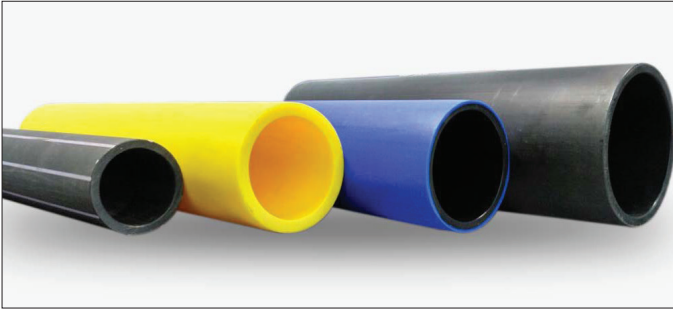
| Coil Pipe (m) |      |       |       |
|---------------|------|-------|-------|
| Size          | 50 m | 100 m | 200 m |
| d20 - d63     | ✓    | ✓     | ✓     |
| d75 - d110    | ✓    | ✓     |       |

\*) For more specific details, please contact our us



# Products

## PE pipes



High quality pipe with special properties designed for specific range of applications.

## Butt fusion fittings



Butt fusion technology for various water and gas applications.

## WAGA (Mechanical fittings for repair, transition and maintenance)



A wide range of products for water and gas installation and repair - under and above ground.

## Utility valves



Choose from the most comprehensive valve product range.

## ELGEF Plus (Electrofusion fittings)



Electrofusion technology for various water and gas applications.

## iJOINT (Mechanical compression fittings)



Mechanical compression fittings and saddles in plastic for water and gas installation.

## Mechanical flange jointings



View our range of flanges - ideal for demountable connections as well as transitions from plastic fittings to devices.

## Machines & tools



Proven Joining Technology suitable for all materials.

# Certification

ISO 4427, ISO 4437, ASNZS 4130, EN12201 & EN1555 for Water & Gaseous fuels

ISO 9001:2015 Quality Management System

SNI Standard



## TKDN Certificate



## LEMIGAS



## ISO45001:2018



## ISO14001:2015



## FM Approved



## Certificate of Green Label Indonesia



# Facilities

## Quality Control



Universal Testing Machine (Tensile Test)



Water Tank (Hydro-Pressure Test 1200mm PE Pipe)



Differential Scanning Calorimeter (OIT Test)



Melt Flow Index (MFR Test)



Pressure Unit (Hydro Pressure Test)



Air Oven (Longitudinal Reversion Test)

**PE100 Compound pipe dimensions for water supply, produced refer to ISO 4427:2019, EN 12201:2011, AS/NZS 4130 (2018) and SNI 4829.2:2015**

| SDR                      |                       |        |                  | 26                  |           |
|--------------------------|-----------------------|--------|------------------|---------------------|-----------|
| S                        |                       |        |                  | 12.5                |           |
| PN for PE100             |                       |        |                  | 6 Bar               |           |
| Nominal outside diameter | Mean outside diameter |        | Out of roundness | Wall thickness<br>T | Ave. mass |
| DN                       | Min.                  | Max.   | Max.             | Min.                | Kg/m      |
| 20                       | 20.0                  | 20.3   | 1.2              | -                   | -         |
| 25                       | 25.0                  | 25.3   | 1.2              | -                   | -         |
| 32                       | 32.0                  | 32.3   | 1.2              | -                   | -         |
| 40                       | 40.0                  | 40.4   | 1.3              | -                   | -         |
| 50                       | 50.0                  | 50.4   | 1.4              | 2.0                 | 0.31      |
| 63                       | 63.0                  | 63.4   | 1.4              | 2.5                 | 0.48      |
| 75                       | 75.0                  | 75.5   | 1.6              | 2.9                 | 0.68      |
| 90                       | 90.0                  | 90.6   | 1.8              | 3.5                 | 0.99      |
| 110                      | 110.0                 | 110.7  | 2.2              | 4.2                 | 1.48      |
| 125                      | 125.0                 | 125.8  | 2.5              | 4.8                 | 1.9       |
| 140                      | 140.0                 | 140.9  | 2.8              | 5.4                 | 2.4       |
| 160                      | 160.0                 | 161.0  | 3.2              | 6.2                 | 3.1       |
| 180                      | 180.0                 | 181.1  | 3.6              | 6.9                 | 3.8       |
| 200                      | 200.0                 | 201.2  | 4.0              | 7.7                 | 4.8       |
| 225                      | 225.0                 | 226.4  | 4.5              | 8.6                 | 6.0       |
| 250                      | 250.0                 | 251.5  | 5.0              | 9.6                 | 7.4       |
| 280                      | 280.0                 | 281.7  | 9.8              | 10.7                | 9.3       |
| 315                      | 315.0                 | 316.9  | 11.1             | 12.1                | 11.8      |
| 355                      | 355.0                 | 357.2  | 12.5             | 13.6                | 14.9      |
| 400                      | 400.0                 | 402.4  | 14.0             | 15.3                | 18.9      |
| 450                      | 450.0                 | 452.7  | 15.6             | 17.2                | 23.9      |
| 500                      | 500.0                 | 503.0  | 17.5             | 19.1                | 29.5      |
| 560                      | 560.0                 | 563.4  | 19.6             | 21.4                | 36.9      |
| 630                      | 630.0                 | 633.8  | 22.1             | 24.1                | 46.8      |
| 710                      | 710.0                 | 716.4  | 24.9             | 27.2                | 59.5      |
| 800                      | 800.0                 | 807.2  | 28.0             | 30.6                | 75.3      |
| 900                      | 900.0                 | 908.1  | 31.5             | 34.4                | 95.2      |
| 1000                     | 1000.0                | 1009.0 | 35.0             | 38.2                | 117.5     |
| 1200                     | 1200.0                | 1210.8 | 42.0             | 45.9                | 169.2     |

Note: PN rating at 20°C with safety factor 1,25 de-rating for high temperature required,

\* Please call us for availability of this item.

**PE100 Compound pipe dimensions for water supply, produced refer to ISO 4427:2019, EN 12201:2011, AS/NZS 4130 (2018) and SNI 4829.2:2015**

| SDR                      |                       |        |                  | 21                 |           | 17                 |           | 13.6               |           |
|--------------------------|-----------------------|--------|------------------|--------------------|-----------|--------------------|-----------|--------------------|-----------|
| S                        |                       |        |                  | 10                 |           | 8                  |           | 6.3                |           |
| PN for PE100             |                       |        |                  | 8 Bar              |           | 10 Bar             |           | 12.5 Bar           |           |
| Nominal outside diameter | Mean outside diameter |        | Out of roundness | Wall thickness $T$ | Ave. mass | Wall thickness $T$ | Ave. mass | Wall thickness $T$ | Ave. mass |
| DN                       | Min.                  | Max.   | Max.             | Min.               | Kg/m      | Min.               | Kg/m      | Min.               | Kg/m      |
| 20                       | 20.0                  | 20.3   | 1.2              | -                  | -         | -                  | -         | 1.6                | 0.10      |
| 25                       | 25.0                  | 25.3   | 1.2              | -                  | -         | 1.6                | 0.12      | 2.0                | 0.14      |
| 32                       | 32.0                  | 32.3   | 1.3              | 1.6                | 0.16      | 2.0                | 0.19      | 2.4                | 0.23      |
| 40                       | 40.0                  | 40.4   | 1.4              | 2.0                | 0.24      | 2.4                | 0.30      | 3.0                | 0.36      |
| 50                       | 50.0                  | 50.4   | 1.4              | 2.4                | 0.38      | 3.0                | 0.46      | 3.7                | 0.55      |
| 63                       | 63.0                  | 63.4   | 1.5              | 3.0                | 0.58      | 3.8                | 0.73      | 4.7                | 0.88      |
| 75                       | 75.0                  | 75.5   | 1.6              | 3.6                | 0.83      | 4.5                | 1.03      | 5.6                | 1.23      |
| 90                       | 90.0                  | 90.6   | 1.8              | 4.3                | 1.20      | 5.4                | 1.48      | 6.7                | 1.77      |
| 110                      | 110.0                 | 110.7  | 2.2              | 5.3                | 1.80      | 6.6                | 2.20      | 8.1                | 2.66      |
| 125                      | 125.0                 | 125.8  | 2.5              | 6.0                | 2.3       | 7.4                | 2.8       | 9.2                | 3.4       |
| 140                      | 140.0                 | 140.9  | 2.8              | 6.7                | 2.9       | 8.3                | 3.5       | 10.3               | 4.3       |
| 160                      | 160.0                 | 161.0  | 3.2              | 7.7                | 3.8       | 9.5                | 4.6       | 11.8               | 5.6       |
| 180                      | 180.0                 | 181.1  | 3.6              | 8.6                | 4.7       | 10.7               | 5.8       | 13.3               | 7.1       |
| 200                      | 200.0                 | 201.2  | 4.0              | 9.6                | 5.9       | 11.9               | 7.2       | 14.7               | 8.7       |
| 225                      | 225.0                 | 226.4  | 4.5              | 10.8               | 7.4       | 13.4               | 9.1       | 16.6               | 11.1      |
| 250                      | 250.0                 | 251.5  | 5.0              | 11.9               | 9.1       | 14.8               | 11.1      | 18.4               | 13.6      |
| 280                      | 280.0                 | 281.7  | 9.8              | 13.4               | 11.5      | 16.6               | 14.0      | 20.6               | 17.1      |
| 315                      | 315.0                 | 316.9  | 11.1             | 15.0               | 14.4      | 18.7               | 17.7      | 23.2               | 21.6      |
| 355                      | 355.0                 | 357.2  | 12.5             | 16.9               | 18.3      | 21.1               | 22.6      | 26.1               | 27.4      |
| 400                      | 400.0                 | 402.4  | 14.0             | 19.1               | 23.3      | 23.7               | 28.5      | 29.4               | 34.8      |
| 450                      | 450.0                 | 452.7  | 15.6             | 21.5               | 29.5      | 26.7               | 36.1      | 33.1               | 44.1      |
| 500                      | 500.0                 | 503.0  | 17.5             | 23.9               | 36.4      | 29.7               | 44.5      | 36.8               | 54.4      |
| 560                      | 560.0                 | 563.4  | 19.6             | 26.7               | 45.5      | 33.2               | 55.9      | 41.2               | 68.2      |
| 630                      | 630.0                 | 633.8  | 22.1             | 30.0               | 57.5      | 37.4               | 70.6      | 46.3               | 86.2      |
| 710                      | 710.0                 | 716.4  | 24.9             | 33.9               | 73.2      | 42.1               | 89.8      | 52.2               | 109.6     |
| 800                      | 800.0                 | 807.2  | 28.0             | 38.1               | 92.8      | 47.4               | 113.9     | 58.8               | 139.0     |
| 900                      | 900.0                 | 908.1  | 31.5             | 42.9               | 117.4     | 53.3               | 144.6     | 66.2               | 176.0     |
| 1000                     | 1000.0                | 1009.0 | 35.0             | 47.7               | 145.1     | 59.3               | 178.1     | * 72.5             | * 215.7   |
| 1200                     | 1200.0                | 1210.8 | 42.0             | 57.2               | 208.8     | * 71.1             | * 250.5   | -                  | -         |

Note: PN rating at 20°C with safety factor 1,25 de-rating for high temperature required,

\* Please call us for availability of this item.

**PE100 Compound pipe dimensions for water supply, produced refer to ISO 4427:2019, EN 12201:2011, AS/NZS 4130 (2018) and SNI 4829.2:2015**

| SDR                      |                       |        | 11               |                    |           | 9                  |           | 7.4                |           |
|--------------------------|-----------------------|--------|------------------|--------------------|-----------|--------------------|-----------|--------------------|-----------|
| S                        |                       |        | 5                |                    |           | 4                  |           | 3.2                |           |
| PN for PE100             |                       |        | 16 Bar           |                    |           | 20 Bar             |           | 25 Bar             |           |
| Nominal outside diameter | Mean outside diameter |        | Out of roundness | Wall thickness $T$ | Ave. mass | Wall thickness $T$ | Ave. mass | Wall thickness $T$ | Ave. mass |
| DN                       | Min.                  | Max.   | Max.             | Min.               | Kg/m      | Min.               | Kg/m      | Min.               | Kg/m      |
| 20                       | 20.0                  | 20.3   | 1.2              | 2.0                | 0.11      | 2.3                | 0.13      | 3.0                | 0.16      |
| 25                       | 25.0                  | 25.3   | 1.2              | 2.3                | 0.17      | 3.0                | 0.20      | 3.5                | 0.24      |
| 32                       | 32.0                  | 32.3   | 1.3              | 3.0                | 0.27      | 3.6                | 0.33      | 4.4                | 0.39      |
| 40                       | 40.0                  | 40.4   | 1.4              | 3.7                | 0.43      | 4.5                | 0.52      | 5.5                | 0.61      |
| 50                       | 50.0                  | 50.4   | 1.4              | 4.6                | 0.67      | 5.6                | 0.80      | 6.9                | 0.95      |
| 63                       | 63.0                  | 63.4   | 1.5              | 5.8                | 1.07      | 7.1                | 1.28      | 8.6                | 1.50      |
| 75                       | 75.0                  | 75.5   | 1.6              | 6.8                | 1.49      | 8.4                | 1.79      | 10.3               | 2.13      |
| 90                       | 90.0                  | 90.6   | 1.8              | 8.2                | 2.16      | 10.1               | 2.59      | 12.3               | 3.05      |
| 110                      | 110.0                 | 110.7  | 2.2              | 10.0               | 3.20      | 12.3               | 3.84      | 15.1               | 4.57      |
| 125                      | 125.0                 | 125.8  | 2.5              | 11.4               | 4.2       | 14.0               | 5.0       | 17.1               | 5.9       |
| 140                      | 140.0                 | 140.9  | 2.8              | 12.7               | 5.2       | 15.7               | 6.2       | 19.2               | 7.4       |
| 160                      | 160.0                 | 161.0  | 3.2              | 14.6               | 6.8       | 17.9               | 8.1       | 21.9               | 9.6       |
| 180                      | 180.0                 | 181.1  | 3.6              | 16.4               | 8.6       | 20.1               | 10.3      | 24.6               | 12.2      |
| 200                      | 200.0                 | 201.2  | 4.0              | 18.2               | 10.6      | 22.4               | 12.7      | 27.4               | 15.0      |
| 225                      | 225.0                 | 226.4  | 4.5              | 20.5               | 13.4      | 25.2               | 16.0      | 30.8               | 19.0      |
| 250                      | 250.0                 | 251.5  | 5.0              | 22.7               | 16.5      | 27.9               | 19.7      | 34.2               | 23.5      |
| 280                      | 280.0                 | 281.7  | 9.8              | 25.4               | 20.6      | 31.3               | 24.8      | 38.3               | 29.4      |
| 315                      | 315.0                 | 316.9  | 11.1             | 28.6               | 26.1      | 35.2               | 31.4      | 43.1               | 37.2      |
| 355                      | 355.0                 | 357.2  | 12.5             | 32.2               | 33.2      | 39.7               | 39.8      | 48.5               | 47.3      |
| 400                      | 400.0                 | 402.4  | 14.0             | 36.3               | 42.1      | 44.7               | 50.6      | 54.7               | 59.9      |
| 450                      | 450.0                 | 452.7  | 15.6             | 40.9               | 53.3      | 50.3               | 63.9      | 61.5               | 75.9      |
| 500                      | 500.0                 | 503.0  | 17.5             | 45.4               | 65.8      | 55.8               | 78.9      | -                  | -         |
| 560                      | 560.0                 | 563.4  | 19.6             | 50.8               | 82.4      | 62.5               | 98.9      | -                  | -         |
| 630                      | 630.0                 | 633.8  | 22.1             | 57.2               | 104.4     | * 70.3             | * 125.1   | -                  | -         |
| 710                      | 710.0                 | 716.4  | 24.9             | 64.5               | 132.7     | * 79.3             | * 159.2   | -                  | -         |
| 800                      | 800.0                 | 807.2  | 28.0             | * 72.6             | * 168.1   | -                  | -         | -                  | -         |
| 900                      | 900.0                 | 908.1  | 31.5             | * 81.7             | * 213.0   | -                  | -         | -                  | -         |
| 1000                     | 1000.0                | 1009.0 | 35.0             | -                  | -         | -                  | -         | -                  | -         |
| 1200                     | 1200.0                | 1210.8 | 42.0             | -                  | -         | -                  | -         | -                  | -         |

Note: PN rating at 20°C with safety factor 1,25 de-rating for high temperature required,

\* Please call us for availability of this item.

## HDPE Pipes for gas distribution

| CLASS        | PIPE                                                                              | COIL                                                                                |
|--------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>PE80</b>  |  |  |
| <b>PE100</b> |  |  |

## Material properties

| Physical properties                            | Test method        |                                               | PE80          |                   | PE100         |                   |
|------------------------------------------------|--------------------|-----------------------------------------------|---------------|-------------------|---------------|-------------------|
|                                                |                    |                                               | Typical value | Unit              | Typical value | Unit              |
| Density                                        | ISO 1183/ISO 1872  | Compound                                      | 944           | Kg/m <sup>3</sup> | 959           | Kg/m <sup>3</sup> |
| Met flow rate                                  | ISO 1133           | 190°C/5.0Kg                                   | 0.8           | g/10min           | 0.25          | g/10 min          |
| Tensile modulus                                | ISO 527-2          | 1mm/min                                       | 800           | Mpa               | 1100          | Mpa               |
| Tensile strain at break                        | ISO 527-2          | 50mm/min                                      | >600          | %                 | >600          | %                 |
| Tensile stress at yield                        | ISO 527-2          | 50mm/min                                      | 19            | Mpa               | 25            | Mpa               |
| Pigment dispersion                             | ISO 18553          |                                               | <3            | -                 | <3            | -                 |
| Oxidation induction time                       | ISO 11357-6/EN 728 | 210°C                                         | >20           | Minutes           | >20           | Minutes           |
| Resistance to rapid crack propagation, S4 test | ISO 13477          | PC at 0°C, test pipe 315mm SDR 11             | >3            | Bar               | >10           | Bar               |
| Resistance to slow crack growth                | ISO 13479          | 8.0 Bar, 80°C (PE80)<br>9.2 Bar, 80°C (PE100) | ≥500          | Hours             | ≥500          | Hours             |

## Product length

| LENGTH PIPE (m) |   |    | *COIL PIPE (m) |     |     |
|-----------------|---|----|----------------|-----|-----|
| SIZE            | 6 | 12 | 50             | 100 | 200 |
| 16 - 63         | ✓ | ✓  | ✓              | ✓   | ✓   |
| 75 - 110        | ✓ | ✓  | ✓              | ✓   |     |
| 125 - 315       | ✓ | ✓  |                |     |     |

*\*For more specific details, please contact our sales engineer.*

**PE100 & PE80 Compound pipe for gas supply, produced refer to ISO 4437:2014,  
EN 1555:2010, AS/NZS 4130:2018**

| SDR                            |                               |       |                                | 17                            |      |              | 13.6                          |      |              | 11                            |      |              | 9                             |      |             |
|--------------------------------|-------------------------------|-------|--------------------------------|-------------------------------|------|--------------|-------------------------------|------|--------------|-------------------------------|------|--------------|-------------------------------|------|-------------|
| PN for PE80                    |                               |       |                                | 5 Bar                         |      |              | 6.3 Bar                       |      |              | 8 Bar                         |      |              | 10 Bar                        |      |             |
| PN for PE100                   |                               |       |                                | 6.3 Bar                       |      |              | 8 Bar                         |      |              | 10 Bar                        |      |              | 12.5 Bar                      |      |             |
| Nominal<br>Outside<br>Diameter | Mean Outside<br>Diameter (Dm) |       | Maximum<br>out of<br>roundness | Wall<br>Thickness<br><i>T</i> |      | Ave.<br>Mass | Wall<br>Thickness<br><i>T</i> |      | Ave.<br>Mass | Wall<br>Thickness<br><i>T</i> |      | Ave.<br>Mass | Wall<br>Thickness<br><i>T</i> |      | Ave.<br>Mas |
|                                | DN                            | Min.  |                                | Max.                          | Max. |              | Min.                          | Max. |              | Kg/m                          | Min. |              | Max.                          | Kg/m |             |
| 20                             | 20.0                          | 20.3  | 1.2                            | -                             | -    | -            | -                             | -    | -            | 2.3                           | 2.7  | 0.13         | 3.0                           | 3.5  | 0.17        |
| 25                             | 25.0                          | 25.3  | 1.2                            | -                             | -    | -            | 2.3                           | 2.7  | 0.17         | 2.3                           | 2.7  | 0.17         | 3.0                           | 3.5  | 0.22        |
| 32                             | 32.0                          | 32.3  | 1.3                            | 2.3                           | 2.7  | 0.22         | 2.4                           | 2.8  | 0.23         | 3.0                           | 3.5  | 0.28         | 3.6                           | 4.1  | 0.33        |
| 40                             | 40.0                          | 40.4  | 1.4                            | 2.4                           | 2.8  | 0.30         | 3.0                           | 3.5  | 0.36         | 3.7                           | 4.2  | 0.43         | 4.5                           | 5.1  | 0.52        |
| 50                             | 50.0                          | 50.4  | 1.4                            | 3.0                           | 3.5  | 0.46         | 3.7                           | 4.2  | 0.55         | 4.6                           | 5.2  | 0.67         | 5.6                           | 6.3  | 0.80        |
| 63                             | 63.0                          | 63.4  | 1.5                            | 3.8                           | 4.3  | 0.73         | 4.7                           | 5.3  | 0.88         | 5.8                           | 6.5  | 1.07         | 7.1                           | 8.0  | 1.28        |
| 75                             | 75.0                          | 75.5  | 1.6                            | 4.5                           | 5.1  | 1.03         | 5.6                           | 6.3  | 1.23         | 6.8                           | 7.6  | 1.49         | 8.4                           | 9.4  | 1.79        |
| 90                             | 90.0                          | 90.6  | 1.8                            | 5.4                           | 6.1  | 1.48         | 6.7                           | 7.5  | 1.77         | 8.2                           | 9.2  | 2.16         | 10.1                          | 11.3 | 2.59        |
| 110                            | 110.0                         | 110.7 | 2.2                            | 6.6                           | 7.4  | 2.20         | 8.1                           | 9.1  | 2.66         | 10.0                          | 11.2 | 3.21         | 12.3                          | 13.7 | 3.84        |
| 125                            | 125.0                         | 125.8 | 2.5                            | 7.4                           | 8.3  | 2.80         | 9.2                           | 10.3 | 3.42         | 11.4                          | 12.7 | 4.15         | 14.0                          | 15.6 | 4.96        |
| 140                            | 140.0                         | 140.9 | 2.8                            | 8.3                           | 9.3  | 3.52         | 10.3                          | 11.5 | 4.29         | 12.7                          | 14.1 | 5.17         | 15.7                          | 17.4 | 6.23        |
| 160                            | 160.0                         | 161.0 | 3.2                            | 9.5                           | 10.6 | 4.59         | 11.8                          | 13.1 | 5.60         | 14.6                          | 16.2 | 6.79         | 17.9                          | 19.8 | 8.11        |
| 180                            | 180.0                         | 181.1 | 3.6                            | 10.7                          | 11.9 | 5.81         | 13.3                          | 14.8 | 7.10         | 16.4                          | 18.2 | 8.58         | 20.1                          | 22.3 | 10.26       |
| 200                            | 200.0                         | 201.2 | 4.0                            | 11.9                          | 13.2 | 7.17         | 14.7                          | 16.3 | 8.71         | 18.2                          | 20.2 | 10.58        | 22.4                          | 24.8 | 12.69       |
| 225                            | 225.0                         | 226.4 | 4.5                            | 13.4                          | 14.9 | 9.09         | 16.6                          | 18.4 | 11.06        | 20.5                          | 22.7 | 13.39        | 25.2                          | 27.9 | 16.01       |
| 250                            | 250.0                         | 251.5 | 5.0                            | 14.8                          | 16.4 | 11.14        | 18.4                          | 20.4 | 13.63        | 22.7                          | 25.1 | 16.47        | 27.9                          | 30.8 | 19.74       |
| 280                            | 280.0                         | 281.7 | 9.8                            | 16.6                          | 18.4 | 14.00        | 20.6                          | 22.8 | 17.08        | 25.4                          | 28.1 | 20.64        | 31.3                          | 34.6 | 24.81       |
| 315                            | 315.0                         | 316.9 | 11.1                           | 18.7                          | 20.7 | 17.72        | 23.2                          | 25.7 | 21.64        | 28.6                          | 31.6 | 26.13        | 35.2                          | 38.9 | 31.38       |

Note: PN rating at 20° C with safety factor 2, de-rating for high temperature required  
Maximum size for the PE80 (yellow) and PE100 (orange) is 315mm SDR11

## POLYETHYLENE COLOUR

For Gas application and identification the pipe should have yellow/orange color or made from yellow/orange compound material refer to standard ISO 4437, as follows;

(a) PE80 (MDPE), Yellow



**YELLOW**



**ORANGE**

(b) PE100 (HDPE), Orange

## Maintenance and repair

# Complete and flexible maintenance and repair solutions

During recent years the gas supply industry has invested greatly to ensure and enhance consistent quality in the operation and maintenance of the gas supply networks. GF Piping Systems continues to provide high quality systems and services for building and maintaining these networks thus contributing to the transportation of gas in the safest, most secure and reliable way.

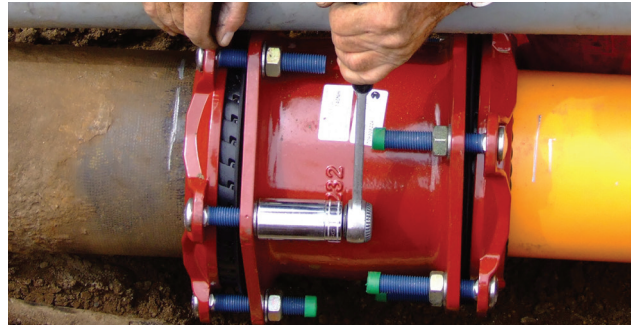
### Connecting

With MULTI/JOINT 3000 Plus fittings you can connect any pipe you like, regardless of the pipe material. Very convenient, when you do not know what kind of pipe materials you will encounter. Moreover thanks to the quick, safe and simple installation of the fittings you will always make a reliable connection. Non restraint or restraint!



### Repairing

Also for maintenance or repair of an existing or corroded pipe GF Piping Systems offers the right solution. With our MULTI/JOINT 3000 plus products and special PE solutions you can virtually repair all pipes. Quick, safe and simple!



### Tapping

Do you want to branch off on an existing pipe or make a bypass? The end users connected to the network should not experience any inconvenience. For this purpose GF Piping Systems offers an extensive package of universal tapping products, such as drilling tools, saddles and accessories to be able to tap under pressure or pressureless.



## Further applications

# Solutions for your reliable system

For over 50 years, GF Piping Systems has enjoyed considerable success in developing application oriented plastic piping system solutions for water utilities

### Irrigation

A growing world population and the changing climate enhance the food and water scarcity globally. Enough food availability is going to be an objective which will be out of reach. As counter actions more and more food production will be separated from the local weather by building large green houses or doing extended irrigation increasing the output of food per sqm. Systems simple to install and ensuring a secure water tight distribution over the total product life span will become an important attribute. GF Piping Systems provides you a comprehensive product range for irrigation as well as on the spot trainings and fast deliveries.

### Non-destructive testing of butt fusion joints and material

We provide NDT services during construction, as well as during operation of PE piping systems. This technique is used to evaluate the properties of the joint and the welded components. We provide to you reports of each test including statements (pass/fail) regarding the long term behaviour of the joints.

### Customizing rental pools

Special fittings or prefabrication request is what makes a solution your solution. Our customizing teams work closely together with our production and engineering specialists around the globe to develop the best solutions for you. In many countries, GF Piping Systems operates rental pools providing you machines and tools for various jointing technologies like butt fusion, electrofusion and mechanical connections

### Global trainings

GF Piping Systems specialists are always close by worldwide, a comprehensive range of training courses is conducted by local expert teams. The trainings are focused on methods with high practical relevance. Geared specifically toward your individual priorities as well as to your level of knowledge, our courses offer a high degree of quality and exclusivity. On site, the training pays off. Since instructing pipe fitters in the specific aspects of the installation prior to the actual construction work saves you valuable time on site.



## Pre-Fabrication

# Adapting our business to improve yours

### Pre-Fabrication & Customisation

GF Piping Systems can offer you support throughout your project, helping you bring your ideas and concepts to life. Take advantages of our experts and their extensive range of specialised plastic fabrication equipment for customised solutions, tailor made for your specifications. We combined our global footprint with more than 50+ years' of experience working with thermoplastic products, with our local knowledge of the market and our customers' needs to meet their requirements.

### Fabrication capabilities

- Fabricated Tees Up to 1200 mm
- Fabricated Sweep Bend and Reinforced Branch Tees (RBT) up to 355 mm
- Butt Welding: 63 mm – 1200 mm
- Electrofusion Welding: 20 mm – 1200 mm
- Socket Welding: 20 – 125 mm
- IR Welding: 20-110 mm
- Saddle Tee Welding
- Prespool and Header Manufacturing
- Retrofit System Prefabrication
- Customization as per Customer Requirement
- Temperature and Humidity Control Room Facility for PVC Cementing
- Testing Facility



DN1000 Underground Water Supply HDPE - Mining



ION Exchange PPH - Chemical Process Industry



ION Exchange PPH - Chemical Process Industry



Desalination and WTP Line HDPE - Energy



Plant Retrofit Flow Mix LTF PPH - Chemical Process Industry



Prefabrication Chiller Plant HDPE - Building Technology

# Projects gallery

## Newmont Nusa Tenggara



(315mm pipe, water distribution)

## Newmont Nusa Tenggara



(1000mm pipe, dewatering systems project)

## Sacna Nusantara



(1200mm pipe, siphon water project)

## JARGAS Project - Mojokerto, PT PGAS Solution



(PE80 pipe & Electrofusion fittings for Gas distribution)

## Swing Indonesia



(710mm pipe, water treatment for modern industrial estate )

## Pipa Transmisi SEI Tabuk – Pematang Panjang



DN 1200 & DN 1000 PDAM Bandarmasih

## Soekarno Hatta International Airport



(HDPE Red layer PN 20 Hydrant pipeline.

## PAM Lyonnaise Jaya



(ELGEF Electrofusion Coupler 1000mm for water treatment project)

## PT Georg Fischer Indonesia

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Utility Systems - ENG (07.22)  
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