

Reference Data

METRIC CONVERSION CHART

To Convert From	To	Multiply By	To Convert From	To	Multiply By			
Angle			Length					
degree	radian (rad)	0.01745329	foot (ft)	meter (m)	0.3048			
radian (rad)	degree	57.29578	inch (in)	meter (m)	0.0254			
Area			mil	meter (m)	0.0000254			
			inch (in)	micrometer (μm)	25400.00			
			meter (m)	foot (ft)	3.280840			
			meter (m)	inch (in)	39.37008			
			meter (m)	mil	39370.08			
			micrometer (μm)	inch (in)	0.00003937008			
			Temperature			Volume		
						foot ³	cubic meter (m ³)	0.02831685
inch ³	cubic meter (m ³)	0.00001638706						
cubic centimeter (cm ³)	cubic inch (in ³)	0.06102374						
degree Fahrenheit	degree Celsius	$t^{\circ C} = (t^{\circ F} - 32) / 1.8$	cubic meter (m ³)	foot ³	35.31466			
degree Celsius	degree Fahrenheit	$t^{\circ F} = 1.8t^{\circ C} + 32$	cubic meter (m ³)	inch ³	61023.76			
Force			gallon (U.S. liquid)	cubic meter (m ³)	0.003785412			
			pounds-force (lbf)	newtons (N)	4.448222	Section Properties		
Section Properties			section modulus S (in ³)	S (m ³)	0.00001638706			
			moment of inertia I (in ⁴)	I (m ⁴)	0.0000004162314			
			modulus of elasticity E (psi)	E (Pa)	6894.757			
			section modulus S (m ³)	S (in ³)	61023.74			
			moment of inertia I (m ⁴)	I (in ⁴)	2402510.0			
			modulus of elasticity E (Pa)	E (psi)	0.0001450377			

To Convert From	To	Multiply By
Bending Moment or Torque		
lbf • ft	newton meter (N•m)	1.355818
lbf • in	newton meter (N•m)	0.1129848
N•m	lbf • ft	0.7375621
N•m	lbf • in	8.850748
Mass		
ounce (avoirdupois)	kilogram (kg)	0.02834952
pound (avoirdupois)	kilogram (kg)	0.4535924
ton (short, 2000 lb)	kilogram (kg)	907.1847
ton (long, 2240 lb)	kilogram (kg)	1016.047
kilogram (kg)	ounce (avoirdupois)	35.27396
kilogram (kg)	pound (avoirdupois)	2.204622
kilogram (kg)	ton (short, 2000 lb)	0.001102311
kilogram (kg)	ton (long, 2240 lb)	0.0009842064
Mass Per Unit Length		
lb/ft	kilogram per meter (kg/m)	1.488164
lb/in	kilogram per meter (kg/m)	17.85797
kg/m	lb/ft	0.6719689
kg/m	lb/in	0.5599741
Mass Per Unit Volume		
lb/ft ³	kilogram per cubic meter (kg/m ³)	16.01846
lb/in ³	kilogram per cubic meter (kg/m ³)	27679.9
kg/m ³	lb/ft ³	0.06242797
kg/m ³	lb/in ³	0.0000361273
lbs/ft ³	lbs/in ³	1728.0
Mass Per Unit Area		
lb/ft ²	kilogram per square meter (kg/m ²)	4.882428
kg/m ²	pound per square foot (lb/ft ²)	0.2048161
Pressure or Stress		
lbf/in ² (psi)	pascal (Pa)	6894.757
kip/in ² (ksi)	pascal (Pa)	6894757.0
lbf/in ² (psi)	megapascals (MPa)	0.006894757
pascal (Pa)	pound-force per square inch (psi)	0.0001450377
pascal (Pa)	kip per square inch (ksi)	0.0000001450377
megapascals (MPa)	lbf/in ² (psi)	145.0377

Abbreviations
Defl. = Deflection
S.F. = Safety Factor
Ft. = Feet
Pre-galv. = Pre-galvanized Steel
K Factor = Deflection ÷ load in Lbs./Ft.
o.c. = On Center
PVC = Poly Vinyl Chloride
In. = Inch
psi = Pounds per Square Inch
wt./c = Weight per 100 pieces
Metric Symbols
m = meter
cm = centimeter
mm = millimeter
μm = micrometer
kg = kilogram
N = newton
kN = kilonewton
Pa = pascal
MPa = megapascal

DESIGN LOAD DATA (For typical channel-fitting connections when USED IN PAIRS).

90° Fittings													
Channel Thickness		Lbs.		kN		Lbs.		kN		Lbs.		kN	
12 ga.	(2.6)	1500	(6.67)	1000	(4.45)	2000	(8.90)	1500	(6.67)	1500	(6.67)	1000	(4.45)
14 ga.	(1.9)	1000	(4.45)	650	(2.89)	1500	(6.67)	1150	(5.12)	1000	(4.45)	650	(2.89)
16 ga.	(1.5)	750	(3.34)	500	(2.22)	900	(4.00)	650	(2.89)	1000	(4.45)	500	(2.22)

Design load data includes a safety factor of 2.5 (safety factor = ratio of ultimate load to design load).

90° Fittings										Flat Fittings			
Channel Thickness		Lbs.		kN		Lbs.		kN		Lbs.		kN	
12 ga.	(2.6)	2500	(11.12)	2000	(8.90)	3000	(13.34)	2500	(11.12)	1000	(4.45)	1000	(4.45)
14 ga.	(1.9)	2000	(8.90)	1650	(7.34)	2000	(8.90)	1650	(7.34)	500	(3.56)	800	(3.56)
16 ga.	(1.5)	1500	(6.67)	1250	(5.56)	1500	(6.67)	1250	(5.56)	600	(2.67)	600	(2.67)

General Notes for Strut-Type Channel Raceway

UL Category RIUU - Cooper B-Line, Inc., Highland, IL 62249 December 11, 1998 (C)
 FLUORESCENT AND INCANDESCENT LIGHTING



File No. E29637

Suitable for not more than the number of wires of the sizes and types indicated in the following tables. Intended to enclose circuits operating at potentials not exceeding 600 volts between conductors. In all cases, the B217-20 or B217P snap-in cover is required to complete raceway closure. When using B217-24 snap-in cover, the number of wires is limited to 7 or fewer conductors no larger than #12 AWG.

B-Line's strut-type channel raceways and fittings are manufactured and tested to comply with the UL Standard for Safety for Strut-Type Channel Raceways and Fittings (UL 5B) in accordance with Article 384 of the 2002 National Electrical Code, NFPA 70.

- Support spans for strut-type channel raceway shall not exceed 10 foot intervals.
- No conductor larger than that for which the raceway is listed shall be installed in strut-type channel raceways. No wires under 14AWG or over 6AWG are allowed in any of Cooper B-Line's strut-type channel raceway. See tables 1, 2 and 3 below for a listing of the approved conductors for Cooper B-Line's strut-type channel raceways.
- The number of conductors permitted in strut-type channel raceway shall not exceed the percentage fill using Table 384-22 and the applicable outside diameter of specific types and sizes of wire given in the tables in chapter 9 of the National Electrical Code. Table 384-22 lists two different percent fill areas depending on the use of internal or external joiners. Use 40% area fill with external joiners and 25% area fill for internal joiners.
- Items in the electrical section of the Cooper B-Line Strut Systems Catalog identified by the UL symbol provide for electrical continuity. Other items require the use of a separate grounding wire.
- If strut-type channel raceway is connected to another wiring system, the raceway must be field-tapped adjacent to the wire entry point to accept a #10-32 or larger grounding screw. A plated or stainless steel screw may be used. A sheet metal screw is not acceptable. Drill and tap the grounding wire hole before installing wires in raceway or move installed wires out of the way to avoid damage. After drilling and tapping, remove metal chips and burrs before installing screw.

TABLE 1: MAXIMUM NUMBER OF WIRES (Adjusted per NEC Table 384.22 for 40% fill)

Use this table to determine the type and number of conductors for use with Cooper B-Line's strut-type channel raceway using external joiners. This table applies for all installations except for the support and supply of electric discharge type lighting fixtures. See table 2 and 3 for further information.

Insulation Type	Wire Size AWG.	B11 B11K06	B12 B12K06	B22 B22K06	B24 B24K06	B26 B26K06	B32 B32K06	B56 B56K06
FEP, FEPB	14	172	127	81	81	81	67	36
	12	126	92	59	59	59	49	26
	10	90	66	42	42	42	35	19
	8	51	38	24	24	24	20	11
	6	24	17	11	12	12	9	5
RH, RHH, RHW	14	52	38	24	26	27	20	12
	12	45	33	21	22	23	17	10
	10	37	27	17	18	19	14	8
	8	20	14	9	10	10	7	4
	6	14	10	6	7	7	5	3
T, TW	14	124	91	58	58	58	48	26
	12	95	70	45	45	45	37	20
	10	69	51	33	33	33	27	14
	8	36	26	17	18	19	14	8
	6	21	15	9	10	11	8	5
THHN, THWN	14	178	131	84	84	84	69	37
	12	130	95	61	61	61	50	27
	10	82	60	38	38	38	32	17
	8	46	34	21	22	22	17	10
	6	33	24	15	16	16	12	7
THW	14	82	61	39	39	39	32	17
	12	66	49	31	31	31	26	14
	10	52	38	24	24	24	20	11
	8	29	21	13	14	15	11	6
	6	21	15	10	10	11	8	5
XHHW	14	124	91	58	58	58	48	26
	12	95	70	45	45	45	37	20
	10	71	52	33	33	33	28	15
	8	37	27	17	19	19	14	8
	6	27	20	13	14	14	10	6

TABLE 2: MAXIMUM NUMBER OF WIRES

Also suitable for the number of wires in table below when installed to support and supply *electric discharge type lighting fixtures* when raceway wiring is suitable for at least **70°C and clearance between fixture and raceway is at least 1/8"**. In all cases, a snap-in cover is required to complete the raceway enclosure.

Wire Size	Raceway Catalog Wires						
	B11 B11K06	B12 B12K06	B22 B22K06	B24 B24K06	B26 B26K06	B32 B32K06	B56 B56K06
Type Insulation: FEP, FEPB, RH, RHH, RHW, RUH, THHN, THWN, THW, XHHW							
14	13	10	10	10	10	10	6
12	13	10	10	10	10	10	6
10	13	10	8	8	8	6	–
8	10	8	6	6	6	4	–
6	8	6	4	4	4	3	–

When using B217-24 snap-in cover, the number of wires is limited to 7 or fewer conductors no larger than #12 AWG.

TABLE 3: MAXIMUM NUMBER OF WIRES









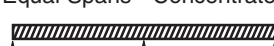
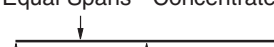
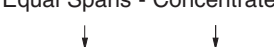
Also suitable for the number of wires in table below when installed to support and supply *electric discharge type lighting fixtures* when raceway wiring is suitable for 75°C, or wiring suitable for 60°C **if a minimum clearance between fixture and raceway is at least 1/2"**. In all cases, a snap-in cover is required to complete the raceway enclosure.

Wire Size	Raceway Catalog Wires						
	B11 B11K06	B12 B12K06	B22 B22K06	B24 B24K06	B26 B26K06	B32 B32K06	B56 B56K06
Type Insulation: FEP, FEPB, RH, RHH, RHW, RUH, THHN, THWN, THW, XHHW							
14	10	10	10	10	10	10	4
12	10	10	10	10	10	10	3
10	8	5	5	5	5	5	–
8	6	4	4	4	4	4	–
6	4	4	4	4	4	4	–

When using B217-24 snap-in cover, the number of wires is limited to 7 or fewer conductors no larger than #12 AWG.

Reference Data

The data shown in the beam load charts for appropriate channels on page(s) 17 thru 39 is for simply supported, single span beams with a uniformly distributed load. For other loading and/or support conditions, use the appropriate factor from the chart below.

Load and Support Condition	Load Factor	Deflection Factor
Simple Beam - Uniform Load 	1.00	1.00
Simple Beam - Concentrated Load at Center 	.50	.80
Simple Beam - Two Equal Concentrated Loads at 1/4 Points 	1.00	1.10
Beam Fixed at Both Ends - Uniform Load 	1.50	.30
Beam Fixed at Both Ends - Concentrated Load at Center 	1.00	.40
Cantilever Beam - Uniform Load 	.25	2.40
Cantilever Beam - Concentrated Load at End 	.12	3.20
Continuous Beam - Two Equal Spans - Uniform Load on One Span 	1.30	.92
Continuous Beam - Two Equal Spans - Concentrated Load on Both Spans 	1.00	.42
Continuous Beam - Two Equal Spans - Concentrated Load at Center of One Span 	.62	.71
Continuous Beam - Two Equal Spans - Concentrated Load at Center of Both Spans 	.67	.48

EXAMPLES:

PROBLEM:

Calculate the maximum allowable load and corresponding deflection of a simply supported B22 beam with a concentrated load at midspan as shown.



SOLUTION:

From beam load chart for B22 (page 22), maximum allowable load is A and the corresponding deflection is B.
Multiplying by the appropriate factors shown in the chart above.

LOAD = A x load factor = _____
DEFLECTION = B x deflection factor = _____

PROBLEM:

Calculate the maximum allowable load and corresponding deflection of a cantilever B52 beam with a uniformly distributed load.



SOLUTION:

From beam load chart for B52 (page 33), maximum allowable load is A and the corresponding deflection is B.
Multiplying by the appropriate factors shown in chart above.

LOAD = A x load factor = _____
DEFLECTION = B x deflection factor = _____

RIGID STEEL CONDUIT (HEAVY WALL CONDUIT)

Nominal Conduit Size		Outside Diameter		Nominal Inside Diameter		Minimum Weight Per 100 Ft. (30.5m) with Couplings Attached		Weight of Conduit and Conductors Per 100 Ft. (30.5m)*	
In.	mm	In.	mm	In.	mm	Lbs.	kg	Lbs.	kg
3/8"	(10)	0.675	(17.1)	0.493	(12.5)	51.5	(23.4)	65.1	(29.5)
1/2"	(15)	0.840	(21.3)	0.632	(16.0)	79.0	(35.8)	101.1	(45.9)
3/4"	(20)	1.050	(26.7)	0.836	(21.3)	105.0	(47.6)	145.8	(66.1)
1"	(25)	1.315	(33.4)	1.063	(27.0)	153.0	(69.4)	219.3	(99.5)
1 1/4"	(32)	1.660	(42.2)	1.394	(35.4)	201.0	(91.2)	318.3	(144.4)
1 1/2"	(40)	1.900	(48.3)	1.624	(41.3)	249.0	(113.0)	408.8	(185.4)
2"	(50)	2.375	(60.3)	2.083	(52.9)	332.0	(150.6)	593.8	(269.3)
2 1/2"	(65)	2.875	(73.0)	2.489	(63.2)	527.0	(239.1)	901.0	(408.7)
3"	(80)	3.500	(88.9)	3.090	(78.5)	682.6	(309.6)	1259.0	(571.1)
3 1/2"	(90)	4.000	(101.6)	3.570	(90.7)	831.0	(376.9)	1604.0	(727.6)
4"	(100)	4.500	(114.3)	4.050	(102.9)	972.3	(441.0)	1967.0	(892.2)
5"	(125)	5.563	(141.3)	5.073	(128.9)	1313.6	(595.9)	2876.0	(1304.5)
6"	(150)	6.625	(168.3)	6.093	(154.8)	1745.3	(791.7)	4003.0	(1815.7)

Dimensions taken from ANSI C80.1-1977.

*Conduit plus weight of heaviest conductor combination as specified by the National Electrical Code.

INTERMEDIATE METAL CONDUIT (IMC)

Nominal Conduit Size		Outside Diameter		Nominal Inside Diameter		Minimum Weight Per 100 Ft. (30.5m) with Couplings Attached		Weight of Conduit and Conductors Per 100 Ft. (30.5m)*	
In.	mm	In.	mm	In.	mm	Lbs.	kg	Lbs.	kg
1/2"	(15)	0.815	(20.7)	.675	(17.1)	60.0	(27.2)	82.1	(37.2)
3/4"	(20)	1.029	(26.1)	.879	(22.3)	82.0	(37.2)	122.8	(55.7)
1"	(25)	1.290	(32.7)	1.120	(28.4)	116.0	(52.6)	182.3	(82.7)
1 1/4"	(32)	1.638	(41.6)	1.468	(37.3)	150.0	(68.0)	267.3	(121.2)
1 1/2"	(40)	1.883	(47.7)	1.703	(43.3)	182.0	(82.5)	341.8	(155.0)
2"	(50)	2.360	(59.9)	2.170	(55.1)	242.0	(109.7)	503.8	(228.5)
2 1/2"	(65)	2.857	(72.5)	2.597	(66.0)	428.0	(194.1)	775.0	(351.5)
3"	(80)	3.476	(88.3)	3.216	(81.7)	526.0	(238.6)	1069.0	(485.0)
3 1/2"	(90)	3.971	(100.8)	3.711	(94.3)	612.0	(277.6)	1346.0	(610.8)
4"	(100)	4.466	(113.4)	4.206	(106.8)	682.0	(309.4)	1632.0	(740.5)

*Conduit plus weight of heaviest conductor combination as specified by the National Electrical Code.

Rigid and Intermediate Metal Conduit shall be supported at least every 10 feet (3.05 m) and within 3 feet (914 mm) of each outlet box, junction box, cabinet, or fitting, except for straight runs of conduit connected with couplings which may be supported in accordance with NEC Article 345 and 346, provided such supports prevent transmission of stresses to termination where conduit is deflected between supports.

NEC TABLE 346-12

Conduit Size		Maximum Support Span	
In.	mm	Feet	Meters
1/2-3/4	(15-20)	10	(3.05)
1	(25)	12	(3.66)
1 1/4-1 1/2	(32-40)	14	(4.27)
2-2 1/2	(50-65)	16	(4.88)
3-6	(80-150)	20	(6.10)

Reference Data

ELECTRICAL METALLIC TUBING (EMT) — THINWALL CONDUIT

Nominal Conduit Size		Outside Diameter		Inside Diameter		Weight Per 100 Ft. (30.5m)		Weight of Conduit and Conductors Per 100 Ft. (30.5m)*	
In.	mm	In.	mm	In.	mm	Lbs.	kg	Lbs.	kg
3/8"	(10)	0.577	(14.7)	0.493	(12.5)	23.0	(10.4)	36.6	(16.6)
1/2"	(15)	0.706	(17.9)	0.622	(15.8)	28.5	(12.9)	50.6	(23.0)
3/4"	(20)	0.922	(23.4)	0.824	(20.9)	43.5	(19.7)	84.3	(38.2)
1"	(25)	1.163	(29.5)	1.049	(26.6)	64.0	(29.0)	130.3	(59.1)
1 1/4"	(32)	1.510	(38.3)	1.380	(35.1)	95.0	(43.1)	212.3	(96.3)
1 1/2"	(40)	1.740	(44.2)	1.610	(40.9)	110.0	(49.9)	269.8	(122.4)
2"	(50)	2.197	(55.8)	2.067	(52.5)	140.0	(63.5)	401.8	(182.3)
2 1/2"	(65)	2.875	(73.0)	2.731	(69.4)	205.0	(93.0)	579.0	(262.6)
3"	(80)	3.500	(88.9)	3.356	(85.2)	250.0	(113.4)	826.3	(374.8)
3 1/2"	(90)	4.000	(101.6)	3.834	(97.4)	325.0	(147.4)	1098.0	(498.0)
4"	(100)	4.500	(114.3)	4.334	(110.1)	370.0	(167.8)	1364.0	(618.7)

Dimensions taken from ANSI C80.3-1977.

*Conduit plus weight of heaviest conductor combination as specified by the National Electrical Code.

Electrical Metallic tubing shall be supported at least every 10 feet (3.05 m) and within 3 feet (914 mm) of each outlet box, junction box, cabinet, or fitting. See NEC Article 348.

RIGID ALUMINUM CONDUIT

Nominal Conduit Size		Outside Diameter		Nominal Inside Diameter		Minimum Weight Per 100 Ft. (30.5m) with Couplings Attached		Weight of Conduit and Conductors Per 100 Ft. (30.5m)*	
In.	mm	In.	mm	In.	mm	Lbs.	kg	Lbs.	kg
1/2"	(15)	0.840	(21.3)	0.632	(16.1)	27.4	(12.4)	49.5	(22.5)
3/4"	(20)	1.050	(26.7)	0.836	(21.2)	36.4	(16.5)	77.2	(35.0)
1"	(25)	1.315	(33.4)	1.063	(27.0)	53.0	(24.0)	119.3	(54.1)
1 1/4"	(32)	1.660	(42.2)	1.394	(35.4)	69.6	(31.6)	186.9	(84.8)
1 1/2"	(40)	1.900	(48.3)	1.624	(41.2)	82.2	(37.3)	242.0	(109.8)
2"	(50)	2.375	(60.3)	2.083	(52.9)	115.7	(52.5)	377.5	(171.2)
2 1/2"	(65)	2.875	(73.0)	2.489	(63.2)	182.5	(82.8)	556.5	(252.4)
3"	(80)	3.500	(88.9)	3.090	(78.5)	238.9	(108.4)	815.2	(369.8)
3 1/2"	(90)	4.000	(101.6)	3.570	(90.7)	287.7	(130.5)	1061.0	(481.3)
4"	(100)	4.500	(114.3)	4.050	(102.9)	340.0	(154.2)	1334.0	(605.1)
5"	(125)	5.563	(141.3)	5.073	(128.9)	465.4	(211.1)	2028.0	(919.9)
6"	(150)	6.625	(168.3)	6.093	(154.8)	612.5	(277.8)	2870.0	(1301.8)

Dimensions taken from ANSI C80.5-1977.

*Conduit plus weight of heaviest conductor combination as specified by the National Electrical Code.

Aluminum Rigid Conduit shall be supported at least every 10 feet (3.05 m) and within 3 feet (914 mm) of each outlet box, junction box, cabinet, or fitting, except for straight runs of conduit connected with couplings which may be supported in accordance with NEC Table 344.30 (B)(2), provided such supports prevent transmission of stresses to termination where conduit is deflected between supports.

NEC TABLE 344.30 (B)(2)

Conduit Size		Maximum Support Span	
In.	mm	Feet	Meters
1/2-3/4	(15-20)	10	(3.05)
1	(25)	12	(3.66)
1 1/4-1 1/2	(32-40)	14	(4.27)
2-2 1/2	(50-65)	16	(4.88)
3-6	(80-150)	20	(6.10)

SCHEDULE 40 PVC PLASTIC PIPE

Nominal Pipe Size		Outside Diameter		Inside Diameter		Weight of Pipe Per 100 Ft. (30.5m)		Weight of Pipe Filled With Water Per 100 Ft. (30.5m)	
In.	mm	In.	mm	In.	mm	Lbs.	kg	Lbs.	kg
1/8"	(3)	.405	(10.3)	.269	(6.8)	4.7	(2.1)	7.2	(3.2)
1/4"	(6)	.540	(13.7)	.364	(9.2)	8.2	(3.7)	12.7	(5.8)
3/8"	(10)	.675	(17.1)	.493	(12.5)	10.9	(4.9)	19.2	(8.7)
1/2"	(15)	.840	(21.3)	.622	(15.8)	16.4	(7.4)	29.6	(13.4)
3/4"	(20)	1.050	(26.7)	.824	(20.9)	21.8	(9.9)	44.9	(20.4)
1"	(25)	1.315	(33.4)	1.049	(26.6)	32.1	(14.6)	69.6	(31.6)
1 1/4"	(32)	1.660	(42.2)	1.380	(35.1)	43.4	(19.7)	108.2	(49.1)
1 1/2"	(40)	1.900	(48.3)	1.610	(40.9)	51.8	(23.5)	140.0	(63.5)
2"	(50)	2.375	(60.3)	2.067	(52.5)	69.5	(31.5)	214.9	(97.5)
2 1/2"	(65)	2.875	(73.0)	2.469	(62.7)	109.6	(49.7)	317.1	(143.8)
3"	(80)	3.500	(88.9)	3.068	(77.9)	143.5	(65.1)	463.9	(210.4)
3 1/2"	(90)	4.000	(101.6)	3.548	(90.1)	175.6	(79.7)	604.1	(274.0)
4"	(100)	4.500	(114.3)	4.026	(102.3)	204.3	(92.7)	756.0	(342.9)
5"	(125)	5.563	(141.3)	5.047	(128.2)	281.7	(127.8)	1148.8	(521.1)
6"	(150)	6.625	(168.3)	6.065	(154.1)	360.9	(163.7)	1613.0	(731.7)
8"	(200)	8.625	(219.1)	7.981	(202.7)	545.3	(247.3)	2713.5	(1230.8)
10"	(250)	10.750	(273.1)	10.020	(254.5)	791.3	(358.9)	4208.9	(1909.1)
12"	(300)	12.750	(323.9)	11.938	(303.2)	1035.2	(469.6)	5886.4	(2670.0)

1 cubic ft. of water weighs 62.41 Lbs.
 1 cubic meter of water weighs 999.972 kg.
 1 gallon (U.S.) weighs 8.335 Lbs.
 1 liter weighs .999 kg.

ALL THREADED ROD (ATR)

Nominal Size (In) and Thread	Root Area		Design Load (SF=5)	
	In. ²	cm ²	Lbs.	kN
1/4-20"	0.027	(0.174)	240	(1.07)
5/16-18"	0.045	(0.290)	400	(1.78)
3/8-16"	0.068	(0.438)	730	(3.24)
1/2-13"	0.126	(0.812)	1350	(6.00)
5/8-11"	0.202	(1.303)	2160	(9.60)
3/4-10"	0.302	(1.948)	3230	(14.37)
7/8-9"	0.419	(2.703)	4480	(19.93)
1-8"	0.551	(3.561)	5900	(26.24)
1 1/8-7"	0.693	(4.471)	7450	(33.14)
1 1/4-7"	0.889	(5.735)	9500	(42.25)
1 1/2-6"	1.293	(8.342)	13800	(61.38)

Dimensions taken from ANSI B1.1-1982 Unified Inch Screw Threads. All threads are UNCR series.

Tabulated loads are based on an allowable tensile stress of 12000 psi (82.7 MPa) reduced by 25% resulting in 9000 psi (62 MPa). From ANSI/MSS SP-58, Table 3.

CLAMP SIZING CHART FOR PVC COATED RIGID CONDUIT AND CLAMPS

Nominal Conduit Size		Conduit Coating			
		.020 (.51mm)		.040 (1.01mm)	
		Clamp Coating 0	.020 (.51mm)	Clamp Coating 0	.020 (.51mm)
1/2"	(15)	B2028	B2002	B2002	B2029
3/4"	(20)	B2030	B2030	B2030	B2003
1"	(25)	B2032	B2032	B2032	B2033
1 1/4"	(32)	B2005	B2005	B2005	B2005
1 1/2"	(40)	B2012	B2037	B2037	B2037
2"	(50)	B2013	B2041	B2041	B2041
2 1/2"	(65)	B2014	B2045	B2045	B2045
3"	(80)	B2015	B2050	B2050	B2050
3 1/2"	(90)	B2016	B2054	B2054	B2054
4"	(100)	B2017	B2058	B2058	B2058
5"	(125)	B2019	B2066	B2066	B2066
6"	(150)	B2020	B2115	B2115	B2115

CLAMP SIZING CHART FOR PVC COATED THINWALL (EMT) CONDUIT AND CLAMPS

Nominal Conduit Size		Conduit Coating			
		.020 (.51mm)		.040 (1.01mm)	
		Clamp Coating 0	.020 (.51mm)	Clamp Coating 0	.020 (.51mm)
3/8"	(10)	B2026	B2026	B2026	B2007
1/2"	(15)	B2027	B2027	B2027	B2008
3/4"	(20)	B2029	B2029	B2029	B2009
1"	(25)	B2003	B2031	B2031	B2031
1 1/4"	(32)	B2004	B2034	B2034	B2034
1 1/2"	(40)	B2035	B2035	B2035	B2036
2"	(50)	B2039	B2039	B2039	B2013

Reference Data

COPPER TUBING, TYPE L

Nominal Tubing Size		Outside Diameter		Inside Diameter		Weight of Tubing Per 100 Ft. (30.5m)		Weight of Tubing Filled With Water Per 100 Ft. (30.5m)	
In.	mm	In.	mm	In.	mm	Lbs.	kg	Lbs.	kg
1/4"	(6)	.375	(9.5)	.315	(8.0)	12.6	(5.7)	16.0	(7.2)
3/8"	(10)	.500	(12.7)	.430	(10.9)	19.8	(9.0)	26.1	(11.8)
1/2"	(15)	.625	(15.9)	.545	(13.8)	28.5	(12.9)	38.6	(17.5)
5/8"	(17)	.750	(19.1)	.666	(16.9)	36.2	(16.4)	51.3	(23.3)
3/4"	(20)	.875	(22.2)	.785	(19.9)	45.5	(20.6)	66.5	(30.2)
1"	(25)	1.125	(28.6)	1.025	(26.0)	65.5	(29.7)	101.3	(45.9)
1 1/4"	(32)	1.375	(34.9)	1.265	(32.1)	88.4	(40.1)	142.9	(64.8)
1 1/2"	(40)	1.625	(41.3)	1.505	(38.2)	114.0	(51.7)	191.1	(86.7)
2"	(50)	2.125	(54.0)	1.985	(50.4)	175.0	(79.4)	309.1	(140.2)
2 1/2"	(65)	2.625	(66.7)	2.465	(62.6)	248.0	(112.5)	454.8	(206.3)
3"	(80)	3.125	(79.4)	2.945	(74.8)	333.0	(151.0)	628.2	(285.0)
3 1/2"	(90)	3.625	(92.1)	3.425	(87.0)	429.0	(194.6)	828.3	(375.7)
4"	(100)	4.125	(104.8)	3.905	(99.2)	538.0	(244.0)	1057.1	(479.5)
5"	(125)	5.125	(130.2)	4.875	(123.8)	761.0	(345.2)	1570.0	(712.1)
6"	(150)	6.125	(155.6)	5.845	(148.5)	1020.0	(462.7)	2182.9	(990.2)
8"	(200)	8.125	(206.4)	7.725	(196.2)	1930.0	(875.4)	3961.3	(1796.8)
10"	(250)	10.125	(257.2)	9.625	(244.5)	3010.0	(1365.3)	6163.4	(2795.7)
12"	(300)	12.125	(308.0)	11.565	(293.8)	4040.0	(1832.5)	8592.8	(3897.6)

COPPER TUBING, TYPE K

Nominal Tubing Size		Outside Diameter		Inside Diameter		Weight of Tubing Per 100 Ft. (30.5m)		Weight of Tubing Filled With Water Per 100 Ft. (30.5m)	
In.	mm	In.	mm	In.	mm	Lbs.	kg	Lbs.	kg
1/4"	(6)	.375	(9.5)	.305	(7.7)	14.5	(6.6)	17.7	(8.0)
3/8"	(10)	.500	(12.7)	.402	(10.2)	26.9	(12.2)	32.4	(14.7)
1/2"	(15)	.625	(15.9)	.527	(13.4)	34.4	(15.6)	43.9	(19.9)
5/8"	(17)	.750	(19.1)	.652	(16.6)	41.8	(19.0)	56.3	(25.5)
3/4"	(20)	.875	(22.2)	.745	(18.9)	64.1	(29.1)	83.0	(37.6)
1"	(25)	1.125	(28.6)	.995	(25.3)	83.9	(38.1)	117.6	(53.3)
1 1/4"	(32)	1.375	(34.9)	1.245	(31.6)	104.0	(47.2)	156.8	(71.1)
1 1/2"	(40)	1.625	(41.3)	1.481	(37.6)	136.0	(61.7)	210.7	(95.6)
2"	(50)	2.125	(54.0)	1.959	(49.8)	206.0	(93.4)	336.6	(152.7)
2 1/2"	(65)	2.625	(66.7)	2.435	(61.8)	293.0	(132.9)	494.8	(224.5)
3"	(80)	3.125	(79.4)	2.907	(73.8)	400.0	(181.4)	687.7	(311.9)
3 1/2"	(90)	3.625	(92.1)	3.385	(86.0)	512.0	(232.2)	902.0	(409.2)
4"	(100)	4.125	(104.8)	3.857	(98.0)	651.0	(295.3)	1157.4	(525.0)
5"	(125)	5.125	(130.2)	4.805	(122.0)	967.0	(438.6)	1752.9	(795.1)
6"	(150)	6.125	(155.6)	5.741	(145.8)	1390.0	(630.5)	2511.9	(1139.4)
8"	(200)	8.125	(206.4)	7.583	(192.6)	2590.0	(1174.8)	4547.3	(2062.6)
10"	(250)	10.125	(257.2)	9.449	(240.0)	4030.0	(1828.0)	7069.2	(3206.5)
12"	(300)	12.125	(308.0)	11.315	(287.4)	5780.0	(2621.8)	10138.0	(4598.5)

Dimensions taken from ASTM B 88-83.

- 1 cubic ft. of water weighs 62.41 Lbs.
- 1 cubic meter of water weighs 999.972 kg.
- 1 gallon (U.S.) weighs 8.335 Lbs.
- 1 liter weighs .999 kg.

STANDARD WEIGHT SCHEDULE 40 STEEL PIPE

Nominal Pipe Size		Outside Diameter		Inside Diameter		Nominal Weight Per 100 Ft. (30.5mm) Plain End		Weight of Pipe Filled With Water Per 100 Ft. (30.5mm)	
In.	mm	In.	mm	In.	mm	Lbs.	kg	Lbs.	kg
3/8"	(10)	.675	(17.1)	.493	(12.5)	57.0	(25.9)	65.3	(29.6)
1/2"	(15)	.840	(21.3)	.622	(15.8)	85.0	(38.6)	98.2	(44.5)
3/4"	(20)	1.050	(26.7)	.824	(20.9)	113.0	(51.3)	136.1	(61.7)
1"	(25)	1.315	(33.4)	1.049	(26.6)	168.0	(76.2)	205.5	(93.2)
1 1/4"	(32)	1.660	(42.2)	1.380	(35.1)	227.0	(103.0)	291.8	(132.4)
1 1/2"	(40)	1.900	(48.3)	1.610	(40.9)	272.0	(123.4)	360.2	(163.4)
2"	(50)	2.375	(60.3)	2.067	(52.5)	365.0	(165.6)	510.4	(231.5)
2 1/2"	(65)	2.875	(73.0)	2.469	(62.7)	579.0	(262.6)	786.5	(356.8)
3"	(80)	3.500	(88.9)	3.068	(77.9)	758.0	(343.8)	1078.4	(489.2)
3 1/2"	(90)	4.000	(101.9)	3.548	(90.1)	911.0	(413.2)	1339.5	(607.6)
4"	(100)	4.500	(114.3)	4.026	(102.3)	1079.0	(489.4)	1630.7	(739.7)
5"	(125)	5.563	(141.3)	5.047	(128.2)	1462.0	(663.2)	2329.1	(1056.4)
6"	(150)	6.625	(168.3)	6.065	(154.1)	1897.0	(860.5)	3149.1	(1428.4)
8"	(200)	8.625	(219.1)	7.981	(202.7)	2855.0	(1295.0)	5023.2	(2278.5)
10"	(250)	10.750	(273.1)	10.020	(254.5)	4048.0	(1836.1)	7465.6	(3386.3)
12"	(300)	12.750	(323.9)	12.000	(304.8)	4956.0	(2248.0)	9857.7	(4471.4)
14"	(350)	14.000	(355.6)	13.250	(336.6)	5457.0	(2475.3)	11433.1	(5185.9)
16"	(400)	16.000	(406.4)	15.250	(387.4)	6258.0	(2838.6)	14174.3	(6429.4)
18"	(450)	18.000	(457.2)	17.250	(438.2)	7059.0	(3201.9)	17187.9	(7796.3)
20"	(500)	20.000	(508.0)	19.250	(489.0)	7860.0	(3565.2)	20473.7	(9286.7)
24"	(600)	24.000	(609.6)	23.250	(590.6)	9462.0	(4291.9)	27862.5	(12638.2)

Dimensions taken from ASTM A 53-82.

- 1 cubic ft. of water weighs 62.41 Lbs.
- 1 cubic meter of water weighs 999.972 kg.
- 1 gallon (U.S.) weighs 8.335 Lbs.
- 1 liter weighs .999 kg.

TRAPEZE HANGERS USING B-LINE STRUT OR ANGLE IRON

Length of Trapeze Bar	Nominal Pipe Sizes							
	2 1/2" (65mm) or less	3" (80mm)	3 1/2" (90mm)	4" (100mm)	5" (125mm)	6" (150mm)	8" (200mm)	10" (250mm)
1'-6" (0.46m)	1 1/2" x 1 1/2" x 3/16" B24SH	1 1/2" x 1 1/2" x 3/16" B24SH	1 1/2" x 1 1/2" x 3/16" B24SH	2" x 1 1/2" x 3/16" B22SH	2" x 1 1/2" x 3/16" B22SH	2 1/2" x 1 1/2" x 3/16" B12SH	3" x 2" x 3/16" B11SH	3" x 2" x 1/4" B11SH
2'-0" (0.61m)	1 1/2" x 1 1/2" x 3/16" B24SH	2" x 1 1/2" x 3/16" B22SH	2" x 1 1/2" x 3/16" B22SH	2" x 1 1/2" x 3/16" B22SH	2 1/2" x 1 1/2" x 3/16" B12SH	2 1/2" x 1 1/2" x 3/16" B12SH	3" x 2" x 3/16" B11SH	3" x 2" x 1/4" B11SH
2'-6" (0.76m)	2" x 1 1/2" x 3/16" B22SH	2" x 1 1/2" x 3/16" B22SH	2" x 1 1/2" x 3/16" B22SH	2 1/2" x 1 1/2" x 3/16" B12SH	2 1/2" x 1 1/2" x 3/16" B12SH	3" x 2" x 3/16" B11SH	3" x 2" x 1/4" B11SH	3" x 2" x 1/4" B11SH
3'-0" (0.91m)	2" x 1 1/2" x 3/16" B22SH	2" x 1 1/2" x 3/16" B22SH	2 1/2" x 1 1/2" x 3/16" B12SH	2 1/2" x 1 1/2" x 3/16" B12SH	3" x 2" x 3/16" B11SH	3" x 2" x 3/16" B11SH	3 1/2" x 2 1/2" x 1/4" B12SHA	3 1/2" x 2 1/2" x 5/16" B12SHA
4'-0" (1.22m)	2 1/2" x 1 1/2" x 3/16" B12SH	2 1/2" x 1 1/2" x 3/16" B12SH	2 1/2" x 1 1/2" x 3/16" B12SH	3" x 2" x 3/16" B11SH	3" x 2" x 3/16" B11SH	3" x 2" x 1/4" B11SH	3 1/2" x 2 1/2" x 5/16" B12SHA	4" x 3" x 5/16" B12SHA
5'-0" (1.52m)	2 1/2" x 1 1/2" x 3/16" B12SH	2 1/2" x 1 1/2" x 3/16" B12SH	3" x 2" x 3/16" B11SH	3" x 2" x 3/16" B11SH	3" x 2" x 1/4" B11SH	3 1/2" x 2 1/2" x 5/16" B12SHA	4" x 3" x 5/16" B12SHA	5" x 3 1/2" x 5/16" B11SHA
6'-0" (1.83m)	2 1/2" x 1 1/2" x 3/16" B12SH	3" x 2" x 3/16" B11SH	3" x 2" x 3/16" B11SH	3" x 2" x 1/4" B11SH	3 1/2" x 2 1/2" x 5/16" B12SHA	4" x 3" x 5/16" B12SHA	4" x 3" x 5/16" B12SHA	5" x 3 1/2" x 5/16" B11SHA
7'-0" (2.13m)	3" x 2" x 3/16" B11SH	3" x 2" x 3/16" B11SH	3" x 2" x 1/4" B11SH	3" x 2" x 1/4" B11SH	3 1/2" x 2 1/2" x 5/16" B12SHA	4" x 3" x 5/16" B12SHA	5" x 3 1/2" x 5/16" B11SHA	6" x 4" x 1/4" 2-B12SHA
8'-0" (2.44m)	3" x 2" x 3/16" B11SH	3" x 2" x 1/4" B11SH	3" x 2" x 1/4" B11SH	3 1/2" x 2 1/2" x 5/16" B12SHA	3 1/2" x 2 1/2" x 5/16" B12SHA	4" x 3" x 5/16" B12SHA	5" x 3 1/2" x 5/16" B11SHA	6" x 4" x 1/4" 2-B12SHA
9'-0" (2.74m)	3" x 2" x 3/16" B11SH	3" x 2" x 1/4" B11SH	3 1/2" x 2 1/2" x 5/16" B12SHA	3 1/2" x 2 1/2" x 5/16" B12SHA	3 1/2" x 2 1/2" x 5/16" B12SHA	4" x 3" x 5/16" B12SHA	5" x 3 1/2" x 5/16" B11SHA	6" x 4" x 3/8" 2-B11SHA
10'-0" (3.05m)	3" x 2" x 1/4" B11SH	3" x 2" x 1/4" B11SH	3 1/2" x 2 1/2" x 5/16" B12SHA	3 1/2" x 2 1/2" x 5/16" B12SHA	4" x 3" x 5/16" B12SHA	5" x 3 1/2" x 5/16" B11SHA	6" x 4" x 1/4" 2-B12SHA	6" x 4" x 3/8" 2-B11SHA

REFERENCE: Table 3-14.1.6 standard for the installation of Sprinkler Systems, NFPA No. 13-1985, published by National Fire Protection Association.

Tolco™ to Cooper B-Line Cross Reference

Tolco to B-Line Cross

Tolco Fig#	Cooper B-Line Pt. #	Tolco Fig#	Cooper B-Line Pt. #	Tolco Fig#	Cooper B-Line Pt. #
2 STR 1/2"	B2400-1/2	BC-14-5/8	B321-4	BR-22-12	B409-12
2 STR 3/4"	B2400-3/4	BC-14-3/4	B321-5	BR-22-18	B409-18
2 STR 1"	B2400-1	BC-16	B314	BR-22-24	B409-25
2 STR 1 1/4"	B2400-1 1/4	BC-17	B441-22	C SAFETY END CAP	B852
2 STR 1 1/2"	B2400-1 1/2	BC-18-3/8	B212-3/8	C-14	B54
2 STR 2"	B2400-2	BC-18-1/2	B212-1/2	C-14 END CAP	B204
2 STR 2 1/2"	B2400-2 1/2	BC-19	B427	CL-10	B217-20
2 STR 3"	B2400-3	BC-20	B355	CR ISOLATOR	ISO
2 STR 3 1/2"	B2400-3 1/2	BC-21	B211	CUSH CLP 1/4	BVT025
2 STR 4"	B2400-4	BC-23	B614	CUSH CLP 3/8	BVT037
2 STR 5"	B2400-5	BC-70	B760-22 Series	CUSH CLP 1/2	BVT050
2 STR 6"	B2400-6	BC-71	B760-22A Series	CUSH CLP 5/8	BVT062
2 STR 8"	B2400-8	BC-72	B761-22 Series	CUSH CLP 3/4	BVT075
65XT	N/C	BC-73	B761-22A Series	CUSH CLP 1	BVT100
69	B3367	BR-10-8L	B185SHL	CUSH CLP 1 1/8	BVT112
69R	N/C	BR-10-8R	B185SHR	CUSH CLP 1 1/4	BVT125
75	N/C	BR-10-10L	B186SHL	CUSH CLP 1 3/8	BVT137
98	SC228	BR-10-10R	B186SHR	CUSH CLP 1 1/2	BVT150
98B	N/C	BR-10-12L	B178SHL	CUSH CLP 1 5/8	BVT162
310	B2501	BR-10-12R	B178SHR	CUSH CLP 1 3/4	BVT175
310N 1/4	N2501-1/4	BR-10-18L	B181SHL	CUSH CLP 2	BVT200
310N 3/8	N2501-3/8	BR-10-18R	B181SHR	CUSH CLP 2 1/8	BVT212
310N 1/2	N2501-1/2	BR-10-20L	B182SHL	CUSH CLP 2 1/2	BVT250
310N 5/8	N2501-5/8	BR-10-20R	B182SHR	CUSH CLP 2 5/8	BVT262
310N 3/4	N2501-3/4	BR-11-8 1/2	B187	CUSH CLP 3	BVT300
310N 7/8	N2501-7/8	BR-11-10 1/2	B541	CUSH CLP 3 1/8	BVT312
902	B335V	BR-11-12 1/2	B289-12	CUSH CLP 3 5/8	BVT362
912	B335-1	BR-11-14 1/2	B289-14	CUSH CLP 4	BVT400
913	B335-2	BR-11-22	B292	CUSH CLP 4 5/8	N/A
914	B335	BR-12	B290	CUSH CLP 5 1/8	N/A
915	B634	BR-13	B194	CUSH CLP 6 1/8	BVT612
915D	B635	BR-14	B370	CUSH CLP IPS 1/4	BVP025
A SAFETY END CAP	B822	BR-15-18	B196-18	CUSH CLP IPS 3/8	BVP037
A-12	B22	BR-15-24	B196-24	CUSH CLP IPS 1/2	BVP050
A-12 End Cap	B205	BR-16-6	B198A-6	CUSH CLP IPS 3/4	BVP075
A-12 End Spot	B3322	BR-16-12	B198A-12	CUSH CLP IPS 1	BVP100
A-14	B24	BR-17-12	B297-12	CUSH CLP IPS 1 1/4	BVP125
A-14 End Cap	B223	BR-17-18	B297-18	CUSH CLP IPS 1 1/2	BVP150
BC-09	B312 Series	BR-17-24	B297-24	CUSH CLP IPS 2	BVP200
BC-10	B751	BR-17-30	B297-30	CUSH CLP IPS 2 1/2	BVP250
BC-11	B751-J Series	BR-17-36	B297-36	CUSH CLP IPS 3	BVP300
BC-12	B751-J Series	BR-18-6	B293-6	CUSH CLP IPS 3 1/2	BVP350
BC-13-1/4	B303	BR-18-12	B293-12	CUSH CLP IPS 4	BVP400
BC-13-5/16	B304	BR-19-18	B293A-18	CUSH CLP IPS 5	BVP500
BC-13-3/8	B305	BR-18-24	B293-24	CUSH CLP IPS 6	BVP600
BC-13-1/2	B307	BR-19-6	B293A-6	CUSH STRIP	B1999
BC-13-5/8	B309	BR-18-12	B293-12	D-12	B12
BC-13-3/4	B321-5	BR-19-18	B293A-18	D-12 END CAP	B221
BC-14-1/4	B303	BR-19-24	B293A-24	E SAFETY END CAP	B822-A
BC-14-5/16	B304	BR-20	B439	E-12	B11
BC-14-3/8	B321-1	BR-21	B356	E-12 END CAP	B222
BC-14-1/2	B321-2	BR-22-6	B409-6	EMTC-1/2	B2001

Tolco™ to Cooper B-Line Cross Reference

Tolco Fig#	Cooper B-Line Pt. #	Tolco Fig#	Cooper B-Line Pt. #	Tolco Fig#	Cooper B-Line Pt. #
EMTC-3/4	B2002	L-23 U	B844	OD 3/4	B2027
EMTC-1	B2003	L-24 L	B503L	OD 7/8	B2008
EMTC-11/4	B2004	L-24 R	B503R	OD 1	B2029
EMTC-11/2	B2005	L-25 L	B503L	OD 11/8	B2030
EMTC-2	B2006	L-25	B503R	OD 11/4	B2031
F-09	B129	L-26 L	B236L	OD 13/8	B2032
F-10	B200D	L-26 R	B236R	OD 11/2	B2004
F-11	B201D	L-27	B357	OD 15/8	B2011
F-12-1/2	B202-D	L-28	B237	OD 13/4	B2005
F-12-5/8	B202-1D	L-29	B240-378	OD 17/8	B2036
F-12-3/4	B202-2D	L-30	B558	OD 2	B2037
F-13	B200	L-31 L	B235L	OD 21/8	B2038
F-14	B201	L-31 R	B235R	OD 21/4	B2039
F-15	B202	L-32	B126	OD 23/8	B2013
F-15	B202	L-33	B127	OD 21/2	B2041
F-16	B202-1	L-34	B118	OD 25/8	B2042
F-17	B202-2	L-35	B239	OD 23/4	B2043
F-18	N/C	L-36 L	B234L	OD 27/8	B2014
F-20	B141	L-36 R	B234R	OD 3	B2045
F-21	B342	L-37	B112	OD 31/8	B2046
F-22	B340	L-38	B113	OD 31/4	B2047
F-23	B341	L-39	B461	OD 33/8	B2048
F-24	B504	L-40	B533	OD 31/2	B2015
F-25	B133	L-41	B485	OD 35/8	B2050
F-26	B138	L-42 L	B134L	OD 33/4	B2051
F-27	B139	L-42 R	B134R	OD 37/8	B2052
F-28	B132	L-43	B125	OD 4	B2016
F-29	B339	L-44-12	B261-12	OD 51/8	B2062
F-30	B337	L-44-16	B261-16	OD 51/4	B2063
F-31	B136	L-44-18	B261-18	OD 53/8	B2064
F-32	B532	L-45-30	B162	OD 51/2	B2019
F-33	B142	L-45-45	B154	OD 55/8	B2066
F-34	B556	L-45-60	B150	OD 53/4	B2067
F-35	B135	L-46-30	B246	OD 57/8	B2068
F-36	B140	L-46-45	B248	OD 6	B2069
F-37	B143	L-46-60	B250	OD 61/8	B2110
F-38	B334	L-47-30	N/C	OD 61/4	B2111
HEX HEAD BOLTS	HHCS	L-47-45	B155	OD 63/8	B2112
L-08	B231	L-47-60	B159	OD 61/2	B2113
L-10	B101	L-48-30	N/C	OD 65/8	B2020
L-11	B230	L-48-45	B368	OD 63/4	B2115
L-12-3	B359	L-48-60	B366	OD 67/8	B2116
L-12-31/2	B360	NUT 1/4	N224WO	OD 7	B2117
L-12-4	B361	NUT 3/8	N228WO	OD 71/8	B2118
L-15	B372	NUT 1/2	N225WO	OD 71/4	B2119
L-16	B496-1	NUT 5/8	N255WO	OD 73/8	B2120
L-17	B496	NUT 3/4	N275WO	OD 71/2	B2121
L-18	B102	NUT 7/8	N278WO	OD 75/8	B2021
L-19	B232	OD 1/4	B2023	OD 73/4	B2123
L-20	B103	OD 3/8	B2024	OD 77/8	B2124
L-21	B371-2	OD 1/2	B2025	OD 8	B2125
L-22	B104	OD 5/8	B2026	OD 81/8	B2126

Tolco to B-Line Cross

Tolco™ to Cooper B-Line Cross Reference

Tolco Fig#	Cooper B-Line Pt. #	Tolco Fig#	Cooper B-Line Pt. #	Tolco Fig#	Cooper B-Line Pt. #
OD 8 ^{1/4}	B2127	RIGID 2	B2013	TSN 3/8	TN228
OD 8 ^{3/8}	B2128	RIGID 2 ^{1/2}	B2014	TSN 1/2	TN225
OD 8 ^{1/2}	B2129	RIGID 3	B2015	U-10	B107
OD 8 ^{5/8}	B2022	RIGID 3 ^{1/2}	B2016	U-11	B116-52
OD 8 ^{3/4}	B2133	RIGID 4	B2017	U-12	B116-12
OD 8 ^{7/8}	B2134	RIGID 5	B2019	U-13-7 ^{1/4}	B333-1
OD 9	B2135	RIGID 6	B2120	U-13-8 ^{1/2}	B333-2
OD 9 ^{1/2}	B2139	RIGID 8	B2122	U-13-10 ^{3/8}	B333-3
OD 9 ^{5/8}	B2140	ROL-10	B377	U-16	B107-22A
OD 10	B2143	ROL-11	B376	U-18	B398-1
OD 10 ^{3/4}	B2130	ROL-12*	B218	U-22	B169, B170
OD 11	B2151	ROL-13	B219 Series	U-24	B167, B172
OD 11 ^{5/8}	B2156	ROL-14	B379	U-26	B173
OD 12	B2159	ROL-15	B479	U-29	B400-1
OD 12 ^{3/4}	B2132	ROL-16	B3126 Series	U-30	B400-3
OD CP 3/8	B2024DCU	SPRA 1/4	N224	U-31	B425
OD CP 1/2	B2025DCU	SPRA 3/8	N228	U-32	B519
OD CP 5/8	B2026DCU	SPRA 1/2	N225	U-33	B581
OD CP 3/4	B2027DCU	SPRA 5/8	N255	U-34	N/C
OD CP 7/8	B2008DCU	SPRA 3/4	N275	UNIV-1/2	B2208
OD CP 11/8	B2030DCU	SPRA 7/8	N278	UNIV-3/4	B2209
OD CP 13/8	B2032DCU	SPRC 1/4	N524	UNIV-1	B2210
OD CP 15/8	B2011DCU	SPRC 3/8	N528	UNIV-11/4	B2211
OD CP 21/8	B2038DCU	SPRC 1/2	N525	UNIV-11/2	B2212
OD CP 25/8	B2042DCU	SPRC 5/8	N555	UNIV-2	B2213
OD CP 31/8	B2046DCU	SPRC 3/4	N575	W-10 L	B267L
OD CP 35/8	B2050DCU	SPRD 1/4	N724	W-10 R	B267R
OD CP 41/8	B2054DCU	SPRD 3/8	N728	W-11 L	B269L
OD CP 51/8	B2062DCU	SPRD 1/2	N725	W-11 R	B269R
OD CP 61/8	B2110DCU	SPRD 5/8	N755	W-12	B119
P-09	B280FL	SPRD 3/4	N775	W-13	B120
P-10	B279	SPRM 1/4	SN224	W-14	B121
P-10 F	B279FL	SPRM 3/8	SN228	W-16	B271
P-10 SQ	B279SQ	SPRM 1/2	SN225	W-17	B272
P-11	B280	SPRM 5/8	SN255	W-18	B273
P-11 F	B280FL	SWF 3/8	B446A-3/8	W-19	B122
P-11 SQ	B280SQ	SWF 1/2	B446A-1/2	W-20	B124
P-12	B281A	SWF 5/8	B446A-5/8	W-21	B123
P-12 F	B281AFL	SWF 3/4	B446A-3/4	W-22 L	B274L
P-12 SQ	B281ASQ	SWFF 3/8	B446C-3/8	W-22 R	B274R
P-13	B281	SWFF 1/2	B446C-1/2	W-23	B276
P-13 F	B281FL	SWFF 5/8	B446C-5/8	W-24	B495
P-13 SQ	B281SQ	SWFF 3/4	B446C-3/4	W-25	B362
P-14	B585	SWM 3/8	B446B-3/8	Z-10	B105
P-15	B278	SWM 1/2	B446B-1/2	Z-15	B108
PIPE PIER	DURA-BLOKS	SWM 5/8	B446B-5/8	Z-17	B586
RIGID 3/8	B2001	SWM 3/4	B446B-3/4	Z-25	B515
RIGID 1/2	B2008	SWMF 3/8	B446-3/8		
RIGID 3/4	B2009	SWMF 1/2	B446-1/2		
RIGID 1	B2010	SWMF 5/8	B446-5/8		
RIGID 11/4	B2011	SWMF 3/4	B446-3/4		
RIGID 11/2	B2012	TSN 1/4	TN224		