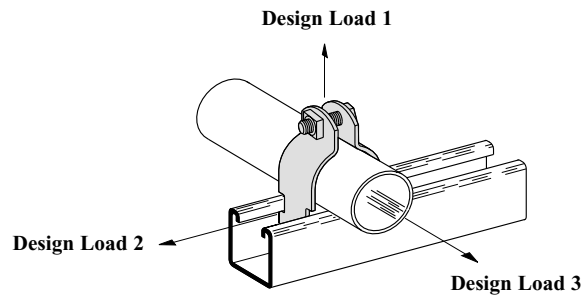


B2000 SERIES PIPE AND CONDUIT CLAMPS

- Safety Factor of 5
- Add PA to suffix for pre-assembled pipe clamps
- Includes Slotted Hex Head Machine Screw and Square Nut
- Standard finishes: ZN, HDG, SS4, SS6, AL



THINWALL CONDUIT (EMT) CLAMPS

Part No.	Conduit Size		Material Thickness		Design Load 1		Design Load 2		Design Load 3		Wt./C	
					Lbs.	kN	Lbs.	kg	Lbs.	kg	Lbs.	kg
B2000	3/8"	(10)	16 Ga.	(1.5)	400	(1.78)	50	(.22)	50	(.22)	10	(4.5)
B2001	1/2"	(15)	16 Ga.	(1.5)	400	(1.78)	50	(.22)	50	(.22)	10	(4.5)
B2002	3/4"	(20)	16 Ga.	(1.9)	400	(1.78)	50	(.22)	50	(.22)	11	(5.0)
B2003	1"	(25)	14 Ga.	(1.9)	600	(2.67)	75	(.33)	75	(.33)	16	(7.2)
B2004	1 1/4"	(32)	14 Ga.	(1.9)	600	(2.67)	75	(.33)	75	(.33)	19	(8.6)
B2005	1 1/2"	(40)	12 Ga.	(2.6)	800	(3.56)	125	(.56)	125	(.56)	28	(12.7)
B2006	2"	(50)	12 Ga.	(2.6)	800	(3.56)	125	(.56)	125	(.56)	33	(14.9)

RIGID CONDUIT OR PIPE CLAMPS

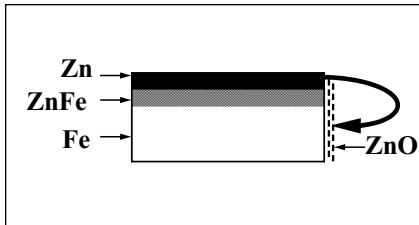
Part No.	Conduit Size		Material Thickness		Design Load 1		Design Load 2		Design Load 3		Wt./C	
					Lbs.	kN	Lbs.	kg	Lbs.	kg	Lbs.	kg
B2007	3/8"	(10)	16 Ga.	(1.5)	400	(1.78)	50	(.22)	50	(.22)	10	(4.5)
B2008	1/2"	(15)	16 Ga.	(1.5)	400	(1.78)	50	(.22)	50	(.22)	11	(5.0)
B2009	3/4"	(20)	14 Ga.	(1.9)	600	(2.67)	75	(.33)	75	(.33)	15	(6.8)
B2010	1"	(25)	14 Ga.	(1.9)	600	(2.67)	75	(.33)	75	(.33)	16	(7.2)
B2011	1 1/4"	(32)	14 Ga.	(1.9)	600	(2.67)	75	(.33)	75	(.33)	20	(9.1)
B2012	1 1/2"	(40)	12 Ga.	(2.6)	800	(3.56)	125	(.56)	125	(.56)	30	(13.6)
B2013	2"	(50)	12 Ga.	(2.6)	800	(3.56)	125	(.56)	125	(.56)	34	(15.4)
B2014	2 1/2"	(65)	12 Ga.	(2.6)	800	(3.56)	125	(.56)	125	(.56)	38	(17.2)
B2015	3"	(80)	12 Ga.	(2.6)	800	(3.56)	125	(.56)	125	(.56)	44	(19.9)
B2016	3 1/2"	(90)	11 Ga.	(3.0)	1000	(4.45)	200	(.89)	150	(.67)	61	(27.6)
B2017	4"	(100)	11 Ga.	(3.0)	1000	(4.45)	200	(.89)	150	(.67)	66	(29.9)
B2018	4 1/2"	(115)	11 Ga.	(3.0)	1000	(4.45)	200	(.89)	150	(.67)	70	(31.7)
B2019	5"	(125)	11 Ga.	(3.0)	1000	(4.45)	200	(.89)	150	(.67)	77	(34.9)
B2020	6"	(150)	11 Ga.	(3.0)	1000	(4.45)	200	(.89)	150	(.67)	100	(45.3)
B2021	7"	(175)	11 Ga.	(3.0)	1000	(4.45)	250	(1.11)	200	(.89)	115	(52.1)
B2022	8"	(200)	11 Ga.	(3.0)	1000	(4.45)	250	(1.11)	200	(.89)	128	(58.0)
B2130	10	(254)	11 Ga.	(3.0)	1000	(4.45)	250	(1.11)	200	(.89)	160	(72.6)
B2132	12"	(305)	11 Ga.	(3.0)	1000	(4.45)	250	(1.11)	200	(.89)	185	(83.9)

FINISHES

Zinc Coatings

Zinc protects steel in two ways. First it protects the steel as a coating and second as a sacrificial anode to repair bare areas such as cut edges, scratches, and gouges. The corrosion protection of zinc is directly related to its thickness and the environment. This means a .2 mil coating will last twice as long as a .1 mil coating in the same environment.

Galvanizing also protects cut and drilled edges.



Electrogalvanized Zinc

Electrogalvanized Zinc (also known as zinc plated or electroplated) is the process by which a coating of zinc is deposited on the steel by electrolysis from a bath of zinc salts.

A rating of SC3, B-Line's standard, provides a minimum zinc coating thickness of .5 mils (excluding hardware, which is SC1 = .2 mils).

When exposed to air and moisture, zinc forms a tough, adherent, protective film consisting of a mixture of zinc oxides, hydroxides, and carbonates. This film is in itself a barrier coating which slows subsequent corrosive attack on the zinc. This coating is usually recommended for indoor use in relatively dry areas, as it provides ninety-six hours protection in salt spray testing per ASTM B117.

Chromium/ Zinc

Chromium/ Zinc is a corrosion resistant composition, which was developed to protect fasteners and small bulk items for automotive use. The coating applications have since been extended to larger parts and other markets.

Chromium/Zinc composition is an aqueous coating dispersion containing chromium, proprietary organics, and zinc flake.

This finish provides 1000 hours protection in salt spray testing per ASTM B117.

Pre-Galvanized Zinc

(Mill galvanized, hot dip mill galvanized or continuous hot dip galvanized) Pre-galvanized steel is produced by coating coils of sheet steel with zinc by continuously rolling the material through molten zinc at the mills. This is also known as mill galvanized or hot dip mill galvanized. These coils are then slit to size and fabricated by roll forming, shearing, punching, or forming to produce B-Line pre-galvanized strut products.

The G90 specification calls for a coating of .90 ounces of zinc per square foot of steel. This results in a coating of .45 ounces per square foot on each side of the sheet. This is important when comparing this finish to hot dip galvanized after fabrication.

During fabrication, cut edges and welded areas are not normally zinc coated; however, the zinc near the uncoated metal becomes a sacrificial anode to protect the bare areas after a short period of time.

Hot Dip Galvanized After Fabrication (Hot dip galvanized or batch hot dip galvanized)

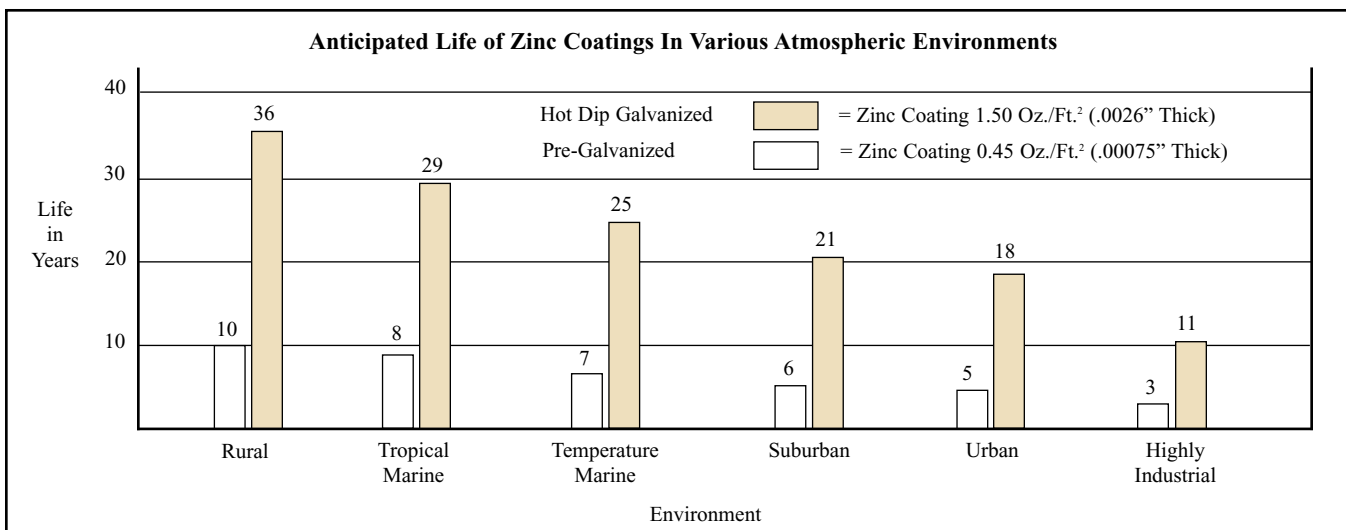
Hot dip galvanized strut products are fabricated from steel and then completely immersed in a bath of molten zinc. A metallic bond occurs resulting in a zinc coating that completely coats all surfaces, including edges and welds.

Another advantage of this method is coating thickness. Strut products that are hot dip galvanized after fabrication have a minimum thickness of 1.50 ounces per square foot on each side, or a total 3.0 ounces per square foot of steel, according to ASTM A123.

The zinc thickness is controlled by the amount of time each part is immersed in the molten zinc bath as well as the speed at which it is removed. The term "double dipping" refers to parts too large to fit into the galvanizing kettle and, therefore, must be dipped one end at a time. It does not refer to extra coating thickness.

The layer of zinc which bonds to steel provides a dual protection against corrosion. It protects first as an overall barrier coating. If this coating happens to be scratched or gouged, zinc's secondary defense is called upon to protect the steel by galvanic action.

Hot-Dip Galvanized After Fabrication is recommended for prolonged outdoor exposure and will usually protect steel for 20 years or more in most atmospheric environments and in many industrial environments. For best results, a zinc rich paint (available from B-Line) should be applied to field cuts. The zinc rich paint will provide immediate protection for these areas and eliminate the short time period for galvanic action to "heal" the damaged coating.



PIPE/CONDUIT CLAMPS & HANGERS

B-Line's beam attachments and pipe supports offered in this section are designed to provide supports without drilling or welding. A complete selection of beam clamps, pipe clamps, rollers, supports and accessories are designed for use with B-Line channels and offer many installation advantages.

Materials & Finishes*

Pipe clamps, pipe hangers, beam clamps, brackets, and rollers are made from low carbon steel strips, plates or rod unless noted.

Finish Code	Finish	Specification
PLN	Plain	ASTM A570 Gr. 33
ZN	Electro-Plated Zinc	ASTM B633 SC3 Type III
GRN	Dura-Green	TT-C-490B
DCU	Dura-Copper	TT-C-490B
HDG	Hot-Dipped Galvanized	ASTM A123
SS4	Stainless Steel Type 304	ASTM A240
SS6	Stainless Steel Type 316	ASTM A240
AL	Aluminum	ASTM B209

*Unless otherwise noted.

Load Data

The load data published includes a safety factor of 5.0 unless noted (safety factor = ratio of ultimate load to the design load).

Recommended Torque For Setscrews (unless noted)

Setscrew Size	1/4-20	3/8-16	1/2-13
Foot/Lbs.	4	5	11
Nm	5	7	15

Setscrew Size	5/8-11	3/4-10
Foot/Lbs.	21	34
Nm	28	46

*See chart on page 58 for bolt torque.

Metric

Metric dimensions are shown in parentheses. Unless noted, all metric dimensions are in millimeters.



METRIC CONVERSION CHART

To Convert From	To	Multiply By	To Convert From	To	Multiply By						
Angle			Length								
degree	radian (rad)	1.745329×10^{-2}	foot (ft)	meter (m)	3.048000×10^{-1}						
radian (rad)	degree	5.729578×10^{-1}	inch (in)	meter (m)	2.540000×10^{-2}						
Area			mil	meter (m)	2.540000×10^{-5}						
			inch (in)	micrometer (mm)	2.540000×10^{-4}						
			meter (m)	foot (ft)	3.280840						
			meter (m)	inch (in)	3.937008×10^{-1}						
			meter (m)	mil	3.937008×10^{-4}						
			micrometer (mm)	inch (in)	3.937008×10^{-5}						
			Temperature			Volume					
						degree Fahrenheit	degree Celsius	$t^{°C} = (t^{°F} - 32) / 1.8$	foot ³	cubic meter (m ³)	2.831685×10^{-2}
degree Celsius	degree Fahrenheit	$t^{°F} = 1.8t^{°C} + 32$				inch ³	cubic meter (m ³)	1.638706×10^{-5}			
Force						cubic centimeter (cm ³)	cubic inch (in ³)	6.102374×10^{-2}			
						pounds-force (lbf)	newtons (N)	4.448222×10^0	cubic meter (m ³)	foot ³	3.531466×10^{-1}
						Section Properties			cubic meter (m ³)	inch ³	6.102376×10^{-4}
			gallon (U.S. liquid)	cubic meter (m ³)	3.785412×10^{-3}						
Section Properties			section modulus S (in ³)	S (m ³)	1.638706×10^{-5}						
			moment of inertia I (in ⁴)	I (m ⁴)	4.162314×10^{-7}						
			modulus of elasticity E (psi)	E (Pa)	6.894757×10^{-3}						
			section modulus S (m ³)	S (in ³)	6.102374×10^{-4}						
			moment of inertia I (m ⁴)	I (in ⁴)	2.402510×10^{-6}						
			modulus of elasticity E (Pa)	E (psi)	1.450377×10^{-4}						

To Convert From	To	Multiply By
Bending Moment or Torque		
lbf • ft	newton meter (N•m)	1.355818
lbf • in	newton meter (N•m)	1.129848×10^{-1}
N•m	lbf • ft	7.375621×10^{-1}
N•m	lbf • in	8.850748
Mass		
ounce (avoirdupois)	kilogram (kg)	2.834952×10^{-2}
pound (avoirdupois)	kilogram (kg)	4.535924×10^{-1}
ton (short, 2000 lb)	kilogram (kg)	9.071847×10^{-2}
ton (long, 2240 lb)	kilogram (kg)	1.016047×10^{-3}
kilogram (kg)	ounce (avoirdupois)	3.527396×10^{-1}
kilogram (kg)	pound (avoirdupois)	2.204622
kilogram (kg)	ton (short, 2000 lb)	1.102311×10^{-3}
kilogram (kg)	ton (long, 2240 lb)	9.842064×10^{-4}
Mass Per Unit Length		
lb/ft	kilogram per meter (kg/m)	1.488164
lb/in	kilogram per meter (kg/m)	1.785797×10^{-1}
kg/m	lb/ft	6.719689×10^{-1}
kg/m	lb/in	5.599741×10^{-1}
Mass Per Unit Volume		
lb/ft ³	kilogram per cubic meter (kg/m ³)	1.601846×10^{-1}
lb/in ³	kilogram per cubic meter (kg/m ³)	2.767990×10^{-4}
kg/m ³	lb/ft ³	6.242797×10^{-2}
kg/m ³	lb/in ³	3.612730×10^{-5}
lbs/ft ³	lbs/in ³	5.787037×10^{-4}
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)	2.048161×10^{-1}
Pressure or Stress		
lbf/in ² (psi)	pascal (Pa)	6.894757×10^{-3}
kip/in ² (ksi)	pascal (Pa)	6.894757×10^{-6}
lbf/in ² (psi)	megapascals (MPa)	6.894757×10^{-3}
pascal (Pa)	pound-force per square inch (psi)	1.450377×10^{-4}
pascal (Pa)	kip per square inch (ksi)	1.450377×10^{-7}
megapascals (MPa)	lbf/in ² (psi)	1.450377×10^{-2}

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