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**PRODUCT SPECIFICATION:****BUTT FUSION FITTINGS  
PE2708 MDPE YELLOW**

FAMILY:	PE FITTINGS
PRODUCT:	BUTT FUSION FITTING
TYPE:	Specification
DOC:	PS-101 - REV 2 - 5/28/2019
PAGES:	3

**SCOPE:**

This document describes the standard specifications and features related to GF Central Plastics' PE2708 butt fusion fittings for pressure piping systems. This specification covers Tees, Elbows, Caps, and Reducers.

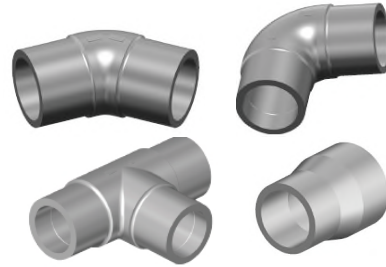
**SIZES:**

Tee: ½ CTS – 2 CTS, ½ IPS – 12 IPS

45 Degree Elbow: 2 IPS through 12 IPS

90 Degree Elbow: ¾ IPS through 12 IPS

Reducer, Cap: ½ CTS – 8 IPS

**REQUIREMENTS:**

ASTM D2513 [Specification for Thermoplastic Gas Pressure Pipe, Tubing, and Fittings](#)

ASTM D3350 [Specification for Polyethylene Plastic Pipes and Fittings Materials](#)

ASTM D3261 [Specification for Butt Heat Fusion Polyethylene \(PE\) Plastic Fittings for Polyethylene \(PE\) Plastics Pipe and Tubing](#)

CSA B137.4 [Polyethylene Piping Systems for Gas Service](#)

**REFERENCE DOCUMENTS:**

ASTM F2620 [Standard Practice for Heat Fusion Joining Polyethylene Pipe and Fittings](#)

PPI TR-19 [Thermoplastics Piping for the Transport of Chemicals](#)

PPI TR-31 [Underground Installation of Polyolefin Pipe](#)

ASTM F2164 [Standard Practice for Field Leak Testing of Polyethylene \(PE\) Pressure Piping Systems Using Hydrostatic Pressure](#)

**CERTIFICATIONS/LISTINGS:**

CSA B137.4.1 [Polyethylene Piping Systems for Gas Service](#)

**MATERIALS:**

PE Resin: INEOS K38-20-160 pre-blended medium density virgin resin. Recognized by the Plastic Pipe Institute as having a PE2708 / PE80 rating and a Hydrostatic Design Basis of 1250 psi @ 73°F. This resin has a cell classification of 234373E\* in accordance with ASTM D3350.

\*Note: Previous editions of ASTM D3350 resulted in a cell classification of 234363E.

**TEST METHODS:**

ASTM D1598 [Standard Test Method for Time-to-Failure of Plastics Pipe Under Constant Internal Pressure](#)

Must exceed 170 hours in 80°C bath @ 670 psi hoop stress, or

Must exceed 1000 hours in 80°C bath @ 580 psi hoop stress, or

Must exceed 1000 hours in 23°C bath @ 1600 psi hoop stress.

*(All methods are considered equivalent)*

ASTM D1599 Standard Test Method for Resistance to Short-Time Hydraulic Pressure of Plastic Pipe, Tubing and Fittings.

Uniform pressurization until failure occurs between 60 and 70 seconds from start of test. Must result in ductile failure of the pipe, independent of the fitting or fusion, at a pressure great enough to create a 2520 psi hoop stress in the pipe.

ASTM D2122 Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings

**FEATURES:**

Made in USA from pre-blended virgin materials with CSA Z662 and B137.4 designation. These fittings are available in various configurations and DR and are primarily intended for use in pressure piping applications. These fittings are compatible for heat fusion to any PE material made from a like or similar resin. Designed for use on pipe conforming to ASTM F714, D2513, and D3035. Butt fusion fittings can be joined with qualified mechanical fittings deemed suitable by their manufacturer.

**PRESSURE RATING:**

PE2708 Butt Fusion Fittings are pressure rated in accordance with industry and regulatory guidelines for natural gas @73°F using unit stresses and recommend design factors. Pressure ratings are subject to change depending on ambient temperatures. Pressure ratings vary according to wall thickness and the design factor for the intended application, see below for ratings:

Fitting DR	Pressure Rating (PSI) @ 73° F (23° C)
	Natural Gas Distribution .4 DF
7	166*
9	125*
11	100
13.5	80
17	62
21	50
26	40
32.5	31

\*49 CFR Part 192 limits the maximum operating pressure of regulated plastic pipeline to 125 psi.

**PRESSURE TESTING:**

Pressure testing can be conducted in accordance with the recommendations of the pipe manufacturer, or as described in ASTM F2164 STANDARD PRACTICE FOR FIELD LEAK TESTING OF POLYETHYLENE (PE) PRESSURE PIPING SYSTEMS USING HYDROSTATIC PRESSURE, typically 1.5 x's the rated working pressure not exceeding 8 hours in duration for a single test.

**MAXIMUM OPERATING TEMPERATURE:**

The maximum operating temperature of PE2708 butt fusion fittings is 140°F. Pressure de-rating factors should be considered when operating systems above the 73°F stated pressure rating, to maintain the 50 year substantiated long-term hydrostatic strength of the polyethylene material.

**STORAGE/SHELF LIFE:** Yellow medium density polyethylene resin contains a stabilization pack which provides some degree of protection from UV effects. Even so, it is recommended that fittings which are stored for extended periods (two years or greater) be stored indoors in their original packaging. Fittings stored indoors in their original packaging have virtually unlimited shelf-life.

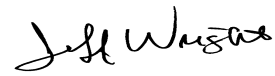
**CHEMICAL RESISTANCE:** Polyethylene generally exhibits strong resistance to many chemical compounds. Known chemical resistance characteristics at specified temperatures can be found in PPI Technical Report TR-19.

**INSTALLATION:**

These fittings are compatible for heat fusion by butt, socket, or electrofusion joining products. They can be heat fusion joined to pipe or fittings manufactured from like or similar resin. Qualified mechanical joining products can be used to join these fittings, consult the manufacturer for recommendations. Fusion jointing should only be attempted by persons who have been trained and have qualified joints through destructive testing.

**End of Life/Disposal:** Polyethylene fittings are 100% recyclable and suitable for recycling into post-consumer products.

Approved by:



Jeff Wright  
Technical Director