

Section 1: General

1.1 Description

This specification outlines the requirements for the design, construction and performance of FRE® rigid non-metallic fiberglass conduits and fittings.

1.2 Product application & use

Conduits and fittings shall be suitable for Encased Burial (EB) or Direct Burial (DB) installations.

1.3 Materials

Conduits and fittings shall be manufactured with continuous E or E-CR glass roving encapsulated in an internally steam cured, corrosion resistant epoxy resin system with UV inhibiting carbon black pigment dispersed homogeneously for use at temperatures ranging from -40°F (-40°C) to +230°F (+110°C). Resin system substitution shall not be permitted.

Epoxy resin system shall be impervious to a wide spectrum of chemicals and shall contain by weight less than 0.2% halogens such as chlorine and shall not contain other toxic materials in excess of trace level limits compliant with OSHA requirements.

Section 2: General Requirements

2.1 Sizes & wall thicknesses

Conduits and fittings shall be manufactured with nominal wall thicknesses as outlined below:

ENCASED BURIAL (EB) INSTALLATIONS

IPS Encased Burial (TW)				ID Encased Burial (TW)			
Diameter		Wall thickness		Diameter		Wall thickness	
in	mm	in	mm	in	mm	in	mm
4	103	0.055	1.4	4	103	0.055	1.4
5	129	0.070	1.8	4½	116	0.070	1.8
6	155	0.095	2.4	5	129	0.070	1.8
8	203	0.095	2.4	6	155	0.070	1.8

DIRECT BURIAL (DB) INSTALLATIONS

IPS Direct Burial (SW)				ID Direct Burial (SW)			
Diameter		Wall thickness		Diameter		Wall thickness	
in	mm	in	mm	in	mm	in	mm
¾	21	0.066	1.7	2	53	0.070	1.8
1	27	0.066	1.7	2½	63	0.070	1.8
1¼	35	0.066	1.7	3	78	0.070	1.8
1½	41	0.066	1.7	3½	91	0.070	1.8
2	53	0.070	1.8	4	103	0.070	1.8
3	78	0.070	1.8	4½	116	0.095	2.4
4	103	0.070	1.8	5	129	0.095	2.4
5	129	0.095	2.4	6	155	0.095	2.4
6	155	0.110	2.8				
8	203	0.115	2.9				

DIRECT BURIAL (DB) HEAVY LOAD INSTALLATIONS

IPS Direct Burial (HW)				ID Direct Burial (HW)			
Diameter		Wall thickness		Diameter		Wall thickness	
in	mm	in	mm	in	mm	in	mm
4	103	0.095	2.4	4	103	0.095	2.4
5	129	0.115	2.9	4½	116	0.115	2.9
6	155	0.115	2.9	5	129	0.115	2.9
				6	155	0.115	2.9

