

GeoFusion High Density Polyethylene Socket Heat Fusion Fittings For Water Source Earth-Coupled Heat Pump Systems

Scope

This product specification designates the requirements for GeoFusion high density polyethylene (HDPE) socket heat fusion fittings to be used as connections for Iron Pipe Size outside diameter (IPS-OD) controlled HDPE pipe in 3/4", 1", 1 1/4", 1 1/2", and 2" sizes.

Materials

GeoFusion HDPE socket heat fusion fittings are manufactured from a bimodal polyethylene resin PE4710 with a cell classification, PE345564C per ASTM D-3350. This high performance resin exhibits enhanced performance properties including superior Slow Crack Growth (SCG) resistance plus improved tensile strength and modulus.

GeoFusion socket fusion by metallic adapter fittings are manufactured using machined components of brass alloy B360 per ASTM B-16.

Fitting Identification

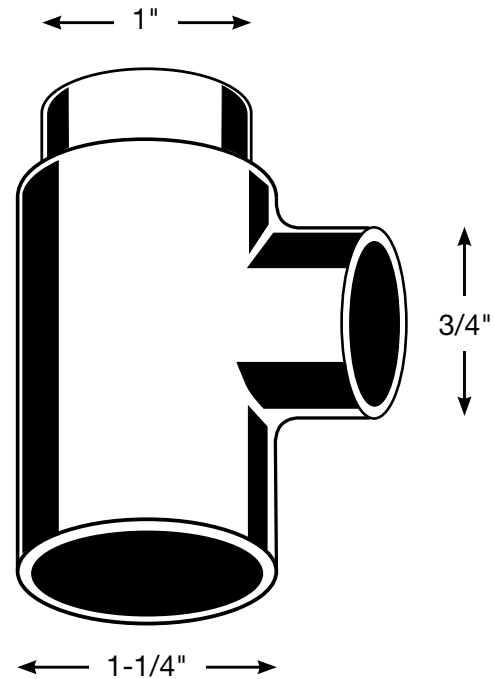
When identifying a fitting there is a certain order to how the fitting should be read. This is done so that there is consistency in the industry.

When identifying an elbow:

- Read the larger size first, then the smaller size

If identifying a tee fitting:

- The fitting should be read as: run x run x branch
- If the run of the fitting is different sizes, identify the largest size first. For example, the fitting on the right would be identified as: 1-1/4" x 1" x 3/4"
See illustration above.



Recommended Uses

GeoFusion socket heat fusion fittings are intended and recommended for use in open or closed loop, water source earth coupled heat pump systems installed with IPS-OD, HDPE pipe manufactured to a minimum pressure rating of SDR11 or Schedule 40.

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TD-PR 0112 (ProGeo)

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Handling and Installation

GeoFusion socket heat fusion fittings shall be installed in accordance with industry accepted and approved procedures and applicable code requirements. Prior to installation, GeoFusion socket heat fusion fittings should be stored in a clean, dry location.

Abbreviation	Definition
NPT	National Pipe Thread
MNPT	Male National Pipe Thread
FNPT	Female National Pipe Thread
MNT	Male Nominal Thread
FNT	Female Nominal Thread
IPS	Iron Pipe Size
STUB	Connection end that is the same size as pipe OD, similar to a street fitting
FEM	Hub end, it will accept the male end of a pipe or fitting
SWIVEL	Fitting connection that attaches with a nut that has a integral flat gasket to make the seal

HDPE Fusion Cycle and Handling Time

It is important to follow and understand the instruction that come with your socket fusion tool. The integrity of your system will depend on how well the fitting connections are made. It is very important the heating and handling times be followed. Each tool manufacturer will provide charts outlining heating and handling times. In the absence of a manufacturers chart the table below can be used as a guide.

HDPE Fusion Cycle Holding Time Chart			
Size	Heating Cycle	Holding Time	Curing Time Before Handling
3/4" IPS	8-10 seconds	30 seconds	20 minutes
1" IPS	10-14 seconds	30 seconds	20 minutes
1-1/4" IPS	12-15 seconds	30 seconds	20 minutes
1-1/2" IPS	15-18 seconds	40 seconds	20 minutes
2" IPS	18-22 seconds	40 seconds	30 minutes

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