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HEAVY TIE COMPONENTS**

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 **DAYTON**<sup>®</sup>  
**SUPERIOR**



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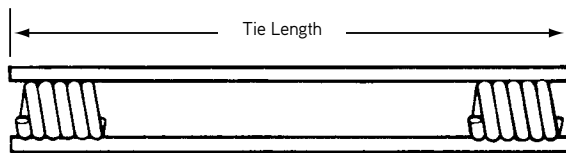
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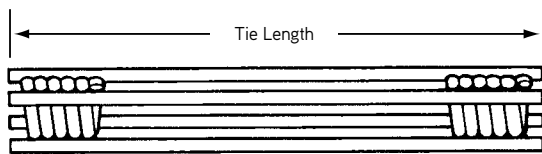
## B1 Two Strut Coil Tie and B2 Four Strut Coil Tie

Dayton Superior B1 and B2 Coil Ties are strong, versatile resistance welded ties designed to take the abuse encountered in medium and heavy concrete construction. The coil tie is an extremely simple tie that is capable of servicing many applications and uses in the field. It can be used with or without cones or combined with coil rod to form an adjustable tie. The coil threads are fast acting and self-cleaning.

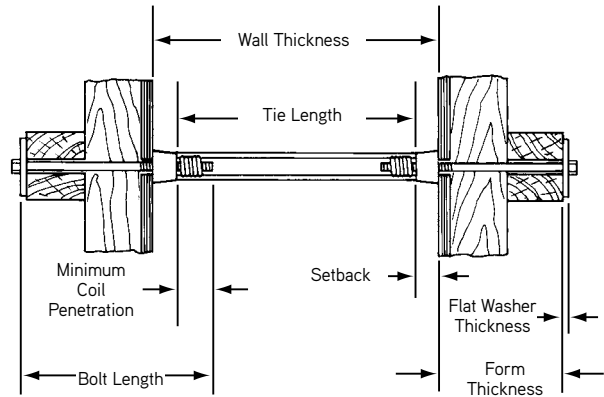
To determine the required coil tie length, subtract two times the desired or specified setback from the wall thickness. [Wall thickness - (2x setback) = coil tie length].



**B1 Two Strut Coil Tie**



**B2 Four Strut Coil Tie and B2 Four Strut Coil Tie Coupler**



**Coil Tie with Loose (Spreader) Cones**

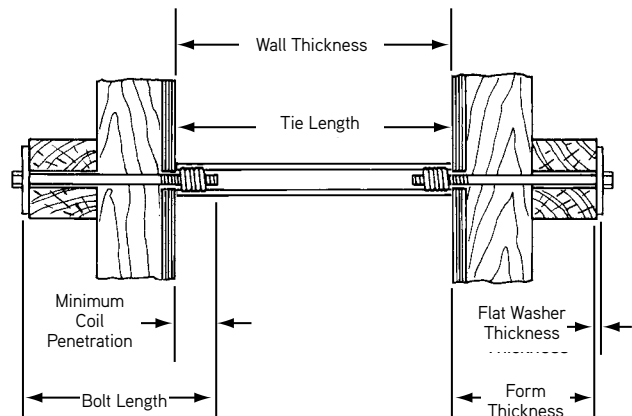
Cones are generally used when wall thickness is very thick or an architectural finish is specified.

**B1 and B2 Coil Tie Selection Chart**

Type	Bolt Diameter	Number of Strut Wires	Safe Working Load Tension (lbs.)
B1 Standard	1/2"	2	4,500
B1 Heavy	1/2"	2	6,750
B1 Standard	3/4"	2	6,750
B1 Heavy	3/4"	2	9,000
B1 Standard	1"	2	13,500
B1 Standard	1-1/4"	2	13,500
B2 Standard	1/2"	4	9,000
B2 Heavy	1/2"	4	13,500
B2 Standard	3/4"	4	13,500
B2 Heavy	3/4"	4	18,000
B2 Standard	1"	4	18,000
B2 Heavy	1"	4	27,000
B2 Standard	1-1/4"	4	27,000
B2 Heavy	1-1/4"	4	37,000
B2 Standard	1-1/2"	4	27,000

SWL provides a factor of safety of approximately 2 to 1.

Warning: See minimum coil penetration information in General and Technical Information.



**Coil Tie as Spreader and Tie**

The coil tie can be used as a combination tie and form spreader when it is not necessary to keep the ends of the tie back from the face of the concrete. If a number of form reuse is contemplated, standard cut washers should be used at the tie ends to protect the form face.

**To Order:**

Specify: (1) quantity, (2) name, (3) safe working load, (4) bolt diameter, (5) tie length, (6) wall thickness, (7) setback.

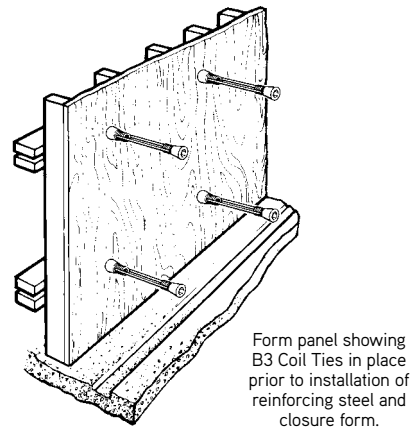
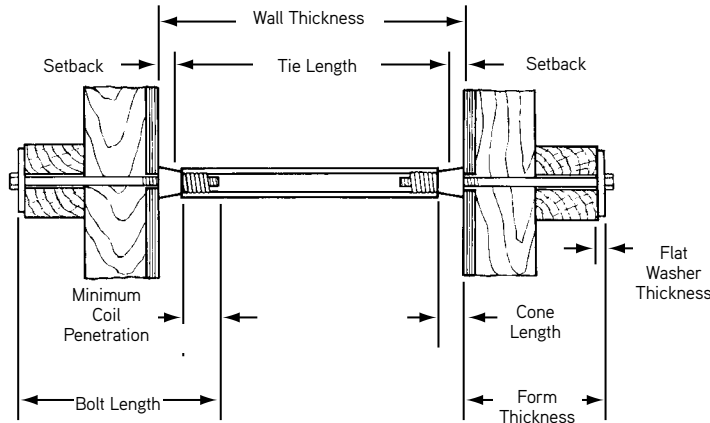
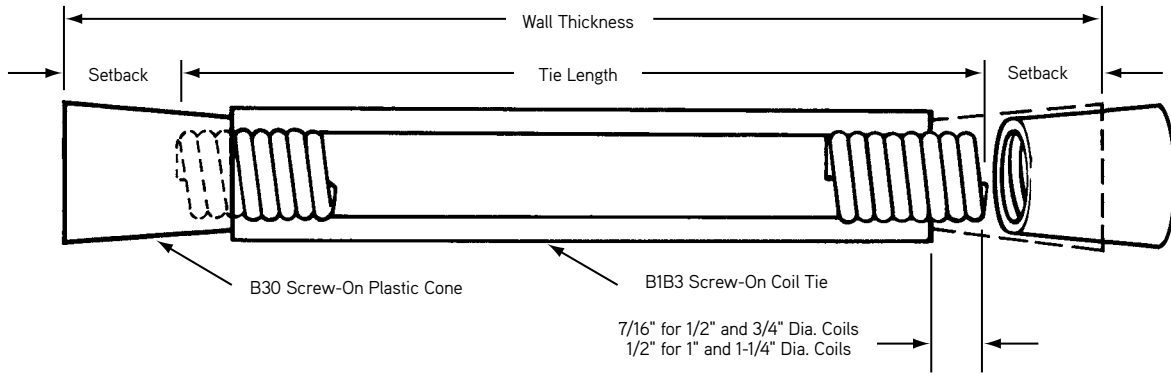
**Example:**

3,000 pcs. B1 Standard Coil Tie, 4,500 lbs. SWL, 1/2" diameter, 12" long for a 14" wall, 1" setback.

## B1B3 and B2B3 Screw-On Coil Tie

Dayton Superior Screw-On Coil Tie is designed with longer coils that extend beyond the end of the struts. Plastic cones screw onto the projections to provide a positive setback and act as a fixed internal form spreader.

To determine proper screw-on coil tie length, subtract the required total setback (both sides) from the wall thickness.



B1B3 and B2B3 Screw-On Coil Tie Selection Chart

Type	Bolt Diameter	Number of Strut Wires	Safe Working Load Tension (lbs.)
B1B3 Standard	1/2"	2	4,500
B1B3 Heavy	1/2"	2	6,750
B1B3 Extra Heavy	1/2"	2	9,000
B1B3 Standard	3/4"	2	6,750
B1B3 Heavy	3/4"	2	9,000
B1B3 Standard	1"	2	13,500
B2B3 Standard	1/2"	4	9,000
B2B3 Standard	3/4"	4	13,500
B2B3 Heavy	3/4"	4	18,000
B2B3 Standard	1"	4	18,000
B2B3 Heavy	1"	4	27,000
B2B3 Heavy	1-1/4"	4	27,000
B2B3 36K	1-1/4"	4	37,000

SWL provides a factor of safety of approximately 2 to 1.

**Warning:** See minimum coil penetration information in General and Technical Information.

**To Order:**

Specify: (1) quantity, (2) name, (3) safe working load, (4) bolt diameter, (5) tie length, (6) wall thickness, (7) setback.

**Example:**

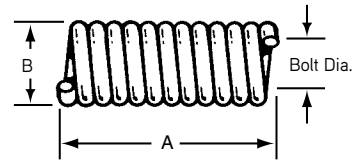
1,500 pcs. B1B3 Screw-On Coil Tie, 6,750 lbs. SWL, 1/2" diameter, 22 long for a 24" wall, 1" setback.

## Coils

Standard coils are available for 1/2", 3/4", 1", 1-1/4" and 1-1/2" diameter bolts.

Coil Dimensions

Bolt Diameter	A	B	Wire Diameter	Threads Per Inch
1/2"	1-1/8"	25/32"	.162"	6
3/4"	1-9/16"	1-3/32"	.218"	4-1/2
1"	2"	1-7/16"	.281"	3-1/2
1-1/4"	2"	1-11/16"	.281"	3-1/2
1-1/2"	2-5/16"	1-15/16"	.281"	3-1/2



## B6 Welding Coil Tie

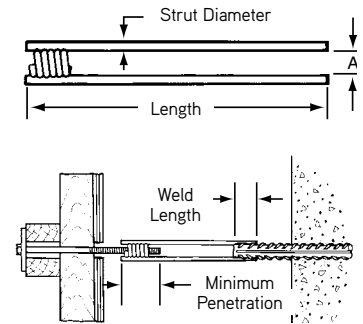
Dayton Superior B6 Welding Coil Tie is manufactured with two struts welded to a coil at one end only. The opposite, open end of the tie is utilized for field welding. The B6 tie is used effectively in heavy and special forming applications. Available in 1/2", 3/4" and 1" diameters. See related welding warning inside cover.

B6 Welding Coil Tie Selection Chart

Coil Bolt Diameter	Maximum SWL Tension (lbs.)	Wire Strut		Minimum Weld Length	A	Minimum Tie Length
		Diameter	AISI No			
1/2"	3,750	.306"	1008	1"	3/4"	3"
3/4"	6,750	.375"	1018	1-1/2"	1"	4"
1"	13,500	.440"	1035	2"	1-3/8"	5"

SWL provides a factor of safety of approximately 2 to 1 and is dependent on the field weld.

**Warning:** See minimum coil penetration information in General and Technical Information.



**To Order:**  
Specify, (1) quantity, (2) name, (3) diameter, (4) length

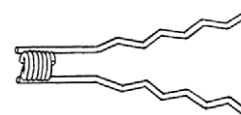
## B6R Rebar Hook

B6R Rebar Hooks are strong resistance welded ties. They are used to connect 1/2" coil rod with #6 or #8 rebar for blind-side wall application.

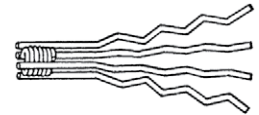


## B7 and B22 Inserts (Crimp)

The B7 (two strut) and B22 (four strut) inserts are manufactured to meet your unusual forming requirements.



B7 Insert



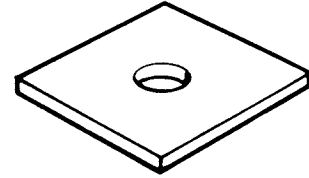
B22 Insert

## B11 Flat Washers

Dayton Superior B11 Flat Washers are made from flat steel plate and are available in the sizes shown in the accompanying chart. For best results, the space spanned by the washer should not exceed the bolt diameter plus 1/4".

B11 Flat Washer Selection Chart

Bolt Diameter	Type	Safe Working Load (lbs.)	Size
1/2"	Standard	6,750	3" x 4" x 1/4"
1/2"	Heavy	8,750	4" x 5" x 1/4"
3/4"	Standard	6,750	4" x 5" x 1/4"
3/4"	Heavy	14,000	5" x 5" x 3/8"
1"	Standard	18,500	5" x 5" x 1/2"
1"	Heavy	38,000	7" x 7" x 3/4"
1-1/4"	Standard	22,750	5" x 5" x 1/2"
1-1/4"	Heavy	50,750	7" x 7" x 3/4"
1-1/2"	Standard	26,250	5" x 5" x 3/4"
1-1/2"	Heavy	41,500	7" x 7" x 3/4"



B11 Flat Washer

**To Order:**

Specify: (1) quantity, (2) name, (3) bolt diameter.

**Example:**

1,200 pcs. B11 Standard, 1/2" bolt.

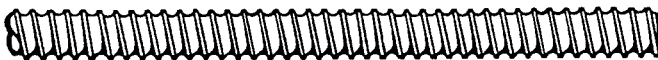
SWL provides a factor of safety of approximately 2 to 1.

Medium/Heavy Forming Products

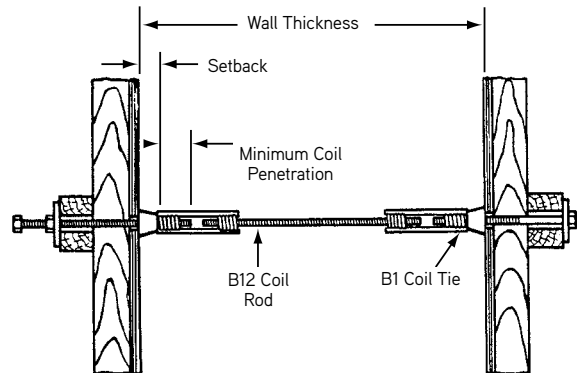
## B12 Coil Rod

Dayton Superior B12 Coil Rod is available in 1/2" to 1-1/2" diameters in 12' lengths. Field cutting can be accomplished with bolt cutters or carborundum blades.

B12 threaded rod can be used with Coil Ties in many forming combinations to tie formwork, for adjustable ties, for concrete embedments and/or emergency ties.



B12 Coil Rod

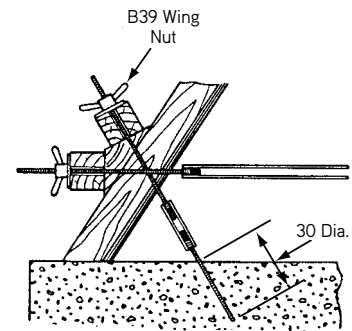


B12 Coil Rod Selection Chart

Coil Rod Diameter	Safe Working Loads		Minimum Root Area (sq. in.)	Tensile Stress (psi.)	Yield Stress (psi.)	Minimum Coil Penetration	Thread per inch
	Tension (lbs.)	Shear (lbs.)					
1/2"	9,000	6,000	.1385	130,000	110,000	2"	6
5/8"	12,000	8,000	.2124	113,000	96,000	2-1/4"	5
3/4"	18,000	12,000	.3079	117,000	100,000	2-1/4"	4.5
7/8"	24,000	16,000	.4477	117,000	100,000	2-1/2"	4.5
1"	38,000	25,300	.5410	140,000	120,000	2-1/2"	3.5
1-1/8"	46,000	30,000	.7163	126,600	105,000	2-1/2"	3.5
1-1/4"	56,000	37,500	.9161	123,000	105,000	2-1/2"	3.5
1-1/2"	68,000	45,300	1.3892	98,000	85,000	3"	3.5

SWL provides a factor of safety of approximately 2 to 1.

**Warning:** See working load info in General and Technical Information before using B12 Coil Rod.



**To Order:**

Specify: (1) quantity, (2) name, (3) diameter, (4) length.

**Example:**

500 pcs. B12 Coil Rod, 1" diameter x 12'-0" long.

## B12A D/R Thread Bar

Dayton Superior's D/R Thread Bar is a high strength, 5/8" and 7/8" ductile steel with a full length, cold-rolled contour thread. The bar's 2-1/2 threads per inch offers fast installation and stripping. D/R Thread Bar is available in 20'-0" standard lengths and can be cut to specific project requirements. Field cutting, with Carborundum blades, is easily accomplished without thread damage.

## B12AD D/R Euro Thread Bar

The D/R Euro Thread Bar is a hot-rolled high strength steel with two flat sides in the thread pattern. This bar has been used in Europe on all types of projects for years. The flat sides provide self-cleaning and allow a gripping surface for turning the bar. Euro Thread Bar is available in both 15mm (5/8") and 20mm (7/8") diameters and is standard in 19'-1" lengths. Euro Thread Bar is bendable. For water resistant washer, see D23.

## B12ACN Cast Hex Nut and B12ASN D/R Steel Hex Nut

5/8" and 7/8" hex nuts, in cast and steel versions, are available with 2-1/2 threads per inch to be used in conjunction with the appropriate D/R Thread Bar.

- 5/8" B12ACN - 21,900 lbs. Safe Working Load
- 7/8" B12ACN - 39,200 lbs. Safe Working Load
- 5/8" B12ASN - 20,130 lbs. Safe Working Load
- 7/8" B12ASN - 26,380 lbs. Safe Working Load

Double nuts are required to meet D/R Thread Bar capacity.

## B12AW D/R Wing Nut and

## B12ASW D/R Swivel Wing Nut

5/8" and 7/8" Wing Nut is a high strength malleable steel nut with 2-1/2 threads per inch for use with the D/R Thread Bar. For added versatility, the Swivel Wing Nut features a heavy duty, ribbed washer base, reducing the number of loose working parts required.

- 5/8" B12AW - 21,900 lbs. Safe Working Load
- 7/8" B12AW - 39,200 lbs. Safe Working Load
- 5/8" B12ASW - 21,900 lbs. Safe Working Load
- 7/8" B12ASW - 39,200 lbs. Safe Working Load

## B12AC D/R Hex Coupler

5/8" and 7/8" Hex Couplers are available to couple two D/R Thread Bars. The Hex Coupler is supplied with 2-1/2 threads per inch and a positive stop.

- 5/8" B12AC - 21,900 lbs. Safe Working Load
- 7/8" B12AC - 38,700 lbs. Safe Working Load

## B12ANF D/R Welding Flange

Welding flange can be used with both the Euro and D/R thread bar. The welding flange is designed to be used in one-sided forming applications by welding to a soldier beam or piling to attach the form tie. Welding flange is available in 5/8" size only.

## B12AWN Cast Nut Washer

5/8" and 7/8" cast nut washers are made of malleable iron with 2-1/2 threads per inch for use with the Euro and D/R thread bar. It is designed to distribute the applied loads over the form members, combining the special advantages of a washer and nut into one piece.

- 5/8" B12AWN 21,900 lbs Safe Working Load
- 7/8" B12AWN 39,200 lbs Safe Working Load

## Other Accessories

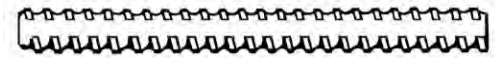
- B12AHC Heavy Cones - Available in 15mm (5/8") and 18mm (7/8")
- B12AB D/R Bolt - Available in 15mm (5/8")
- Euro Cone - Available in 15mm (5/8")
- D30AS Setting She Bolt Cone - Available in 15mm (5/8")



B12A D/R Thread Bar

**5/8" -20,000 lbs.**  
**7/8" - 32,000 lbs.**  
**Maximum Safe Working Load**

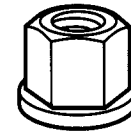
SWL provides a factor of safety of approximately 2 to 1.



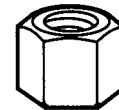
B12AD D/R Euro Thread Bar

**15 mm (5/8") -21,300 lbs.**  
**20 mm (7/8") - 38,800 lbs.**  
**Maximum Safe Working Load**

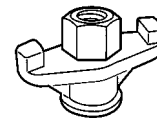
SWL provides a factor of safety of approximately 2 to 1.



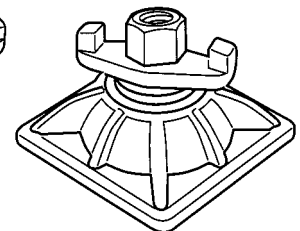
B12ACN  
Cast Hex Nut



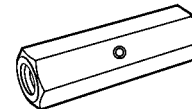
B12ASN  
Steel Hex Nut



B12AW  
Wing Nut



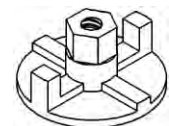
B12ASW  
Swivel Wing Nut



B12AC  
Hex Coupler



B12ANF



B12AWN

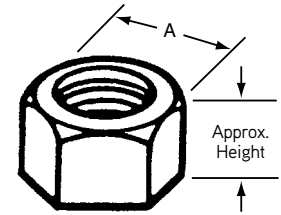
<b>To Order B12A:</b> Specify: (1) quantity, (2) name, (3) length.	<b>Example:</b> 500 pcs. B12A D/R Thread Bar, 20'-0" long.
<b>To Order D/R Thread Bar Working Parts:</b> Specify: (1) quantity, (2) name.	<b>Example:</b> 200 pcs. B12ASW D/R Swivel Wing Nuts.

## B13 Coil Nut and B25 Heavy Coil Nut

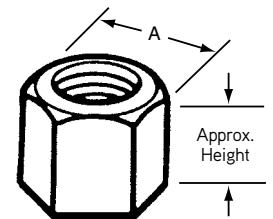
Dayton Superior B13 Coil Nuts and B25 Heavy Coil Nuts are available with coil threads in 1/2", 3/4", 1", 1-1/4" and 1-1/2" diameters. These nuts are available with right hand or left hand threads.

B13 Coil Nut and B25 Heavy Coil Nut Selection Chart

Coil Nut Type	Dia.	Approx. Height	Width Across Flats A	Safe Working Load Tension (lbs.)	
				Using One B13 Nut	Using Two B13 Nuts or One B25 Heavy Nut
B13	1/2"	7/16"	7/8"	6,000	9,000
B25	1/2"	1-3/16"	1-1/8"	—	9,000
B13	3/4"	5/8"	1-1/8"	9,000	18,000
B25	3/4"	1-3/16"	1-1/8"	—	18,000
B13	1"	1"	1-5/8"	24,000	38,000
B25	1"	2"	1-3/8"	—	38,000
B13	1-1/4"	1-1/4"	2"	36,000	56,000
B25	1-1/4"	2-1/2"	2"	—	56,000
B13	1-1/2"	1-1/2"	2-3/8"	47,500	68,000
B25	1-1/2"	3-3/8"	2-3/8"	—	68,000



B13 Standard Coil Nut



B25 Heavy Coil Nut

SWL provides a factor of safety of approximately 2 to 1.

Canadian B13 Coil Nut Selection Chart

Coil Nut Type	Dia.	Approx. Height	Width Across Flats A	Safe Working Load Tension (lbs.)	
				Using One B13 Nut	Using Two B13 Nuts
B13	1/2"	39/64"	7/8"	9,000	18,000
B13	3/4"	55/64"	1-1/4"	18,000	36,000

**To Order:**  
Specify: (1) quantity, (2) name, (3) bolt diameter.

**Example:**  
200 pcs. B13 Coil Nut, 3/4".

## B14 Coil Bolts

Dayton Superior B14 Coil Bolts are designed for ease of use and durability. Coil bolts have fast acting, self-cleaning coil threads.

Coil bolts are designed to be reusable, but they do wear and must be continuously inspected and replaced when wear or damage is noted. A waterproof grease should be applied to the portion of bolt that will be embedded in the concrete. This will facilitate bolt removal from the set concrete.



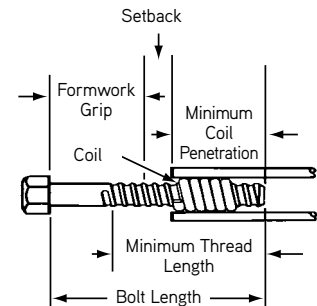
B14 Coil Bolt

### Minimum Coil Penetration Information

When determining the minimum required overall length of coil bolts, you must consider the following items:

- Formwork grip (including washer thickness).
- Setback of the form tie or insert.
- Minimum coil penetration (applies to all coil products).

See B14 Coil Bolt Selection and Minimum Coil Penetration Chart.



**To Order:**  
Specify: (1) quantity, (2) name, (3) bolt diameter, (4) length of bolt.

**Example:**  
500 pcs. B14 Coil Bolt, 3/4" diameter, 12" long.



**B14 Coil Bolt Selection and Minimum Coil Penetration Chart**

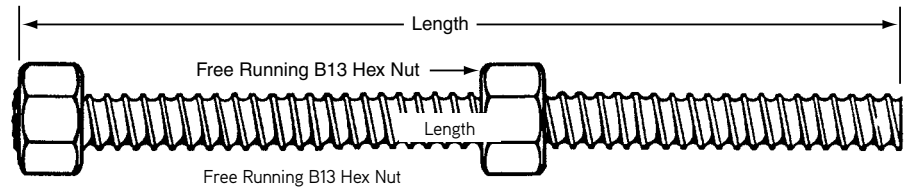
1/2" Dia. Forged Hex Head Safe Work Load		3/4" Dia. Forged Hex Head Safe Work Load		1" Dia. Forged Hex Head Safe Work Load		1-1/4" Dia. Forged Hex Head Safe Work Load		1-1/2" Dia Forged Hex Head Safe Work Load	
Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear
9,000 lbs.	6,000 lbs.	20,050 lbs.	13,360 lbs.	36,350 lbs.	24,200 lbs.	50,850 lbs.	33,900 lbs.	73,750 lbs.	49,150 lbs.
Minimum Coil Penetration 2" Minimum Root Area .1385 Sq. In.		Minimum Coil Penetration 2-1/4" Minimum Root Area .3079 Sq. In		Minimum Coil Penetration 2-1/2" Minimum Root Area .5410 Sq. In.		Minimum Coil Penetration 2-1/2" Minimum Root Area .9161 Sq. In		Minimum Coil Penetration 3" Minimum Root Area 1.3890 Sq. In.	
Threads per inch 6		Threads per inch 4-1/2		Threads per inch 3-1/2		Threads per inch 3-1/2		Threads per inch 3-1/2	
Bolt Length	Minimum Thread Length	Bolt Length	Minimum Thread Length	Bolt Length	Minimum Thread Length	Bolt Length	Minimum Thread Length	Bolt Length	Minimum Thread Length
3"	2-1/4"	3"	2-1/4"	3"	2"	3"	2"	-	-
4"	3-1/4"	4"	3-1/4"	4"	3"	4"	3"	4"	3"
5"	4-1/4"	5"	4-1/4"	5"	4"	5"	4"	5"	4"
6"	5"	6"	5"	6"	5"	6"	5"	6"	5"
Over 6"	5"	Over 6"	5"	Over 6"	5"	Over 6"	5"	Over 6"	5"

SWL provides a factor of safety of approximately 2 to 1.

Warning: See working load info in General and Technical Information before using B12 Coil Rod.

## B14A Adjustable Coil Bolt

Dayton Superior B14A Adjustable Coil Bolt consists of a length of B12 Coil Rod with a B13 Coil Nut welded on one end and a free-running B13 Coil Nut on the other end. The B14A allows formwork adjustments to be made with the free-running nut and can accommodate various form thickness as with one size adjustable bolt. This is especially useful in forming battered walls.



**B14A Adjustable Coil Bolt**

B14A Adjustable Coil Bolts are designed to be reusable, but they do wear and must be continuously inspected and replaced when wear or damage is noted. A waterproof grease should be applied to the portion of bolt that will be embedded in the concrete. This will facilitate bolt removal from the set concrete.

The safe working load of the B14A bolt is limited by the safe working load of the welded coil nut head.

**B14A Adjustable Coil Bolt Selection Chart**

Diameter	Safe Working Load Tension (lbs.)	Safe Working Load Shear (lbs.)	Minimum Area (sq. in.)	Minimum Coil Penetration
1/2"	6,000	4,500	.1385	2"
3/4"	9,000	6,000	.3079	2-1/4"

SWL provides a factor of safety of approximately 2 to 1.

Warning: See working load info in General and Technical Information before using B12 Coil Rod.

**To Order:**  
Specify: (1) quantity, (2) name, (3) diameter, (4) length.

**Example:**  
400 pcs. B14A Adjustable Coil Bolt, 1/2" diameter, 18" length.

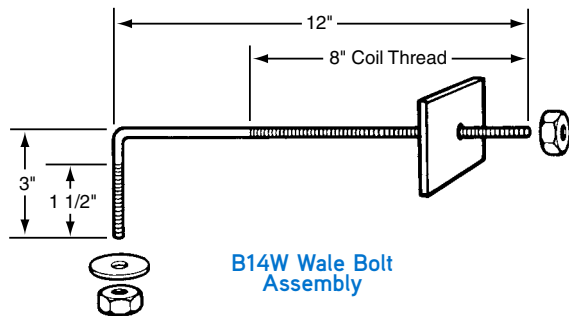
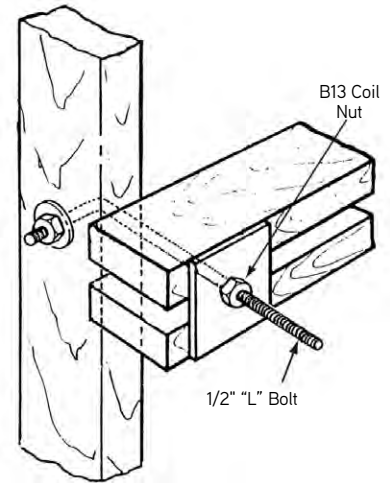
Medium/Heavy Forming Products

## B14W Wale Bolt Assembly

Dayton Superior B14W Wale Bolt Assembly consists of a 1/2" "L" Bolt, a round cut washer, a B11 Flat Washer and two 1/2" B13 Coil Nuts. The B14W assembly is used to fasten wales to crane-handled gang forms. One size assembly will secure wales up to 10" thick. The bolt has 8" of coil thread on the long end and 1-1/2" of coil thread on the short end.

The short end of the bolt is inserted through a 9/16" hole drilled through the center of the stud. The cut washer and 1/2" nut fastens the bolt to the stud. The long end of the bolt extends between the wales and allows the wales to be drawn tightly against the stud using a flat washer and the second 1/2" nut.

Wale Bolt Assemblies are normally spaced at four feet intervals along the wales. The safe working load of the assembly is dependent on the wale members being used.



**To Order:**  
Specify: (1) quantity, (2) name.

**Example:**  
300 pcs. B14W Wale Bolt Assembly, complete with nuts and washers.

Medium/Heavy Forming Products

## B15 Plastic Cone Removal Wrench

Dayton Superior B15 Plastic Cone Removal Wrench is designed to remove the plastic cones from Screw-On Coil Ties. Available for 1/2", 3/4", 1" and 1-1/4" diameter cones.



## B16 Coil Loop Insert Straight

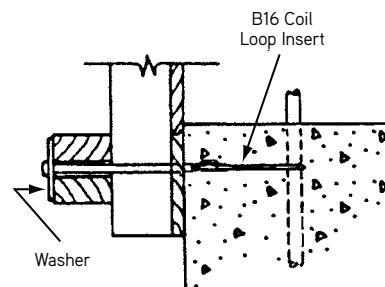
Dayton Superior B16 Coil Loop Insert Straight is made of a single looped wire strut welded to a helix coil. B16 inserts are available in 1/2", 3/4" and 1" nominal diameter standard or screw-on coil and in various standard lengths. The B16 is also available in other than standard lengths and with a nailing washer face on special order.

**B16 Coil Loop Insert, Straight Selection Chart**

Bolt Diameter	Insert Length	Wire Strut Diameter	Safe Working Load Tension (lbs.)	Minimum Concrete Strength (psi)
1/2"	3"	.223	4,500	2,000
1/2"	4"	.223	4,500	2,000
1/2"	6"	.306	7,500	2,000
3/4"	4"	.306	4,500	2,000
3/4"	6"	.306	7,500	2,000
3/4"	6"	.375	9,000	2,000
3/4"	9"	.375	9,000	2,000
1"	6"	.306	7,500	2,000
1"	8"	.306	7,500	2,000



**To Order:**  
Specify:  
(1) quantity,  
(2) name,  
(3) diameter,  
(4) insert length



SWL provides a factor of safety of approximately 2 to 1.

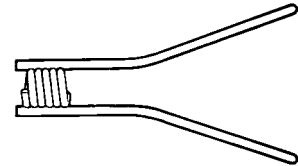
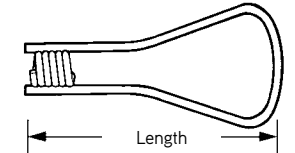
SWL may vary with concrete weight and strength, as well as with insert setback and edge distance. Contact the Dayton Superior Technical Service Department for variables.

## B17 Double Flared Coil Loop Insert

Dayton Superior B17 Double Flared Coil Loop Insert is made with two looped wire struts welded to a helix coil. The B17 insert is suitable for heavy form anchorage in mass concrete construction. Standard length is 12" for 1", 1-1/4" and 1-1/2" diameter units. Standard 6" nominal flares are supplied unless special size or shaped flares are requested.

**B17 Double Flared Coil Loop Insert Selection Chart**

Bolt Diameter x Insert Length	Flare width	Wire Strut Diameter	Safe Working Load Tension (lbs.)	Minimum Concrete Strength (psi)	Minimum Edge Distance
1" x 12" Std.	5-3/4"	.375"	18,000	2,000	15"
1" x 12" Hvy.	5-3/4"	.442"	27,000	2,000	15"
1-1/4" x 12" Std.	6"	.375"	18,000	2,000	15"
1-1/4" x 12" Hvy.	6"	.442"	27,000	2,000	15"
1-1/2" x 12" Std.	6-1/4"	.375"	18,000	2,000	15"
1-1/2" x 12" Hvy.	6-1/4"	.442"	27,000	2,000	15"



**B17 Double Flared Coil Loop Insert**

SWL provides a factor of safety of approximately 2 to 1.

SWL may vary with concrete weight and strength, as well as with insert setback and edge distance. Contact the Dayton Superior Technical Service Department for variables.

**To Order:**

Specify: (1) quantity, (2) name, (3) size, (4) SWL.

**Example:**

500 pcs. B17 Double Flared Coil Loop Inserts, 1-1/4" diameter, 27,000 lbs. SWL.

## B18 Single Flared Coil Insert

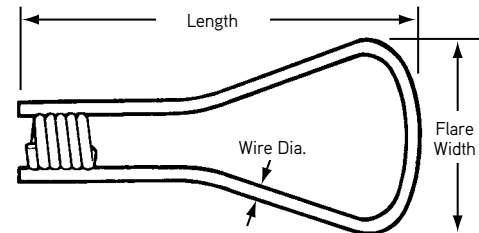
Dayton Superior B18 Single Flared Coil Insert is made with the loop end flared for greater anchorage in the concrete. Standard lengths and sizes are shown in the chart. Special lengths and flare shapes can be special ordered.

**To Order:**

Specify: (1) quantity, (2) bolt diameter, (3) length, (4) SWL.

**Example:**

500 pcs. B18 Single Flared Coil Loop Insert, 3/4", 9", 7,500 SWL.



**B18 Single Flared Coil Insert**

**B18 Single Flared Coil Loop Insert Selection Chart**

Bolt Diameter x Insert Length	Flare width	Wire Strut Diameter	Safe Working Load Tension (lbs.)	Minimum Concrete Strength (psi)	Minimum Edge Distance
1/2" x 4" or 6" or 9"	3"	.223"	4,500	2,000	11"
3/4" x 6" or 9" or 12"	5-1/2"	.306"	7,500	2,000	13"
3/4" x 6" or 9" or 12"	5-1/2"	.375"	9,000	2,000	13"
3/4" x 9" or 12"	5-1/2"	.442"	13,500	2,000	13"
1" x 6" or 9" or 12"	5-1/2"	.375"	9,000	2,000	15"
1" x 9" or 12"	5-1/2"	.442"	15,000	2,000	15"
1-1/4" x 12"	5-1/2"	.375"	9,000	2,000	15"
1-1/4" x 12"	5-1/2"	.442"	15,000	2,000	15"
1-1/4" x 12"	5-1/2"	.442"	15,000	2,000	15"

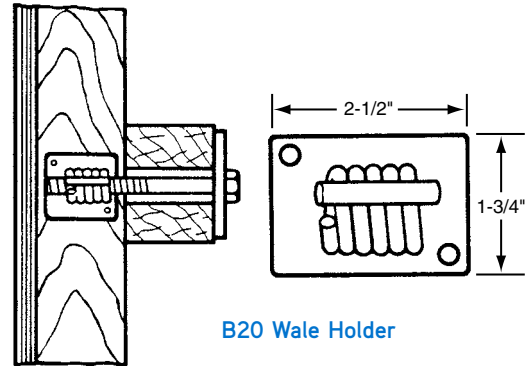
SWL are based on 1/2" set back from face of concrete.

SWL provides a factor of safety of approximately 2 to 1.

SWL vary with concrete weight and strength as well as insert setback. For use in other than 2,000 psi normal weight concrete, contact technical services.

## B20 Wale Holder

Dayton Superior B20 Wale Holder consists of a 1/2" or 3/4" reinforced coil welded to a flat plate. The B20 is nailed to the stud and allows the wales to be bolted securely to the form. Strength of the holder is dependent on the shear capacity of the nails. The B20 is not to be used in lifting applications.



B20 Wale Holder

**To Order:**

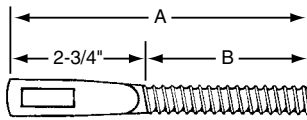
Specify: (1) quantity, (2) name, (3) size.

**Example:**

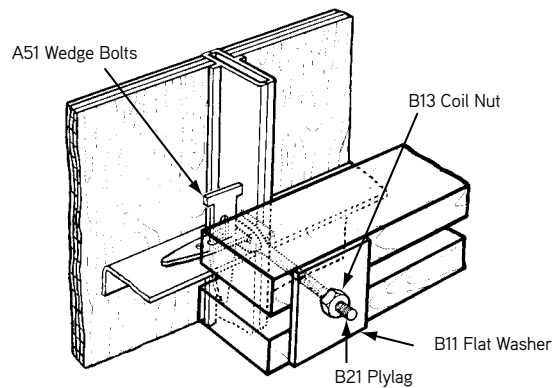
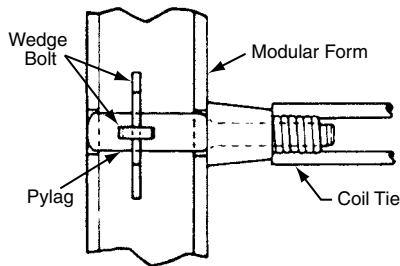
400 pcs. B20 Wale Holder, 1/2" diameter.

## B21 Plylag

Dayton Superior B21 Plylags are used externally on modular forms to attach wales/strongbacks or internally to attach coil ties, rock anchors, etc., to the form. Plylags are manufactured from 1/2" diameter coil rod and are stocked in 6-1/4", 6-3/4", 9-3/4" and 14-3/4" lengths. Other lengths are available on special order. See A51 Wedge Bolt.



B21 Plylag



B21 Plylag Selection Chart

Type	Diameter	Dimensions	
		A Overall length	B Thread length
B21	1/2"	6-1/4"	3-1/2"
B21	1/2"	6-3/4"	4"
B21	1/2"	7-1/4"	4-1/2"
B21	1/2"	8-3/4"	6"
B21	1/2"	9-3/4"	7"
B21	1/2"	10-3/4"	8"
B21	1/2"	12-3/4"	10"
B21	1/2"	14-3/4"	12"
B21	1/2"	16-3/4"	14"

**3,250 lbs.**  
Maximum Safe Working Load

SWL provides a factor of safety of approximately 2 to 1.

**To Order:**

Specify: (1) quantity, (2) name, (3) Overall length.

**Example:**

875 pcs., B21 Plylag, 9-3/4" Overall length.

See B25 Heavy Coil Nut with B13 Coil Nut



## B27 and D6 Nut Washer

Dayton Superior B27 and D6 Nut Washers combine the advantages of a washer and nut into a one-piece ductile iron unit. The nut washer is equipped with nailing holes to secure them to the formwork and are designed to spread the forming loads over the wood forming members. The B27 Nut Washer has coil thread in the sizes displayed in the chart and can be used with all appropriate coil threaded devices. The D6 Nut Washer is equipped with Acme thread and is normally used with the D2 She-Bolt.

B27 and D6 Nut Washer Selection Chart

Type	Thread		Safe Working Load Tension (lbs.)	D
	Diameter	Type		
B27	1/2"	Coil	4,500	4"
B27	3/4"	Coil	9,000	4"
B27	7/8"	Coil	12,000	5"
B27	1"	Coil	18,000	5"
D6	3/4"	Acme	9,000	4"

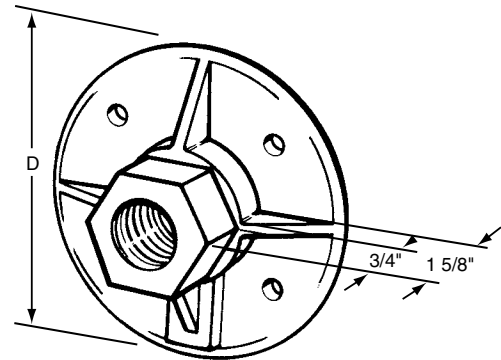
SWL provides a factor of safety of approximately 2 to 1.

**To Order:**

Specify: (1) quantity, (2) name, (3) diameter, (4) thread type.

**Example:**

100 pcs., B27 Nut Washer, 1/2" coil thread.



B27 Nut Washer

## B29 Loose Plastic Cone

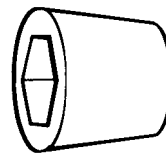
Dayton Superior B29 Loose Plastic Cones are used with B1 and B2 Coil Ties. They are placed on the coil bolts after the coil bolts have been inserted through the form face but prior to threading the bolt into the coil tie. The large end of the cone provides sufficient bearing surface to prevent crushing of the plywood around the bolt hole. B29 plastic cones are removed from the concrete with a B15 Cone Removal Wrench and can be reused.

B29 Loose Cone Selection Chart

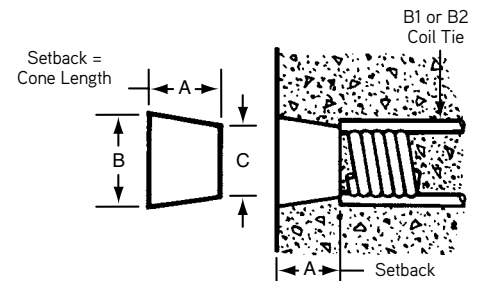
Bolt Diameter	Setback (Cone Length) A	B	C
1/2"	1"	1-1/4"	1"
1/2"	1-1/2"	1-1/4"	1"
1/2"	2"	1-1/4"	1"
3/4"	1"	1-5/8"	1-7/16"
3/4"	1-1/2"	1-5/8"	1-7/16"
3/4"	2"	1-5/8"	1-7/16"
1"	2-1/2"	2-1/8"	1-3/4"
1-1/4"	2-1/2"	2-3/8"	2-1/8"

SWL provides a factor of safety of approximately 2 to 1.

**Warning:** Cones are to be used for spreader action only and are not designed for scaffold bracket or other accessory loads.



B29 Plastic Cone



**To Order:**

Specify: (1) quantity, (2) name, (3) bolt diameter, (4) setback.

**Example:**

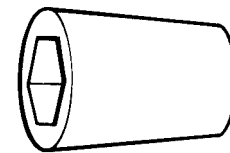
2,000 pcs. B29 Loose Plastic Cone, 1/2", 2" setback.

## B30 Screw-On Plastic Cones

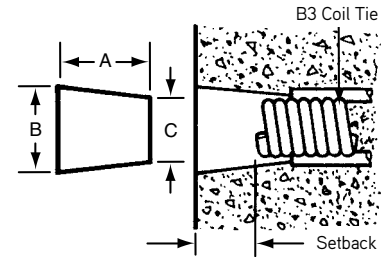
Dayton Superior Screw-On Plastic Cones are designed to thread onto the protruding coil of a B3 Screw-On Coil Tie. Use a B15 Cone Removal Wrench to back the cone off the tie and out of the concrete. B30 plastic cones are normally reusable.

B30 Screw-On Selection Chart

Bolt Dia.	Setback	A	B	C
1/2"	1"	1-3/8"	1-1/4"	1"
1/2"	1-1/2"	1-7/8"	1-1/4"	1"
1/2"	2"	2-3/8"	1-1/4"	1"
3/4"	1"	1-1/2"	1-5/8"	1-7/16"
3/4"	1-1/2"	2"	1-5/8"	1-7/16"
3/4"	2"	2-1/2"	1-3/4"	1-7/16"
3/4"	3"	3-1/2"	1-7/8"	1-7/16"
1"	1"	1-1/2"	2-1/8"	1-13/16"
1"	2"	2-1/2"	2-1/8"	1-13/16"
1-1/4"	2"	2-1/2"	2-3/8"	2-1/8"



B30 Screw-On Plastic Cone

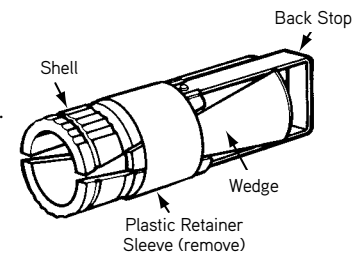


**Warning:** Cones are to be used for spreader action only and are not designed for scaffold bracket or other accessory loads.

## B31 Rock Anchor

Dayton Superior B31 Rock Anchor is a preassembled unit tapped with 1/2", 3/4" or 1" diameter coil thread. NC thread is available on special order. Rock anchors used in sound rock or concrete allows one-sided forming of walls or similar applications to be completed quickly and economically.

The rock anchor is threaded onto the coil rod until the rod hits the backstop of the anchor. The plastic retaining sleeve is removed and the rock anchor/coil rod assembly is placed into the bore hole. The assembly is installed so that the anchor backstop "bottoms" in the bore hole. Tightening the coil rod will draw the anchor wedges forward to expand the anchor's shell. Care should be taken to not overtighten the anchor.



B31 Rock Anchor

B31 Rock Anchor Selection Chart

Coil Rod Diameter	Minimum Hole Depth "L" *	Required Hole Diameter "D"	Safe Working Load Tension (lbs.) **
1/2"	6"	1-3/8"	4,500
3/4"	8"	1-5/8"	9,000
1"	10"	1-3/4"	18,000

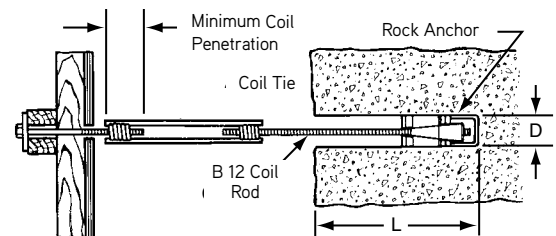
SWL provides a factor of safety of approximately 2 to 1 in 3,500 psi concrete.

**\*NOTE:** It is extremely important to drill the proper size bore hole for the appropriate rock anchor. Avoid "dog leg" or "rifled" holes, they will hinder anchor installation. It is also important to avoid letting the drill dwell at the bottom of the hole. This can cause an enlargement at the bottom of the hole and result in a loss of anchorage strength.

The bore hole for the rock anchor must be drilled perpendicular to the exposed bearing surface. The load carrying capacity of the rock anchor is greatly reduced when there is an angle between the nut on the coil rod and the bearing surface.

The B31 Rock Anchor is not a reusable device. After the rock anchor has been set and the forming completed, do not attempt to reuse the rock anchor.

**\*\*WARNING:** For safe construction practice, the most critical factor to consider is the actual anchorage capacity provided by the rock strata or concrete in which the rock anchor is to be installed. Correct hole depth and actual rock anchor capacity must always be determined by field tests before placing rock anchors into general use on a project.



**To Order:**

Specify: (1) quantity, (2) name, (3) coil rod diameter.

**Example:**

600 pcs. B31 Rock Anchor, 1/2" coil thread.

## B32 Handle Coil Nut

Dayton Superior B32 Handle Coil Nut is a B13 Hex Coil Nut which has a wire loop handle welded to it. It is designed for use in situations which require quick application or removal of a nut. It speeds up installation and stripping of formwork.

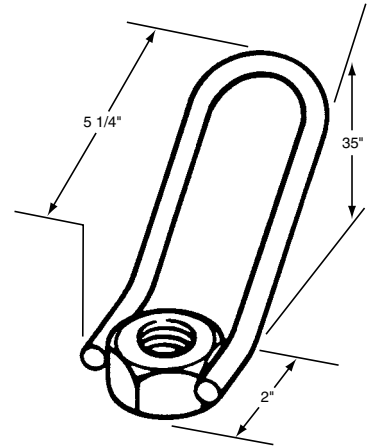
**B32 Handle Coil Nut Selection Chart**

Diameter	Safe Work Load Tension (lbs.)
1/2"	4,500
3/4"	9,000
1"	18,000
1-1/4"	27,000

SWL provides a factor of safety of approximately 2 to 1.

**To Order:**  
Specify: (1) quantity, (2) name, (3) diameter.

**Example:**  
600 pcs. B32 Handle Coil Nut, 1/2" coil thread.



**B32 Handle Coil Nut**

## B33 Double Flared Criss Cross Coil Loop Insert

Dayton Superior B33 Double Flared Criss Cross Coil Loop Insert consists of two flared wire loops welded to a helix coil. B33 inserts are available in 1", 1-1/4" and 1-1/2" diameters and are used in conjunction with the D40 He-Bolt for form anchorage.

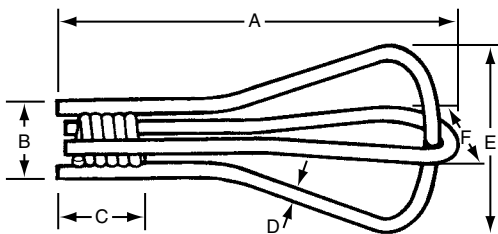
**B33 Double Flared Criss Cross Coil Loop Insert Selection Chart**

Bolt Dia. x Insert Length	Safe Working Load Tension (lbs)	Concrete Strength (psi)	Minimum Edge Distance	Dimensions					
				A	B	C	D	E	F
1" x 12-3/8"	18,000	2,000	15"	12-3/8"	2-1/16"	2-1/16"	.375"	5-9/16"	5-9/16"
1" x 12-1/2"	27,000	2,000	15"	12-1/2"	2 1/4"	2-1/16"	.442"	5-3/4"	5-3/4"
1-1/4" x 12-3/8"	18,000	2,000	15"	12-3/8"	2 5/16"	2-1/16"	.375"	5-9/16"	5-9/16"
1-1/4" x 12-1/2"	27,000	2,000	15"	12-1/2"	2 1/2"	2-1/16"	.442"	5-3/4"	5-3/4"
1-1/2" x 12-3/8"	18,000	2,000	15"	12-3/8"	2 9/16"	2-3/8"	.375"	5-9/16"	5-9/16"
1-1/2" x 12-1/2"	27,000	2,000	15"	12-1/2"	2 3/4"	2-3/8"	.442"	5-3/4"	5-3/4"

SWL are based on 1/2" setback from face of concrete.

SWL provides a factor of safety of approximately 2 to 1.

SWL vary with concrete weight and strength as well as insert setback. For use in other than 2,000 psi normal weight concrete, contact our technical service department.



**To Order:**

Specify: (1) quantity, (2) name, (3) bolt dia. (4) length, (5) safe working load, (6) plain or Electroplated.

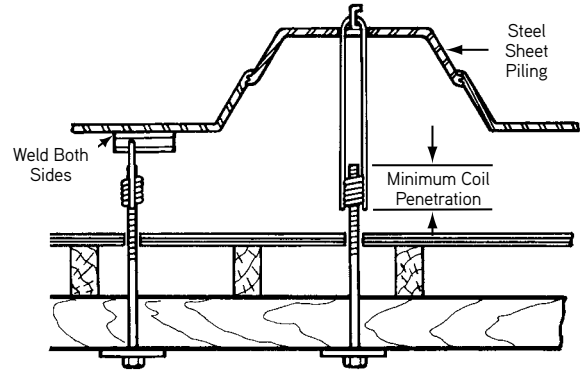
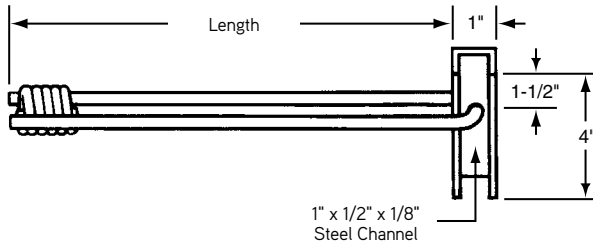
**Example:**

450 pcs. B33 Double Flared Criss Cross Coil Loop Insert, 1" x 12-3/8" long, 18,000 lbs. SWL, plain.

## B37 Toggle Tie

Dayton Superior B37 Toggle Tie is used to tie one-sided formwork to steel sheet piling. The tie requires a 1-3/8" hole in the sheathing to permit entry of the tie. The toggle tie can also be welded to the sheathing. Refer to safety information on the inside front cover concerning welding operations.

The B37 Toggle Coil Tie is available in 1/2" diameter only.



**To Order:**  
Specify: (1) quantity, (2) name, (3) length.

**Example:**  
700 pcs. B37 Toggle Tie, 18-1/2" length.

**3,750 lbs.**  
**Maximum Safe Working Load**

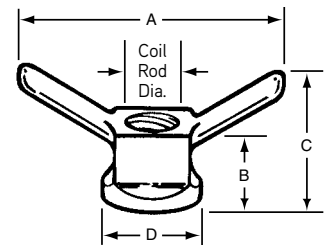
Medium/Heavy Forming Products

## B39 Wing Nut

Dayton Superior B39 Wing Nut is made of ductile iron and can be used for any application requiring quick removal and application of a nut.

**B39 Wing Nut Selection Chart**

Coil Rod Diameter	Safe Working Load Tension (lbs.)	A	B	C	D
1/2"	9,000	5"	1-1/4"	2-3/8"	1-3/8"
3/4"	18,000	5-7/8"	1-1/4"	2-1/2"	1-3/4"
7/8"	18,000	6"	1-5/8"	2-3/4"	1-3/4"
1"	38,000	6"	1-5/8"	3"	2"
1-1/4"	52,000	5-5/8"	1-5/8"	2-3/4"	2-1/4"
1-1/2"	80,000	6-3/4"	1-7/8"	2-3/4"	2-7/8"



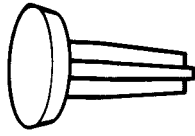
SWL are based on 1/2" setback from face of concrete.  
Note: Wing nuts may vary slightly in configuration from that shown.

**To Order:**  
Specify, (1) quantity, (2) name, (3) diameter

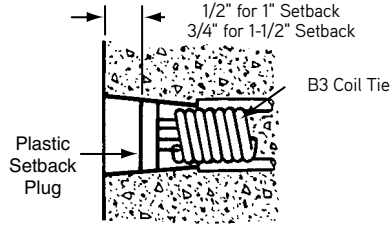


## B40 Plastic Setback Plug

Dayton Superior B40 Plastic Setback Plugs seal the hole left when Screw-On Cones are removed from the concrete. Plugs are available for use with 1/2" diameter coil ties setback 1" or 1-1/2" from the concrete face, and are stocked in light and dark grey to blend with the natural color of the concrete. Contrasting colors are available on special order.



**B40 Plastic Setback Plug**



**To Order:**

Specify: (1) quantity, (2) name, (3) color.

**Example:**

2,000 pcs. B40 Plastic Setback Plugs, light gray.

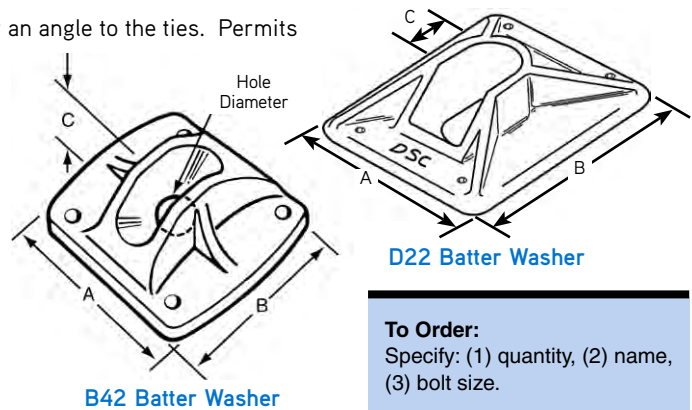
## B42 and D22 Batter Washer

Dayton Superior Batter Washers are used when the wales are at an angle to the ties. Permits any angle from 90° to 45°. For use with B39 Wing Nut.

Nail holes are provided for securing to wood form members.

**B42 and D22 Batter Washer Selection Chart**

Type	Bolt Diameter	Hole Diameter	A	B	C
B42	1/2"	9/16"	3-9/16"	3"	1"
B42	3/4"	7/8"	4-3/4"	4-1/4"	1-9/16"
D22	1"	1-1/16"	6-3/4"	5-1/4"	1-3/4"
D22	1-1/4"-1-3/8"	1-5/8"	6"	7"	1-7/8"
D22	1-1/2"-1-5/8"	1-3/4"	6-1/2"	7-3/4"	2-1/8"



**B42 Batter Washer**

**D22 Batter Washer**

**To Order:**

Specify: (1) quantity, (2) name, (3) bolt size.

**Example:**

200 pcs. B42 Batter Washer, 3/4" bolts.

## B43 Triple Flared Coil Loop Insert

Dayton Superior B43 Triple Flared Coil Loop Insert consists of three flared wire loops welded to a helix coil. B43 inserts are available in 1-1/4" diameter and are used in conjunction with a D40 He-Bolt in form anchorage applications.

**B43 Triple Flared Loop Insert Selection Chart**

Type	Bolt Dia. x Insert Length	Safe Working Load Tension (lbs.)	Concrete Strength (psi)	Dimensions					
				A	B	C	D	E	F
B43	1-1/4" x 12"/15"	34,000	2,000	15"	2-1/2"	2-1/16"	.440"	5-3/4"	5-3/4"

SWL are based on 6" setback from face of concrete and 32" minimum edge distance.

SWL provides a factor of safety of approximately 2 to 1 in normal weight concrete.

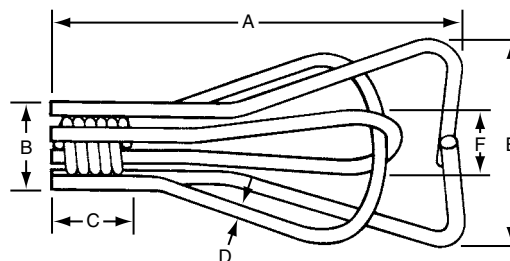
SWL vary with concrete weight and strength as well as insert setback and minimum edge distance. For use in other than 2,000 psi concrete, contact our technical service department.

**To Order:**

Specify: (1) quantity, (2) name, (3) length.

**Example:**

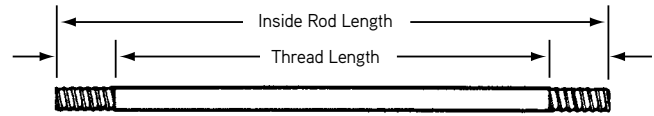
500 pcs. B43 Triple Flared Coil Loop Insert, 12" long.



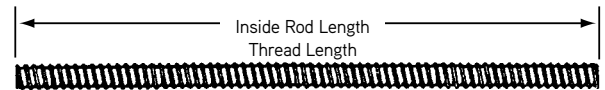
## D1 and D18 Inside Tie Rods

Inside tie rods are used with she-bolts to provide a highly adaptable forming system. The inside tie rods are made from high carbon steel with coil threads. National coarse threads can be provided on special order.

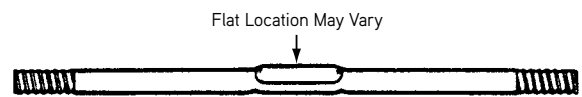
The correct inside tie rod length is determined by subtracting the total required setback (both sides) from the wall thickness. Flats are available to prevent turning of the inside tie rods in the concrete and are recommended for wall thickness of 24" or less.



D1 Inside Tie Rod

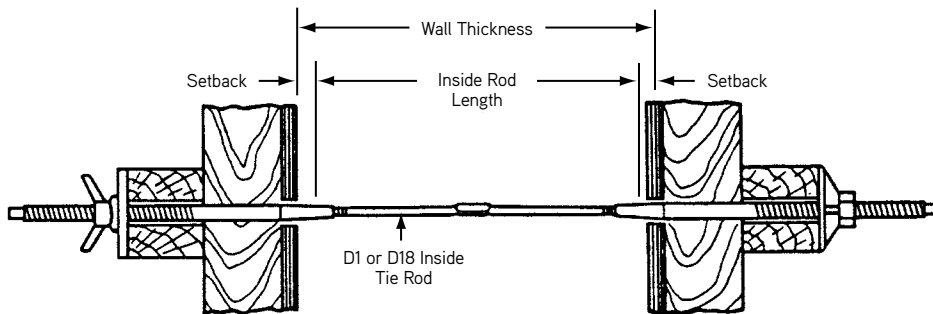


D18 Inside Tie Rod



**To Order:**  
Specify: (1) quantity, (2) name, (3) diameter (4) O.A. length, (5) with flat or crimp.

**Example:**  
800 pcs. D1 Inside Tie Rod with Coil Threads, 3/4" diameter, 22" long, with flat.



D1 and D18 Inside Tie Rod Selection Chart

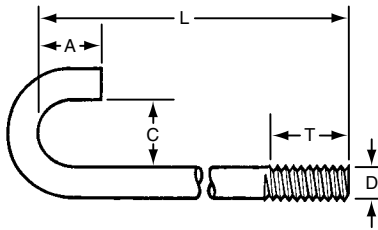
Type	Safe Working Load Tension (lbs)	Inside Tie Rod			Dimensions	
		Thread Diameter	Thread Type	Thread Length	Minimum Length	Maximum Length
D1	9,000	1/2"	N.C. or Coil	1-1/4"	5", 6" with flat	20'-0"
D18	9,000	1/2"	Coil	Continuous	5"	20'-0"
D1	12,000	5/8"	N.C. or Coil	1-3/4"	5", 6" with flat	12'-0"
D18	12,000	5/8"	Coil	Continuous	5"	20'-0"
D1	18,000	3/4"	N.C. or Coil	1-3/4"	5", 6" with flat	12'-0"
D18	18,000	3/4"	Coil	Continuous	5"	20'-0"
D1	38,000	1"	N.C. or Coil	2-1/4"	5", 6" with flat	
D18	38,000	1"	Coil	Continuous	5"	

SWL provides a factor of safety of approximately 2 to 1.  
7/8", 1-1/8", 1-1/4" and 1-1/2" and D18 Inside Rods are available on special order.  
See D33 for water resistant washer for D1 Inside Tie Rods.

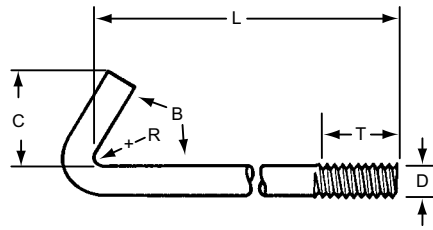
Medium/Heavy Forming Products

## D1J, D1LA and D1L Hook Bolts

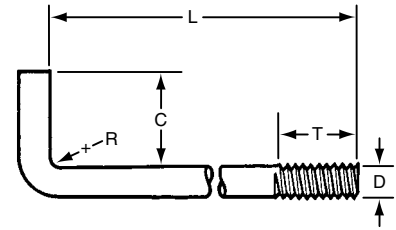
Hook Bolts are used with She-Bolts in concrete forming applications. The standard hook wraps around rebar or other steel to allow for blind wall forming.



**D1J Hook Bolt, Round Bend**  
(L, C, A, T)  
Available with 1/2", 5/8", 3/4", or 7/8"  
Coil or NC threads



**D1LA Hook Bolt, Special**  
(L, C, A, R, B)  
B expressed in degrees



**D1L, Hook Bolt Right Angle Bend**  
(L, C, T, R)

**Hook Bolt Selection Chart**

D Coil Thread Diameter	NC Thread Diameter	Minimum T	Minimum AISI Number (Ref.)
1/2"	1/2"	1"	1018
3/4"	3/4"	1-1/2"	1018

**To Order:**

Specify: (1) quantity, (2) name, (3) thread type, (4) then dimensions of the bent bolt in the order indicated by the dimension letters in brackets below each illustration.

**Example:**

500 pcs. D1J Hook Bolt, Round Bend 1/2" coil thread, L = 12", C = 1-1/2", A = 3", T = 1", and R = 3/4".

## D1S Anchor Bolt Sleeve

Dayton Superior D1S Anchor Bolt Sleeve allows one size sleeve to accommodate two or more anchor bolt diameters. The unique high-density polyethylene plastic design provides flexibility and reduces inventory requirements. If sizing is required, simply cut the sleeve at the gage line as shown.

Anchor Bolt Sleeves provide a grout pocket around the anchor bolt to allow the bolt to be positioned exactly. They provide a quick, easy way to make final adjustments and a clean pocket for grouting at lower cost than other methods.

**D1S Anchor Bolt Sleeve Sizes and Color Code**

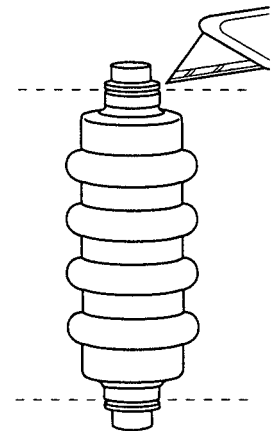
Color Code	Shell Size (in.)	Bolt Diameter
Yellow	2 x 5	1/2", 3/4"
White	2 x 7	5/8", 3/4", 7/8"
Green	3 x 10	1", 1-1/4"
Red	4 x 15	1-1/2", 1-3/4"
Blue	4 x 18	2", 2-1/4"
Brown	6 x 24	2-1/2", 3"
Black	6 x 24	4", 5"

**To Order:**

Specify: (1) quantity, (2) name, (3) shell size.

**Example:**

100 pcs. D1S Anchor Bolt Sleeve, 2" x 7" shell size.



## D2 and D30 She-Bolts

Dayton Superior D2 and D30 She-Bolts are heavy duty, reusable form ties for medium and heavy concrete construction. The D2 She-Bolt has a 3/4" diameter and is equipped with Acme thread. The D30 She-Bolt has coil thread and is available in 3/4" through 1-5/8" diameters in 1/8" increments. She-Bolts are used in conjunction with D1 or D18 Inside Rods to form tie a wide range of formwork thickness.

D2 and D30 She-Bolt Selection Chart

Type	Safe Working Load Tension (lbs)	She-Bolt External Thread		Inside Tie Rod		A	B	C	D	E	L	External Hardware Required
		Diameter	Type	Thread Diameter	Type							
D2	9,000	3/4"	Acme	1/2"	NC	5/8"	1/2"	1-1/4"	3/4"	3"	20"	3/4" Dia. D6
D30	9,000	7/8"	Coil	1/2"	Coil	1"	1/2"	1-1/2"	7/8"	2-3/4"	18" 20" 24"	7/8" Dia B27 or B39
D30	12,000	7/8"	Coil	5/8"	Coil	1"	1/2"	1-1/2"	7/8"	2-3/4"	18" 20" 24"	7/8" Dia. B39
D30	18,000	1-1/4"	Coil	3/4"	Coil	1"	3/4"	2"	1-1/4"	4"	20" 24" 30" 35"	1-1/4" Dia B39.
D30	37,500	1-1/2"	Coil	1"	Coil	1"	3/4"	2"	1-1/2"	4"	20" 24" 30" 35"	1-1/2" Dia B39
D30	56,000	1-1/2"	Coil	1 1/4"	Coil	1"	3/4"	2-3/4"	1-3/4"	4"	20" 24" 30" 35"	1-1/2" Dia B39

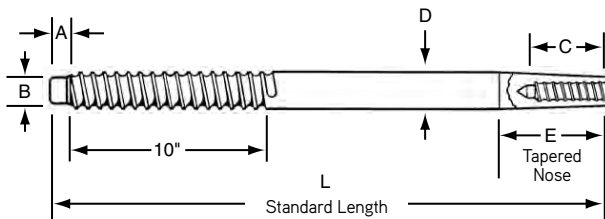
**Note:** She-Bolts are meant to be reused, but they do wear, so they must be continually inspected. When wear or damage is noted, they must be replaced. SWL provides a factor of safety of approximately 2 to 1.

A water proof grease should be applied to the embedded portion of the she-bolt to facilitate removal.

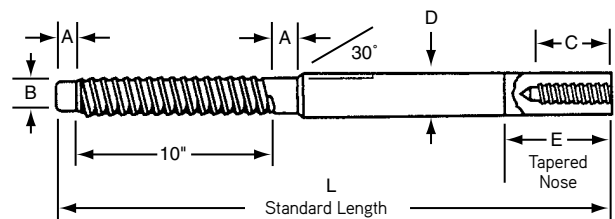
Standard sizes are listed in the chart, other than standard sizes are available on special order.

**Caution:** The pitch (threads/inch) of the 3/4" diameter Acme thread varies in certain geographical areas of the United States, please check before ordering.

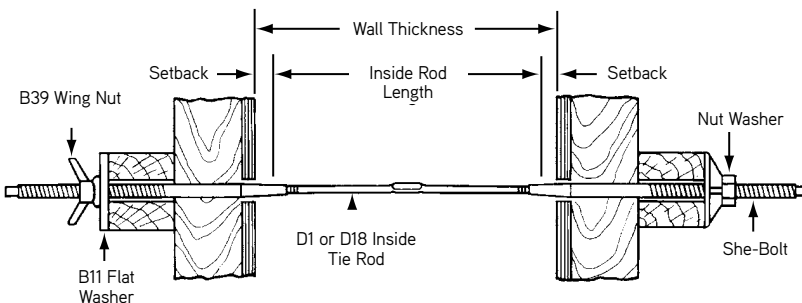
Medium/Heavy Forming Products



D2, D30 She-Bolt



D30 High Strength She-Bolt



**To Order:**

Specify: (1) quantity, (2) name, (3) diameter, (4) length, (5) tapped for diameter of inside coil or NC threaded rods.

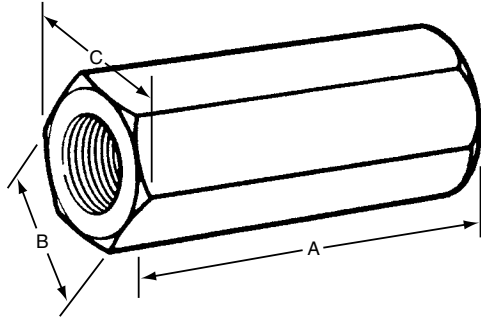
**Example:**

200 pcs. D2 She-Bolt, 3/4" diameter, 20", O.A. length, tapped for 1/2" inside rods with coil threads.



## D4 Hex Coupling Nut

Dayton Superior D4 Hex Coupling Nuts are used to splice D1 Inside Tie Rods. Threads are right hand national course and will accept standard machine bolts. In order to develop the rated load you must make certain that you have equal engagement of the inside threaded rods or bolts. Hex coupling nut is not provided with a center stop.



D4 Hex Coupling Nut

D4 Hex Coupling Nut Selection Chart

National Course Thread Dia.	A	B	C	Safe Working Load Tension (lbs.)
3/8"	1-3/4"	5/8"	11/16"	3,750
1/2"	1-3/4"	11/16"	3/4"	9,000
5/8"	2-1/8"	13/16"	1-5/16"	12,000
3/4"	2-1/4"	1"	1-1/8"	18,000
1"	2-3/4"	1-3/8"	1-9/16"	36,000

SWL provides a factor of safety of approximately 2 to 1.

**To Order:**

Specify: (1) quantity, (2) name, (3) thread diameter.

**Example:**

2,000 pcs. D4 Hex Coupling Nuts, 1/2" thread.

## See D6 Nut Washer information with B27

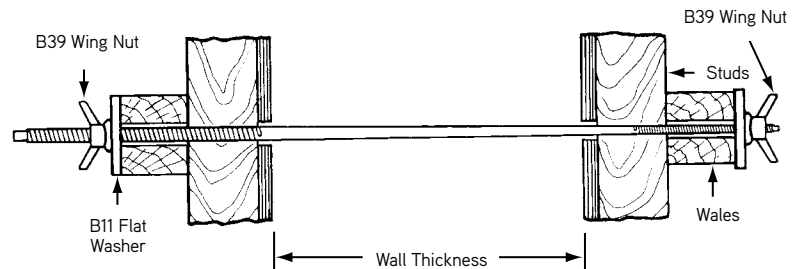
## D9 Taper Ties

Dayton Superior D9 Taper Ties are used where specifications require or permit complete removal of the form tie from the concrete. Standard taper ties are supplied with coil thread in the diameters and lengths shown in the chart. Other lengths are available on special order.

A complete taper tie assembly consists of one taper tie, two flat washers and two appropriate nut devices. Standard taper ties are manufactured with a taper up to 30" in length. Longer tapers are available on special order.

For wrench turning purposes, taper ties are manufactured with a square end. On the opposite end (smaller end) is designed with a protruding nose to prevent thread damage during the removal operation. Coating the taper tie with waterproof grease will facilitate taper tie removal.

Note: Taper ties will wear and get damaged. They must be continually inspected and replaced if wear or damage is noted.



**To Order:**

Specify: (1) quantity, (2) name, (3) diameter, large and small, (4) O.A. length.

**Example:**

250 pcs. D9 Taper Ties, 1-1/4" dia. to 1" dia., 54" O.A. length.

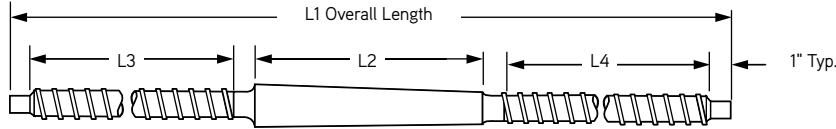
D9 Taper Ties Selection Chart

Safe Working Load Tension (lbs.)	Large End of Tie		Small End of Tie		Standard Tie Lengths	Tapered Body Diameter
	Coil Thread Diameter	Length of Thread	Coil Thread Diameter	Length of Thread		
7,500	3/4"	10"	1/2"	2"	34", 43", 52"	.670" to .500"
18,000	1"	10"	3/4"	6"	30", 36", 42", 48", 54", 60", 72"	.884" to .750"
34,000	1-1/4"	10"	1"	6"		1.113" to 1.00"
50,000	1-1/2"	10"	1-1/4"	6"		1-1/2" to 1-1/4"
75,000 H.S.	1-3/4"	10"	1-1/2"	6"	36", 48", 60", 72"	1-3/4" to 1-1/2"

SWL provides a factor of safety of approximately 2 to 1.

## D9A D/R Thread Bar Taper Tie

Dayton Superior D/R Thread Bar Taper Ties (D9A) are used when specifications require or permit complete removal of the form tie from the concrete. The D9A features the D/R Thread Bar's 2-1/2 threads per inch for rapid installation and stripping. Standard 5/8" and 7/8" diameter taper ties are available in the sizes shown in the chart. See B12A D/R Thread Bar.



D9A D/R Thread Bar Taper Tie

**To Order:**

Specify: (1) quantity, (2) name, (3) diameter, (4) overall length, (5) L3 and/or L4 lengths, if other than standard.

**Example:**

250, D9A D/R Thread Bar Taper Ties, 7/8" dia. X 66" overall length.

D9A 5/8" Taper Tie

Taper	L1	L2	L3**	L4**	Safe Working Load
1" to 5/8"	42"	16"	11-1/2"	11-1/2"	18,750 lbs.
	50"	24"			
	58"	32"			

D9A 7/8" Taper Tie

Taper	L1	L2	L3**	L4**	Safe Working Load
1-1/4" to 7/8"	42"	16"	11-1/2"	11-1/2"	32,500 lbs.
	50"	24"			
	58"	32"			
	66"	40"			

\*Safe Working Load based on approximate 2 to 1 safety factor

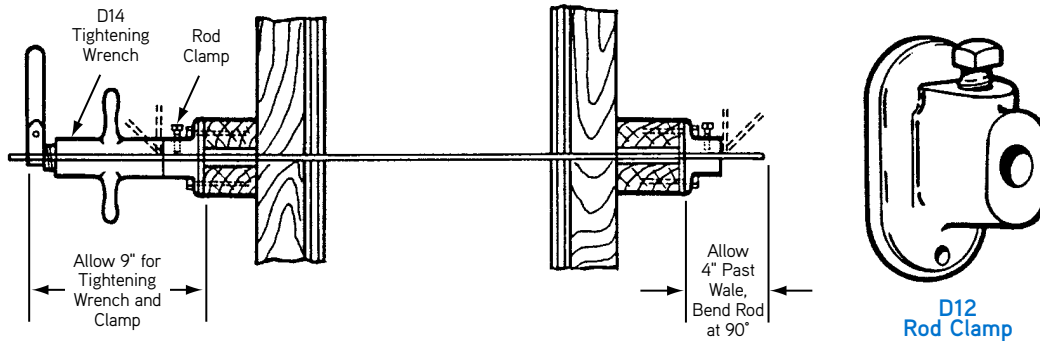
\*\* Standard thread length shown, other lengths available on request.

\*Safe Working Load based on approximate 2 to 1 safety factor

\*\* Standard thread length shown, other lengths available on request.

## D12 Rod Clamps

Dayton Superior D12 Rod Clamps are cast malleable iron clamps used with smooth or deformed 1/4", 3/8" and 1/2" rod to tie forms. The rod is clamped securely by a bolt or nut/bolt combination. Nail holes are provided to affix the clamp to the wales. For an additional safety measure, Dayton Superior recommends bending the rod approximately 90° behind the clamp (See application sketch)



D12 Rod Clamp Selection Chart

Type	Rod Diameter	Safe Working Load Tension (lbs.)
D12	1/4"	1,125
D12	3/8"	2,250
D12	1/2"	3,750

SWL provides a factor of safety of approximately 2 to 1.

**To Order:**

Specify: (1) quantity, (2) name, (3) size.

**Example:**

500 pcs. D12 Rod Clamp, 1/4".

## D12A Pencil Rod

Dayton Superior D12A Pencil Rod is available in 0.25" and 0.375" mild steel smooth rod for use with Dayton Superior Rod Clamps. Pencil Rod is available in 600 feet coils or straightened and cut to length.

Minimum ultimate load is 2,400 lbs for 0.25" diameter Pencil Rod and 6,800 lbs for 0.375" diameter Pencil Rod.

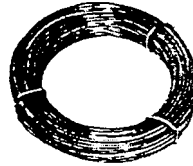
**To Order:**

Specify: (1) quantity, (2) name, (3) diameter.

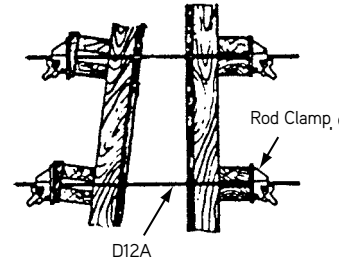
**Example:**

2 coils, D12A Pencil Rod, .225" diameter.

See D12 Rod Clamp for SWL



D12A Pencil Rod



## D12F Form Clamp

Dayton Superior D12F Form Clamp is available in one size to handle all smooth and deformed rod diameters from 1/4" to 3/8". This strong and versatile clamp is used effectively on all types of forming requirements, especially suited for battered or curved wall applications.

D12F Form Clamp Selection Chart

Rod Size	Approx. Safe Working Load
1/4"	1,250
3/8"	3,000

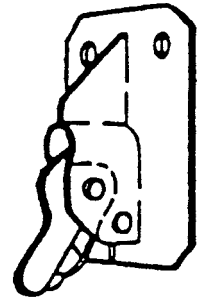
SWL provides a factor of safety of approximately 2 to 1.

**To Order:**

Specify: (1) quantity, (2) name, (3) size.

**Example:**

500 pcs. D12F Form Clamp, 3/8"

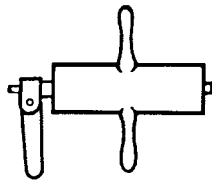


D12F Form Clamp

## D14 Tightening Wrench

Dayton Superior Tightening Wrench is placed over a smooth or deformed rod behind a rod clamp and is used to draw the assembly tight allowing the clamp to be properly tightened. The D14 wrench is available in 1/4", 3/8" and 1/2" sizes.

**Caution:** Do not use the D14 Tightening Wrench for straightening forms or for pulling smooth rod from set concrete.



D14 Tightening Wrench

**To Order:**

Specify: (1) quantity, (2) name, (3) size.

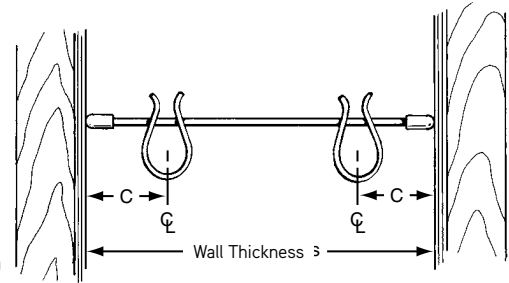
**Example:**

5 pcs. D14 Tightening Wrench, 1/4".

See D18 Inside Tie Rod with D1 info

## D21 Rebar Clip and Form Spreader

Dayton Superior D21 Rebar Clip and Form Spreader was developed to serve as a combination form spreader and rebar spacer when the forming does not provide internal spreading action. The D21 spreader is available for any wall thickness and rebar cover. It will assure walls of proper thickness and will increase the speed of placing the rebar. The ends of the spreader are plastic protected to resist corrosion and to prevent marring of the form face.



D21 Rebar Clip and Form Spreader  
Typical Application

**To Order:**

Specify: (1) quantity, (2) name, (3) rebar diameter, (4) wall thickness, (5) distance between centerline of rebar and face of concrete.

**Example:**

200 pcs. D21 Rebar Clip and Form Spreader for #4 Rebars, A=16" wall, C = 2-1/4".

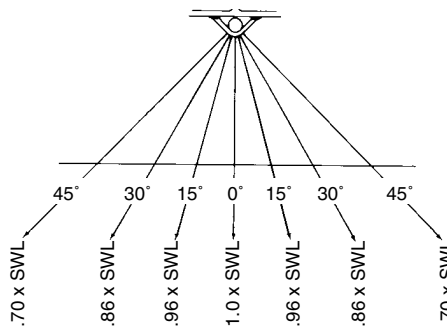
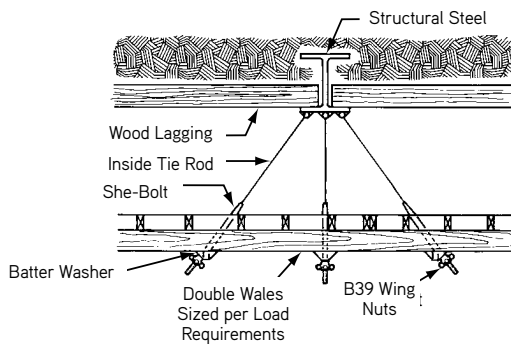
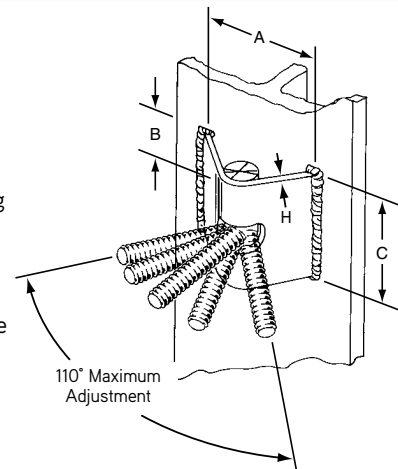
See D22 Batter Washer with B42

## D24 Weld Angle Bracket

Dayton Superior D24 Weld Angle Bracket is designed to tie one sided forming to steel piles, metal beams, weld plates, etc. The pivot pin is furnished with coil or D/R thread, NC thread is available on special order.

The D24 allows the form tie a pivot range of 110° (55° each direction) and exceeds the tensile capacity of the form tie when properly installed by a certified welder. See safety note concerning welding inside back cover.

Warning: To insure proper thread engagement the form tie must penetrate beyond the pivot bar a minimum of one diameter (the diameter of the form tie being used). An easy way to accomplish this is to position the form tie perpendicular to the piling and thread it through the pivot bar until it contacts the piling.



D24 Weld Angle Bracket Selection Chart

Coil Thread Diameter	Maximum Safe Working Load Tension (lbs.)*	A	B	C	H
1/2"	9,000	5"	2-1/4"	3-1/2"	.250"
5/8"	12,000	5"	2-1/4"	3-1/2"	.250"
3/4"	18,000	5"	2-1/4"	3-1/2"	.250"
7/8"	24,750	5"	2-1/4"	3-1/2"	.250"
1"	31,500	6"	3-1/16"	5"	.380"
1-1/8"	38,250	6"	3-1/16"	5"	.380"
5/8" D/R	22,400	5"	2-1/4"	3-1/2"	.250"
7/8" D/R	39,200	6"	3-1/16"	5"	.250"

**To Order:**

Specify: (1) quantity, (2) name, (3) diameter.

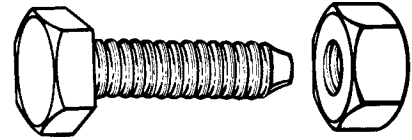
**Example:**

200 pcs. D24 Weld Angle Bracket, 1" diameter.

\*Actual SWL depends on the strength of the field weld, coil rod used and angle between the coil rod and the weld plate.

## D25 Fitting Up Bolt and D26 Fitting Up Nut

Dayton Superior Special Fitting Up Bolts and Nuts are used for securing steel form panels together—available in 3/4" diameter x 2" long. The tapered nose of the bolt acts as a draft pin and helps align the forms. The thread design and clearances between the nut and bolt permits quick assembly and dismantling of the forms. The open thread design permits concrete to be easily knocked out of the threads.



D25 Fitting Up Bolt

D26 Fitting Up Nut

### D25 Fitting Up Bolt and D26 Fitting Up Nut

Item	Diameter	Length	Grade	Packaging
D25 Bolt	3/4"	2"	SAE Grade 5	Sold only in sets of 400 pcs.
D26 Nut	3/4"	-	ASTM A194 Grade 2H	

**To Order:**

Specify: (1) quantity, (2) name.

**Example:**

800 pcs. D25 Fitting Up Bolts and D26 Fitting Up Nuts.

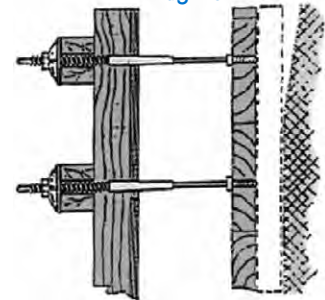
## D27 Lag Bolt

D27 Lag Bolt is designed to provide a temporary means of attaching formwork to wood timbers. Typical application is one-sided blind forming against steel soldier piles with wood lagging. Safe Working Load is approximately 1,700 lbs. (treated wood) and 2,500 lbs. (untreated wood) with 2:1 safety factor. SWL depends on quality of lumber. Lag bolts should have full thread engagement to carry the required load.

Product Code	Diameter	Length	Thread	Weight
143551	3/4"	5" LONG	1/2" NC Thread	0.51 LB



D27 Lag Bolt



Typical Application

## D30A D/R Thread Bar She-Bolt

Dayton Superior D/R Thread Bar She-Bolts (D30A) are heavy duty, reusable form ties for medium and heavy concrete construction. The D30A features the D/R Thread Bar's 2-1/2 threads per inch for rapid installation and stripping. Two She-Bolts are used with a length of B12A D/R Thread Bar to tie formwork for any wall thickness. D30A She-Bolts are available in the sizes and lengths shown in the chart. Other sizes available on request.

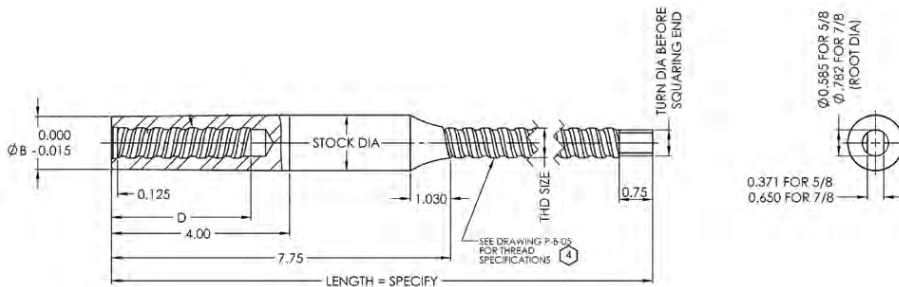
D30A 5/8" and 7/8" She-Bolts

Nom. Size	Overall Length	D	L1	L2	Taper	Safe Working Load
5/8"	18" or 24"	3/4"	7-3/4"	4"	1" to 7/8"	22,400
5/8"	18" or 24"	1-1/4"	7-3/4"	4"	1-1/4" to 1-1/8"	
7/8"	18" or 24"	1-1/2"	7-3/4"	4"	1-1/2" to 1-3/8"	39,200

\*SWL provides a factor of safety of approximately 2 to 1.

**To Order:**  
 (1) quantity, (2) name, (3) diameter, (4) nominal size, (5) overall length, (6) taper.

**Example:**  
 200, D30A D/R Thread Bar She-Bolts, 5/8" nom. size with 1-1/4" to 1-1/8" taper.

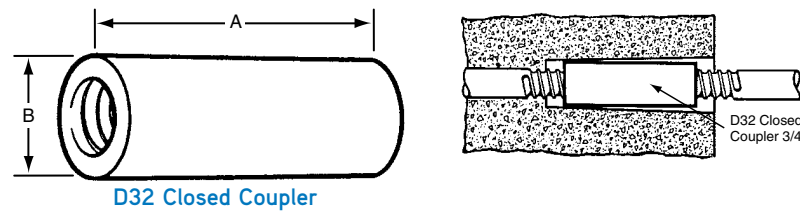


D30A D/R Thread She-Bolt

Medium/Heavy Forming Products

## D32 Closed Coupler

Dayton Superior D32 Closed Coupler is available with coil threads for use with D1 and D18 Inside Tie Rods or B12 Coil Rod. The coil threads have been tapped from each end of the coupler providing a positive stop at the center of the coupler. In order to develop the rated load, the inside tie rods or coil rods must be threaded into the coupler until they reach the stop. Other sizes are available on special order.



D32 Closed Coupler

D32 Closed Coupler Selection Chart

Coil Thread Diameter	Length A	Dia. B	Safe Working Load Tension (lbs.)
1/2"	2-3/4"	3/4"	9,000
5/8"	3-1/4"	1"	12,000
3/4"	3-1/4"	1-1/8"	18,000
7/8"	4-1/4"	1-3/8"	31,000
1"	4-1/2"	1-1/2"	37,500
1-1/8"	5-1/4"	1-3/4"	45,000
1-1/4"	5-3/4"	1-7/8"	56,000
1-1/2"	7"	2-1/8"	67,500

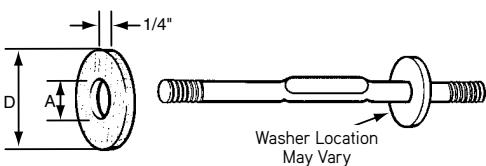
SWL provides a factor of safety of approximately 2 to 1.

## Unique Application

A D32 Closed Coupler for 3/4" diameter inside tie rod will engage a tie rod in the cavity left by a she-bolt. Can be used for anchorage or to form a second pour.

## D33 Water Resistant Washer

Dayton Superior D33 Water Resistant Washers are neoprene washers used on D1 Inside Rods to break the continuity of the tie to help eliminate water seepage along the tie.



D33 Water Resistant Washer

Generally specified when she-bolts are used to form water containment structures.

D33 Water Resistant Washer Selection Chart

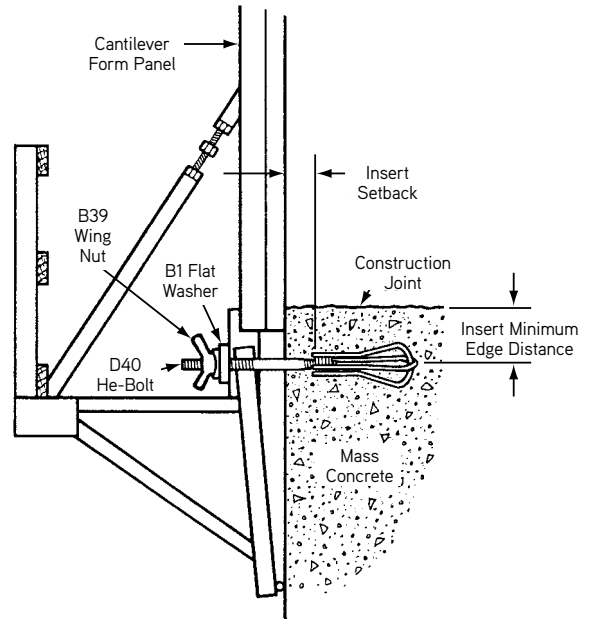
Inside Tie Rod Diameter	"A"	"D"
1/2" Coil	0.397"	1"
5/8" Coil	0.5	1.25"
5/8" Euro Bar	0.5	1.25"
5/8" D/R Bar	0.563	1.5"
3/4" Coil	0.625"	1.5"
7/8" Coil	0.75	1.5"
7/8" D/R Bar	0.75	1.5"
1" Coil	0.84"	1.5"
1-1/4" Coil	1.085	1.75



## D40 He-Bolts

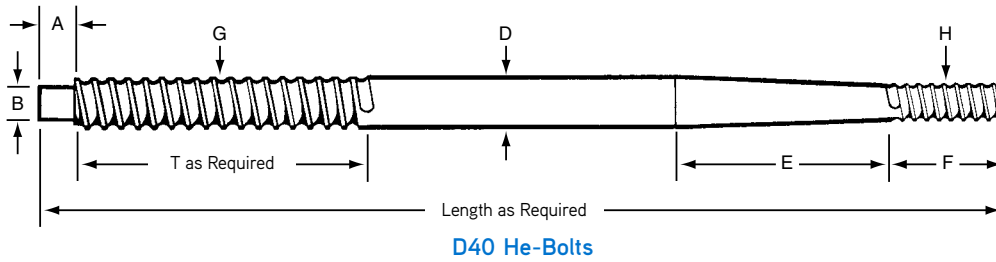
Dayton Superior D40 He-Bolts provide an economical and flexible anchoring system for use with cantilevered forms in mass concrete construction. Lifts of 5 to 10 ft. can be economically anchored without changing hardware. He-Bolts are produced with a taper to permit easy removal.

He-Bolts are designed to be reused – however they will wear and must be continually inspected and replaced when wear or damage is noted. A waterproof grease should be applied to that portion of the bolt which will be embedded into the concrete to facilitate removal.



**To Order:**  
Specify: (1) quantity, (2) name, (3) diameter, (4) O.A. length, (5) required T dimension.

**Example:**  
500 pcs. D40 He-Bolts, 1-1/4" diameter, 28" long, T=10".



D40 He-Bolt Selection Chart

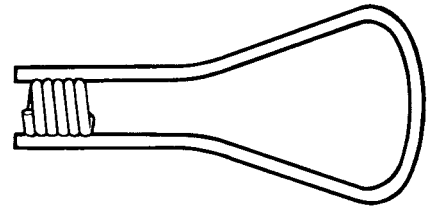
Size	Maximum Safe Working Load Tension (lbs.)	Maximum H Diameter Safe Working Load Shear (lbs.)	A	B	D	E	F	Coil Thread Diameter G	Coil Thread Diameter H
1-1/4"	34,000	22,600	1"	3/4"	1-1/4"	5"	3-1/2"	1-1/4"	1"
1-1/2"	50,000	33,300	1"	1"	1-1/2"	5"	3-1/2"	1-1/2"	1-1/4"

SWL provides a factor of safety of approximately 2 to 1.

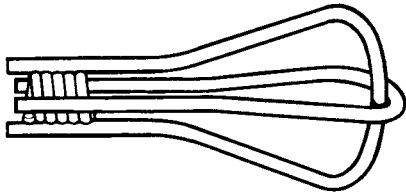
## Typical He-Bolt Anchors

These Dayton Superior anchors are effectively used in conjunction with the D40 He-Bolt to anchor cantilever forms. The B18 Single Flared Coil Loop Insert is recommended for 5' lifts, the B33 Double Flared Coil Loop Insert is recommended for 5' to 7-1/2' lifts and the B43 Triple Flared Coil Loop Insert is recommended for 7-1/2' to 10' lifts.

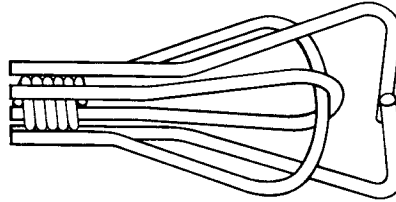
- See B18 Single Flared Coil Loop Insert.



B18 Single Flared Coil Loop Insert



B33 Double Flared Coil Loop Insert



B43 Triple Flared Coil Loop Insert

- See B33 Double Flared Coil Loop Insert.
- See B43 Triple Flared Coil Loop Insert.

**To Order:**

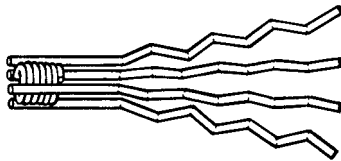
Specify: (1) quantity, (2) name, (3) bolt diameter, (4) length, (5) safe working load, (6) finish (plain or Electroplated).

**Example:**

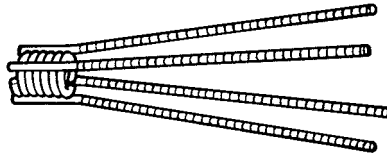
450 pcs. B18 Single Flared Coil Loop, 1" x 9" long, 9,500 lbs. SWL, plain.

## Special He-Bolt Inserts

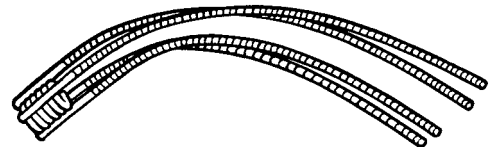
Special inserts can be manufactured to meet your unusual forming requirements. Please contact a Dayton Superior Technical Service Department with your requirements. Several special inserts that have been developed are shown below.



B7 Two Strut  
B22 Four Strut



B34-4  
Four Strut

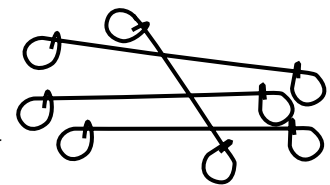


Four Strut  
Draped Insert

Medium/Heavy Forming Products

## D42 Bag Ties

Dayton Superior Bag Ties (D42) are 16 gauge, annealed loop-ended wire ties used for tying rebar and other non-construction applications, such as bags and carpet rolls. D42 Bag Ties are available in 4", 5", 6", 7", 8", 10" and 12" lengths. Other lengths and gauges are available on special order. D42 Bag Ties are sold by the bag or pallet only. 4" through 8" lengths are packaged in coils of 1,000 pieces, five coils per bag (5,000 pcs.). 10" and 12" lengths are packaged 2,500 pieces per bag.



D42 Bag Ties

**To Order:**

Specify: (1) quantity, (2) name.

**Example:**

5 bags (25,000 pcs.), D42 Bag Ties.

## PC110 Impalement Safety Cap

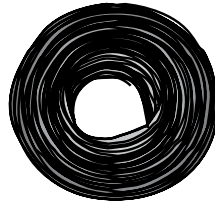
- Protects workers from protruding rebar
- Impalement protection
- One size fits #4 – #9 rebar
- Safety orange color
- Fully tested and approved (CAL-OSHA #C-1716AG)
- Meets Cal OSHA max. drop test requirements
- Complies with Cal OSHA, Section 1712



PC110  
Impalement Safety Cap

## D46 Tie Wire

Dayton Superior Tie Wire (D46) is 16 gauge black, annealed wire used for tying rebar or similar applications. D46 Tie Wire is packaged twenty (20) 3-1/2 pound coils per carton (approx. 385 feet per coil). Available only in full cartons or in 48 carton pallets.



D46 Tie Wire

### To Order:

Specify: (1) quantity (sold by carton and/or skid only), (2) name.

### Example:

5 cartons, D46 Tie Wire

## D48 Sure-Guard Rebar Protective Cap

The Dayton Superior D48 Sure-Guard Rebar Protective Caps have been developed to protect workmen from the hazards of protruding rebar. The D48 cap is available in all rebar sizes, and packaged in bags of 50.



D48 Sure-Guard  
Rebar Protector

### To Order:

Specify: (1) quantity, (2) name, (3) bar size.

### Example:

600, D48 Sure-Guard Rebar Protective Caps for #6 rebar.

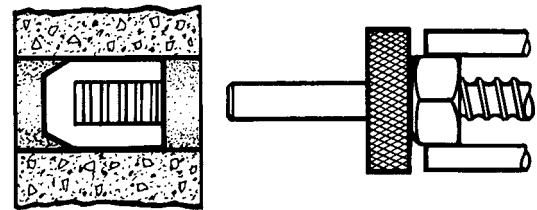
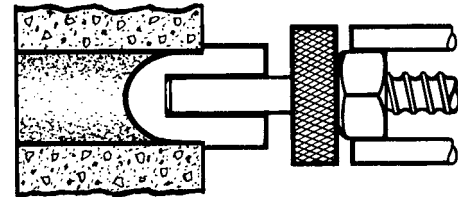
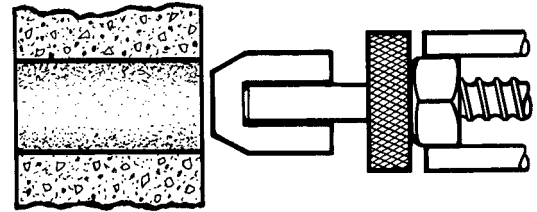
## A58 Sure Plug

The Sure Plug is easily pushed into a hole the specified depth by using the A59 Insertion Tool. The A58 Sure Plug should be installed ONLY with the A59 Insertion Tool. Pushing against the bottom of the blind center hole of the plug forces the plug's oversize body to elongate as it enters the hole. When the pushing force is stopped, the plug elastically returns towards its original diameter creating a high radial pressure against the walls of the hole. When properly installed, the A58 Sure Plug will withstand a hydrostatic pressure equal to approximately a 277 ft. liquid head of water. Test report is available on request.

As the plug is gray colored to blend with concrete, it may be positioned flush with the concrete face, or recessed, depending on the architectural effect desired. Depending on how the A59 insertion tool is adjusted, it will install the plug either flush to the surface or approximately a 1-1/2" maximum depth.

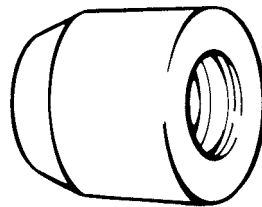
When recessed, the Sure Plugs may also serve as backing for flush or recessed grouting. Ribs inside the plug are designed to anchor the grout.

A58 Sure Plug is not intended to be installed to the center of a wall and attempts to do so can in most cases rupture the plug.



A58 Sure Plug Selection Chart

Plug Size	Nominal Hole Diameter	Plug Length
11	11/16"	1"
14	7/8"	1-1/8"
16	1"	1-1/4"
18	1-1/8"	1-3/8"
20	1-1/4"	1-3/8"
22	1-3/8"	1-1/2"
24	1-1/2"	1-1/2"
28	1-3/4"	1-5/8"
29	1-7/8"	1-5/8"



A58 Sure Plug

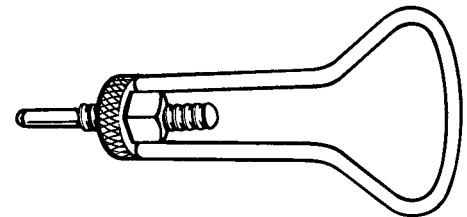
**To Order:**  
Specify: (1) quantity, (2) name, (3) plug size.

**Example:**  
500 pcs. A58 Sure Plug, size 11.

## A59 Insertion Tool

Used to insert A58 Sure Plugs flush with face of concrete or recessed to various depths.

**Note:** Please specify plug size when ordering insertion tool.



A59 Insertion Tool

**To Order:**  
Specify: (1) quantity, (2) name, (3) plug size.

**Example:**  
20 pcs. A59 Insertion Tool, size 14.

## F1 Screw Anchor and F2 Screw Anchor Bolt

F1 Screw Anchors are excellent for re-anchor of forms and have been used for years. The flat wire of the anchor, in full contact with the bolt threads, transfers the load into the surrounding concrete. The screw anchor must be threaded onto the bolt and locked against the skein threads of the bolt by a hard twist. The screw anchor is the most economical insert to use when depth of embedment is available.

The safe working loads shown can only be developed when the assembled bolt and anchor is embedded at least ten times the bolt diameter. If the screw anchor is inserted after the concrete is placed, the concrete must be thoroughly vibrated in order to develop the safe working loads.

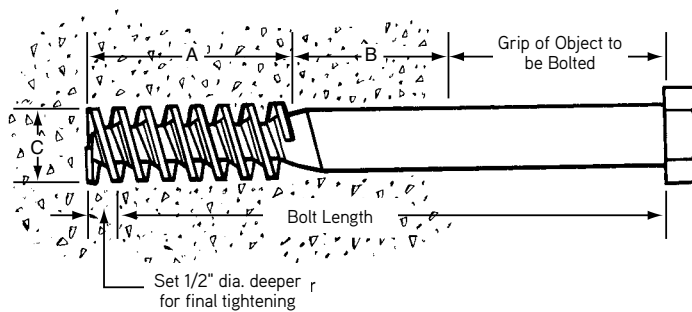
**CAUTION:** The Screw Anchor Bolt is not interchangeable with either a Coil Bolt or National Course Bolts.

For ease of bolt removal, coat screw anchor bolts with a water resistant grease. It is important that the bond between the bolt and concrete be broken by twisting the bolt at least one turn as soon as the concrete has reached a compressive strength of 1,000 to 1,500 psi.

F1 Screw Anchor Selection Chart

Bolt Dia. ASTM A307 with Skein Threads	Safe Working Load (lbs.)		Concrete Strength (psi)	Minimum Edge Distance	Dimensions		
	Tension	Shear			A	B	C
3/4"	8,200	5,400	3,000	9"	4"	3-1/2"	1-1/4"
1"	15,400	10,200	3,000	11"	6"	4"	1-1/2"
1-1/4"	23,000	15,300	3,000	13"	7"	5-1/2"	2"
1-1/2"	35,000	23,200	3,000	17"	8"	7"	2-1/4"

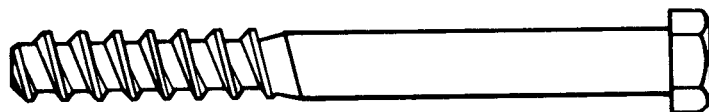
1-3/4" and 2" F1 and F2 are available on special order.  
SWL provides a factor of safety of approximately 2 to 1.



**Assembled Bolt and Anchor**  
(A&B Must Equal Ten Times Bolt Dia.)



F1 Screw Anchor



F2 Screw Anchor Bolt

**To Order:**

Specify: (1) quantity, (2) name, (3) size, (4) finish (Plain or Electroplated).

**Example:**

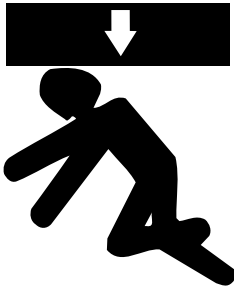
1,000 pcs. F1 Screw Anchors, 3/4" diameter, Electroplated.

**To Order:**

Specify: (1) quantity, (2) name, (3) diameter of bolt, (4) length of bolt, (5) finish (Plain or Electroplated).

**Example:**

50 pcs. F2 Screw Anchor Bolts, 3/4" diameter, 8" long, Electroplated.



## **WARNING**

### Improper Use of Concrete Accessories Can Cause Severe Injury or Death

Read, understand and follow the information and instructions in this publication before using any of the Dayton Superior concrete accessories displayed herein. When in doubt about the proper use or installation of any Dayton Superior concrete accessory, immediately contact the nearest Dayton Superior Service Center or Technical Service Department for clarification. See back cover for your nearest location.

Dayton Superior products are intended for use by trained, qualified and experienced workers only. Misuse or lack of supervision and/or inspection can contribute to serious accidents or deaths. Any application other than those shown in this publication should be carefully tested before use.

The user of Dayton Superior products must evaluate the product application, determine the safe working load and control all field conditions to prevent applications of loads in excess of a product's safe working load. Safety factors shown in this publication are approximate minimum values. The data used to develop safe working loads for products displayed in this publication are a combination of actual testing and/or other industry sources. Recommended safe working loads given for the products in this publication must never be exceeded.

## Worn Working Parts

For safety, concrete accessories must be properly used and maintained. Concrete accessories shown in this publication may be subject to wear, overloading, corrosion, deformation, intentional alteration and other factors that may affect the device's performance. All reusable accessories must be inspected regularly by the user to determine if they may be used at the rated safe working load or should be removed from service. The frequency of inspections depends upon factors such as (but not limited to) the amount of use, period of service and environment. It is the responsibility of the user to schedule accessory hardware inspections for wear and remove the hardware from service when wear is noted.

## Shop or Field Modification

Welding can compromise a product's safe working load value and cause hazardous situations. Knowledge of materials, heat treating and welding procedures is necessary for proper welding. Consult a local welding supply dealer for assistance in determining required welding procedures.

Since Dayton Superior cannot control workmanship or conditions in which modifications are done, Dayton Superior cannot be responsible for any product altered in the field.

## Interchangeability

Many concrete accessory products that Dayton Superior manufactures are designed as part of a system. Dayton Superior strongly discourages efforts to interchange products supplied by other manufacturers with components supplied by Dayton Superior. When used properly, and in accordance with published instructions, Dayton Superior products have proven to be among the best designed and safest in the industry. Used improperly or with incompatible components supplied by other manufacturers, Dayton Superior products or systems may be rendered unsafe.

## Installation

### WARNING

1. Dayton Superior Corporation products shall be installed and used only as indicated on the Dayton Superior Corporation installation guidelines and training materials.
2. Dayton Superior Corporation products must never be used for a purpose other than the purpose for which they were designed or in a manner that exceeds specific load ratings.
3. All instructions are to be completely followed to ensure proper and safe installation and performance.
4. Any improper misuse, misapplication, installation, or other failure to follow Dayton Superior Corporation's instruction may cause product malfunction, property damage, serious bodily injury and death.

### THE CUSTOMER IS RESPONSIBLE FOR THE FOLLOWING:

1. Conformance to all governing codes
2. Use of appropriate industry standard hardware
3. The integrity of structures to which the products are attached, including their capability to safely accept the loads imposed, as evaluated by a qualified engineer.

### SAFETY INSTRUCTIONS:

All governing codes and regulations and those required by the job site must be observed. Always use appropriate safety equipment

## Design Changes

Dayton Superior reserves the right to change product designs, rated loads and product dimensions at any time without prior notice.

**Note: See Safety Notes and Safety Factor Information.**



Give us a call at any of our branch locations, email us at [info@formtechinc.com](mailto:info@formtechinc.com), or click on [formtechinc.com/quote](http://formtechinc.com/quote) to get a quote. Our experienced Form Tech representatives will answer your questions, and help you get your project started with some of the best concrete forming, shoring, and accessory products in the industry, backed by a professional and detail-oriented staff.

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North Charleston,  
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Walled Lake,  
MI 48390  
Branch: 248.344.8260  
Corporate: 248.344.8265

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### Charleston, WV

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