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PRODUCT SPECIFICATIONS:

**SOCKET FUSION FITTINGS
PE2708 MDPE YELLOW**

FAMILY:
PRODUCT:
TYPE:
DOC:
PAGES:

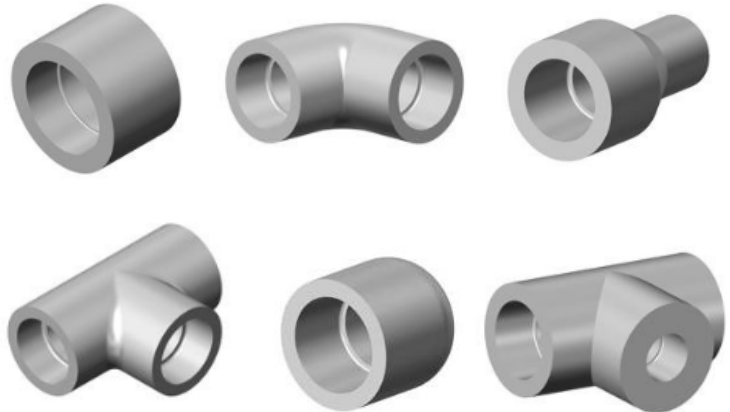
SOCKET FUSION
PE FITTING
SPECIFICATIONS
PS-304/REV2
2

SCOPE:

This document describes the standard specifications and features related to GF Central Plastics' injection molded PE2708 MDPE Socket Fusion Fittings for pressure piping systems.

SIZES:

1/2" CTS through 1" CTS	TEE, COUPLINGS, 90° ELBOW, REDUCER, CAP
1/2" IPS through 4" IPS	TEE, COUPLING, 90° ELBOW, REDUCER, CAP



REQUIREMENTS:

ASTM D2513	<u>Specification for Thermoplastic Gas Pressure Pipe, Tubing, and Fittings</u>
ASTM D3350	<u>Specification for Polyethylene Plastic Pipes and Fittings Materials</u>
ASTM D2683	<u>Specification for Socket-Type Polyethylene Fittings for Outside Diameter-Controlled Polyethylene Pipe and Tubing</u>

REFERENCE DOCUMENTS:

PPI TR-19	<u>Thermoplastics Piping for the Transport of Chemicals</u>
PPI TR-31	<u>Underground Installation of Polyolefin Pipe</u>
ASTM F1056	<u>Specification for Socket Fusion Tools for Use in Socket Fusion Joining Polyethylene Pipe or Tubing</u>
ASTM D2657	<u>Standard Practice for Heat Fusion Joining of Polyolefin Pipe and Fittings</u>

CERTIFICATION/LISTINGS:

CSA B137.4 Polyethylene Piping Systems for Gas Service

MATERIALS:

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

*Note Cell Classification using previous editions of ASTM D3350 was 234363E.

TEST METHODS:

ASTM D1598 Time-to-Failure of Plastic Pipe Under Constant Internal Pressure.
 Must exceed 170 hours in 80°C bath @ 670psi Hoop Stress, or
 Must exceed 1000 hours in 80°C bath @ 580psi Hoop Stress, or
 Must exceed 1000 hours in 23°C bath @ 1600psi Hoop Stress.
(All methods are considered equivalent)

ASTM D1599 Short-Term Hydraulic Pressure Failure of Plastics Pipe, Tubing, and Fittings.
 Uniform pressurization until failure between 60 and 70 seconds from start of test. Must result in ductile failure at a pressure great enough to create a 2520psi Hoop Stress.

Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings

Determination of diameter, wall thickness, and length dimensions including procedures for dimensioning molded thermoplastic pipe fittings.

FEATURES:

Made in USA from pre-blended virgin materials. These fittings are available in various configurations and are typically rated to SDR 7. They 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.

PRESSURE RATING:

PE2708 Socket Fusion Fittings are typically produced in SDR 7 and are pressure rated in accordance with industry and regulatory guidelines for natural gas or water @73°F. 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 SDR	Pressure Rating (PSI) @ 73° F (23° C)
	Natural Gas (.32 DSF) US
7	125**

**DOT Regulations only allow a 125 psig max for natural gas plastic pipe systems regardless of the materials Maximum Allowable Operating Pressure (MAOP).

Minimum wall thickness for plastic piping gas distribution systems is limited to .062".

Above listed pressure ratings based on 73°F ambient temperature. Pressure ratings subject to de-rating depending on temperature.

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 PE2406/PE2708 Socket 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 intended to be installed by the Socket Heat Fusion method. Fusion jointing procedures can be obtained from Central Plastics upon request and may also be available from the pipe or tubing manufacturer. These fittings can be socket fusion joined to pipe or fittings manufactured from any like or similar resin. 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. Electrofusion metallic components include copper and copper alloys, aluminum, and/or steel and are also recyclable.