

## 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

