TECHNICAL DATA SHEET

Rigid Steel Conduit (RSC)

UL 6 - ANSI C80.1

ELECMAN® Rigid Steel Conduit (RSC) is a kind of threadable steel raceway of circular cross section designed for the physical protection and routing of wire conductors and use as an equipment grounding conductor.

Material:

Carbon steel

Surface Finish:

Hot-dip galvanized:

Involves dipping the steel conduit in molten zinc, which creates a thick, durable coating. This is the most common method for RSC.

Zinc coating:

1.Magnetic test in accordance with ASTM B 499.
2.Copper sulfate test (Preece Test) in accordance with ASTM A 239. Material will withstand four 1-minute immersions.
3.The zinc coating thickness is more than 40μm.

Certification & Standard

Certification:

Manufactured to Underwriters Laboratory Safety Standards UL 6
UL File No.: E499650

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Standard:

Manufactured in accordance with ANSI C80.1

Welding:

The welding of all seams is continuous and done in a workmanlike manner.

Thread and Chamfer:

1. Each length of conduit is threaded on both ends, the standard of the threads is NPT.
2. The number of threads per inch (threads per 25.4 mm), and the length of the threaded portion at each end of each length of conduit is as indicated in Table 1, and conform to ANSI/ASME B1.20.1. The thread is tapered for its entire length, and the taper is about 1 in 16.
3. Threads are treated with a protective coating to prevent corrosion.
4. Both ends are chamfered to remove burrs and sharp edges.

Tabel 1 - Dimensions of Threads for Rigid Steel Conduit

Trade Size		Threads Per 25.4 mm.	Pitch diameterat end ofthread E_o, taper 62.5 mm. per meter [b]	Length of Thread (mm)	
in.	mm			Effective L_2	Overall L_4 [a]
1/2"	16	14	19.3	13.5	19.8
3/4"	21	14	24.6	14.0	20.1
1"	27	11 1/2	30.8	17.3	24.9
1 1/4"	35	11 1/2	39.5	18.0	25.7
1 1/2"	41	11 1/2	45.6	18.3	26.2
2"	53	11 1/2	57.6	19.3	26.9
2 1/2"	63	8	69.1	29.0	39.9
3"	78	8	84.9	30.5	41.4
3 1/2"	91	8	97.5	31.8	42.7
4"	103	8	110.1	33.0	43.9
5"	129	8	136.9	35.8	46.7
6"	155	8	163.7	38.4	49.5

Applicable Tolerance:

[a]Thread length(L_4): ±1 thread, recommended practice +0, -1

[b]Pitch diameter: ± turn is the maximum variation permitted from the guaging face of the working thread gauges

Couplings:

1. The exterior surface of couplings are protected against corrosion in the same manner as required for conduit.
2. Couplings are made that all threads on the conduit will be covered when the coupling is made up “wrench tight” on conduit threads.
3. Both ends of the couplings are chamfered to prevent damage to the starting thread.
4. Couplings are straight tapped.
5. The dimensions of RSC couplings are in accordance with Table 3.

Bending properties :

The conduit is capable of being bent by specific equipment, at ambient temperature, 90 degrees around a mandrel, without developing cracks at any portion of the bend and without opening the weld.

Dimensions:

The dimensions and weights of RSC are in accordance with Table 2.

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Tabel 2 - Dimensions and Weights for Rigid Steel Conduit

Catalog Number	Trade Size		Nominal Inside Diameter[3]	Outside Diameter	Nominal Wall Thickness	Length Without Coupling[1]	Minimum Weight of Ten Unit Length with Couplings Attached[2]
	in.	mm	mm	mm	mm	mm	kg
RSC050	1/2"	16	16.1	21.3	2.6	3030	35.83
RSC075	3/4"	21	21.2	26.7	2.7	3030	47.63
RSC100	1"	27	27.0	33.4	3.2	3025	69.40
RSC125	1 1/4"	35	35.4	42.2	3.4	3025	91.17
RSC150	1 1/2"	41	41.2	48.3	3.5	3025	112.95
RSC200	2"	53	52.9	60.3	3.7	3025	150.60
RSC250	2 1/2"	63	63.2	73.0	4.9	3010	239.05
RSC300	3"	78	78.5	88.9	5.2	3010	309.63
RSC350	3 1/2"	91	90.7	101.6	5.5	3005	376.94
RSC400	4"	103	102.9	114.3	5.7	3005	441.04
RSC500	5"	129	128.9	141.3	6.2	2995	595.85
RSC600	6"	155	154.8	168.3	6.8	2995	791.67

1. Conduit without coupling
2. Finished conduit with coupling
3. Inside dimensions are not a requirement. However, conduit meeting the required weight and Outside Diameter will nominally have the referenced dimensions.

Applicable Tolerance:

Length: + 1/4 in. (6.35 mm) without coupling

Outside Diameter: for trade sizes 1/2 (16) through 1 1/2 (41): +0.015 in (+0.38 mm)
for trade sizes 2 (53) through 6 (155): +/- 1%

Wall Thickness: Localized surface imperfections shall not exceed a depth of 12-1/2% of the nominal wall thickness.

Tabel 3 - Dimensions for Couplings

Catalog Number	Trade Size		Outside Diameter[1]	Minimum Length	Pitch Diameter		Chamfer Diameter	
	in.	mm	mm	mm	Min (mm)	Max (mm)	Min (mm)	Max (mm)
IRC050	1/2"	16	25.7	41.3	20.35	20.68	21.9	22.1
IRC075	3/4"	21	31.8	41.7	25.68	26.01	27.2	27.4
IRC100	1"	27	38.7	50.0	32.18	32.59	34.1	34.4
IRC125	1 1/4"	35	47.5	51.6	40.94	41.35	42.8	43.1
IRC150	1 1/2"	41	54.7	52.4	47.04	47.45	48.9	49.2
IRC200	2"	53	67.3	54.0	59.11	59.51	61.0	61.3
IRC250	2 1/2"	63	82.6	81.0	71.27	71.83	76.5	76.9
IRC300	3"	78	98.3	84.1	87.15	87.71	94.5	94.9
IRC350	3 1/2"	91	114.3	86.5	99.85	100.40	109.0	109.4
IRC400	4"	103	123.8	89.3	112.60	113.10	120.0	120.4
IRC500	5"	129	152.4	100.0	139.60	140.10	140.2	141.7
IRC600	6"	155	182.9	108.0	166.50	167.10	167.4	168.9

1. Outside diameter tolerances:
Plus tolerances: no requirements
Minus tolerances: for trade sizes smaller than 1-1/4 (35): -1/64 in. (-0.40 mm)
for trade sizes 1-1/4 (35) and larger: -1%
2. Chamfer angle shall be between 11 and 15 degrees.
3. All couplings shall have straight-tapped threads.

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