

ALUMINUM CONDUIT



WHY USE ALUMINUM CONDUIT?

Light Weight	Rigid aluminum conduit is approximately one third the weight of steel.
Corrosion Resistant	Aluminum resists most corrosive atmospheres in industrial environments.
Easy to Install	Aluminum conduit can be easily cut, bent and threaded without special tools.
Low maintenance	Aluminum conduit does not corrode or leave discoloring streaks or stains.

TECHNICAL SPECIFICATION

Product	Rigid Aluminum conduit & Accessories.
Standard	ANSI C80.5:1983 on Raceways for electrical wiring systems.
Cross Section	Rigid Aluminum conduit has a circular cross section sufficient to permit the cutting of threads in accordance with table shown below.
Wall Thickness	The wall thickness is uniform throughout.
Interior Surface	The interior surface is free from injurious defects.
Alloy	The conduit is made of an aluminum alloy containing not more than 0.40% copper, 6063.
Dimensions	See table 1 for conduit; See table 2 for coupling; See table 3 for Elbows.
Threads	National pipe thread (NPT) to ANSI / ASME B1.20.1-1983.
Thread Protectors	Color-coded end caps keep threads clean and sharp and help provide trade size recognition.
Stamping	Nominal / tread sizes are stamped on product.

All information may be revised or changed by SHOMAL at anytime without prior notice or explanation.

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Weights and Dimensions for rigid Aluminum conduit

Thread Size Designator	Approximate weight per 100 Ft: (30.5M)		Nominal Outside Diameter		Nominal Wall Thickness		Master Bundles Approximate Weight *	
	U.S.	lb	kg	in	mm	in	mm	lb
½	28.1	12.7	0.840	21.3	0.104	2.64	706	318.4
¾	37.4	17.0	1.050	26.7	0.107	2.72	935	424.1
1	54.5	24.7	1.315	33.4	0.126	3.20	1090	494.4
1¼	71.6	32.5	1.660	42.2	0.133	3.38	716	324.8
1½	88.7	40.2	1.900	48.3	0.138	3.51	887	402.3
2	118.5	53.8	2.375	60.3	0.146	3.71	533.3	241.9
2½	187.5	85.0	2.875	73.0	0.193	4.90	567.5	257.4
3	246.3	111.7	3.500	88.9	0.205	5.21	492.6	223.4
3½	295.6	134.1	4.000	101.6	0.215	5.46	591.2	268.2
4	350.2	155.8	4.500	114.3	0.225	5.72	700.4	317.7
5	478.9	217.2	5.563	141.3	0.245	6.22	383.1	173.8
6	630.4	285.9	6.625	168.3	0.266	6.76	378.2	171.6

Applicable tolerances

Outside diameter:

For thread size ½ through 2 in : ± 0.015 in : ± 0.015 in (± 0.38 mm)

For thread size 2-1/2 through 4 in : ± 0.025 in : ± 0.025 in (± 0.64 mm)

For thread size 5 and 6 in : 1%

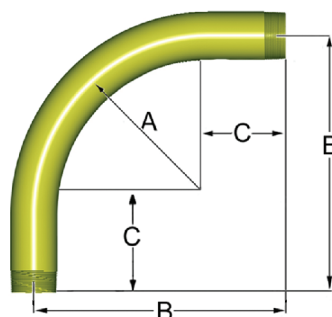
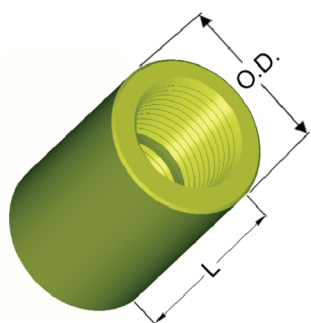
* Includes one coupling on each end.

Notes :

* Dimensions and weights are nominal unless otherwise noted.

* Each length of conduit with coupling attached will be nominally 10 feet.

Length : $\pm 1/4$ in (± 6.35 mm) (without coupling)



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Recommended Installation Practices

CUTTING : A hacksaw is recommended to cut thread sizes 1 1/4 and smaller. Larger thread sizes can be cut with power cut-off equipment.

BENDING : Standard EMT benders, one size larger than the size of the conduit, should be used on conduit thread sizes 1 and smaller . For size over trade size 1 , conventional equipment is recommended.

THEREADING : Sharp dies and conventional cutting oil should be used for aluminum conduit. A general purpose emulsifiable oil can provide excellent results.

FITTINGS : aluminum fittings are recommended; however, cadmium plated or galvanized fittings are satisfactory for most installations.

FISHING AND WIRE PULLING : Small conduit : In trade sizes up to 1 1/2 and on shorter (up to 100 feet), polyethylene fish tapes can be used effectively. Also recommended are round, flexible, speedometer-type steel cables .Use of flat steel tapes should be avoided since they tend to jam in the bends, or if not used carefully, scrape and cut conduit walls.

LARGE CONDUIT : for pulling large conductors through larger conduit or longer runs , polypropylene rope is recommended. Steel pulling cables, especially when old or frayed, can damage steel or aluminum conduit.

IN SOIL OR CONCRETE :
underwriters' Laboratories Electrical Construction Equipment Directory (UL Green Book) states that aluminum conduit used in concrete or in contact with soil requires supplementary corrosion protection. Examples are paints approved for the purpose (bitumastic paint, for example), tape wraps approved for the purpose, or PVC coated conduit.

ALUMINUM CONDUIT



Weights and dimensions of Couplings

Thread Size Designator	Approximate weight per 100 Ft: (30.5M Conduit)		Nominal Outside Diameter		Length (min)		Standard Package Pieces
	lb	kg	in	mm	in	mm	
U.S.							
1 / 2	6.1	2.8	1.078	27.38	1.61	41	100
3 / 4	9.1	4.1	1.328	33.73	1.65	42	50
1	12.5	5.7	1.562	39.69	2.04	52	30
1¼	18.9	8.6	1.953	49.61	2.12	54	25
1½	23.3	10.6	2.218	56.36	2.16	55	25
2	34.6	15.7	2.750	69.85	2.44	62	15
2½	68.3	31.0	3.281	83.34	3.26	83	20
3	91.4	41.5	3.812	96.84	3.38	86	15
3½	108.0	49.0	4.437	112.71	3.37	85.73	12
4	142.0	64.4	5.000	127.00	3.74	95	12
5	241.9	109.7	6.218	157.96	3.75	95.25	8
6	321.0	145.6	7.312	185.74	4.33	110	6

Applicable tolerances :

Outside diameter : No plus tolerances

-1% for the 1-1/4 in (31.75 mm) and larger thread sizes

-0.015 in (-0.38 mm) for sizes smaller than 1-1/4 in (31.75) thread sizes

Weights and dimensions of Elbows

thread Size Designator		Approximate weight per 100 Ft: (30.5M Conduit)		Nominal Dimensions					
				A		B		C	
U.S.	Metric	lb	kg	in	mm	in	mm	in	mm
1 / 2	16	29	13.2	4.0	101.6	6.50	165.1	2.50	63.5
3 / 4	21	43	14.5	4.5	114.3	7.25	184.2	2.75	69.9
1	27	71	32.2	5.75	146.1	8.375	212.7	2.875	73.0
1¼	35	110	49.9	7.25	184.2	10.25	260.6	3.00	76.2
1½	41	153	69.4	8.25	209.6	11.875	301.6	3.625	92.1
2	53	249	112.9	9.50	241.3	14.00	355.6	4.50	114.3
2½	63	437	198.2	10.50	266.7	15.75	400.1	5.25	133.4
3	78	767	347.9	13.00	330.2	18.75	476.3	5.75	146.1
3½	91	1036	469.9	15.00	381.0	21.75	552.5	6.75	171.5
4	103	1228	557.0	16.00	406.4	23.00	584.2	7.00	177.8
5	129	2490	1129.5	24.00	609.6	36.00	914.4	11.00	279.4
6	155	3850	1746.3	30.00	762.0	42.50	1079.5	12.50	317.5

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