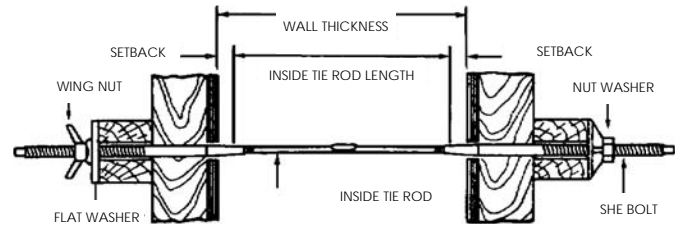


## TIING/HANDSET

### She Bolt

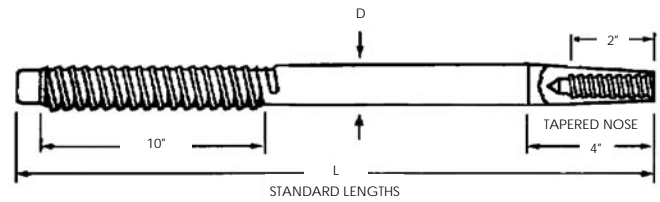
The she bolt tie system is one of the most versatile form hardware systems produced for use with large "crane handled" or "ganged forms." Using a bearing washer and wing nut on the threaded external end of the she-bolt allows this system to be used on a wide range of different formwork thickness. Inexpensive expendable inside tie rods are used, allowing the bolt assembly to be passed through the forms after both form sides have been set in place. She Bolts should be coated with white lithium grease before inserting into form and should be removed with a wrench.



No.	Size	Inner	*SWL Tension (lbs)	Wt (lbs)
CFT SB17NC	17"x 3/4" ACME	1/2" NC	6,300	1.75
CFT SB17C	17"x3/4" COIL	1/2" COIL	9,000	1.75
CFT SB20C	20"x3/4" COIL	1/2" COIL	9,000	2.10
CFT SB24C	24" x3/4" COIL	1/2" COIL	9,000	7.0
CFT SB20	20"x1 1/4" COIL	3/4" COIL	18,000	5.60
CFT SB24	24"x1 1/4" COIL	3/4" COIL	18,000	7.00
CFT SB30	30"x1 1/4" COIL	3/4" COIL	18,000	9.10
CFT SB36	36"x1 1/4" COIL	3/4" COIL	18,000	12.00

Other sizes available on request.

\*SWL is based on using 1/2" high tensile N/C rod, 1/2" or 3/4" high tensile coil rod.



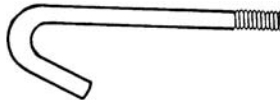
### Waterseal Washer

Neoprene waterseal washers may be installed on inside tie rods to help eliminate water seepage along the tie. Generally specified when ties are used to form water containment structures.

No.	Inside Rod Diameter	Wt (lbs)
DS D3312	1/2"	
DS D3334	3/4"	
DS D331	1"	



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

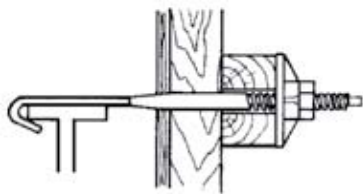


### J Hook

Fabricated from mild steel in standard 1/2" NC and coil diameters. Threaded one end and die formed into a sturdy hook. Lengths are net. SWL is 800 lbs in tension.

No.	Description	Wt (lbs)
DS 122JBOLT	1/2" NC x 2"	0.17
DS 123JBOLT	1/2" NC x 3"	0.20
DS 124JBOLT	1/2" NC x 4"	0.25
DS 124CJBOLT	1/2" COIL x 4"	0.25
DS 126CJBOLT	1/2" COIL x 6"	0.32

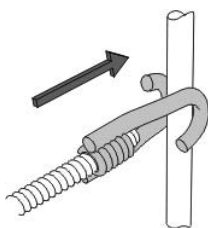
Other sizes available on request.



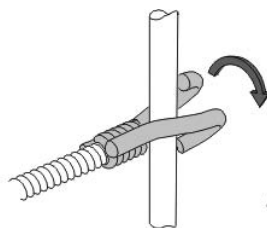
### Rebar Hook

A multipurpose coupler for making a fast field connection between 1/2" coil rod and rebar up to #6 in size. A simple "push and twist" action is all that is needed to make the connection; the coil rod itself keeps the Rebar Hook in place on the rebar. Fits in tight spaces: little clearance around rebar needed for attachment. Connects anywhere along length of rebar. Welded to rigorous standards using computer-controlled equipment. Use with Transition Ties™ for Stay-Form® blindside walls. 1800 lbs. Safe Working Load (2-to-1 safety factor). 100 Pieces per carton.

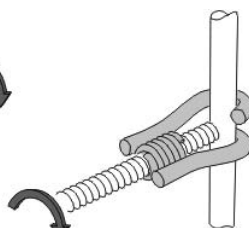
No.	Wt (lbs)
SD RH6	0.37



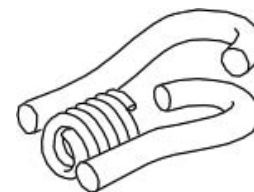
1. PUSH ONTO REBAR



2. TWIST HOOK



3. TIGHTEN COIL ROD



REBAR HOOK

One of the most common uses, shown below, is using the Rebar Hook with a Steel Dog Transition Tie to make a low-cost, adjustable-length tie for forming Stay-Form blindside walls with a variety of different handset form panels.

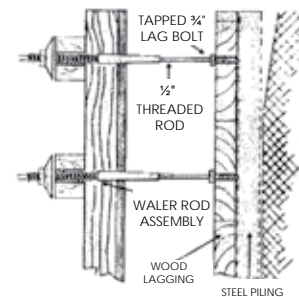
SWL provides a factor of safety of approximately 2 to 1.



### Tapped Lag Bolt

Simplifies blind wall forming, speeds concrete pours and reduces external bracing. Fast installation. Drill 9/16" pilot hole in lagging, screw bolt, tapped with 1/2" diameter thread, into wood lagging. Install 1/2" N.C. threaded rod and she bolt assembly.

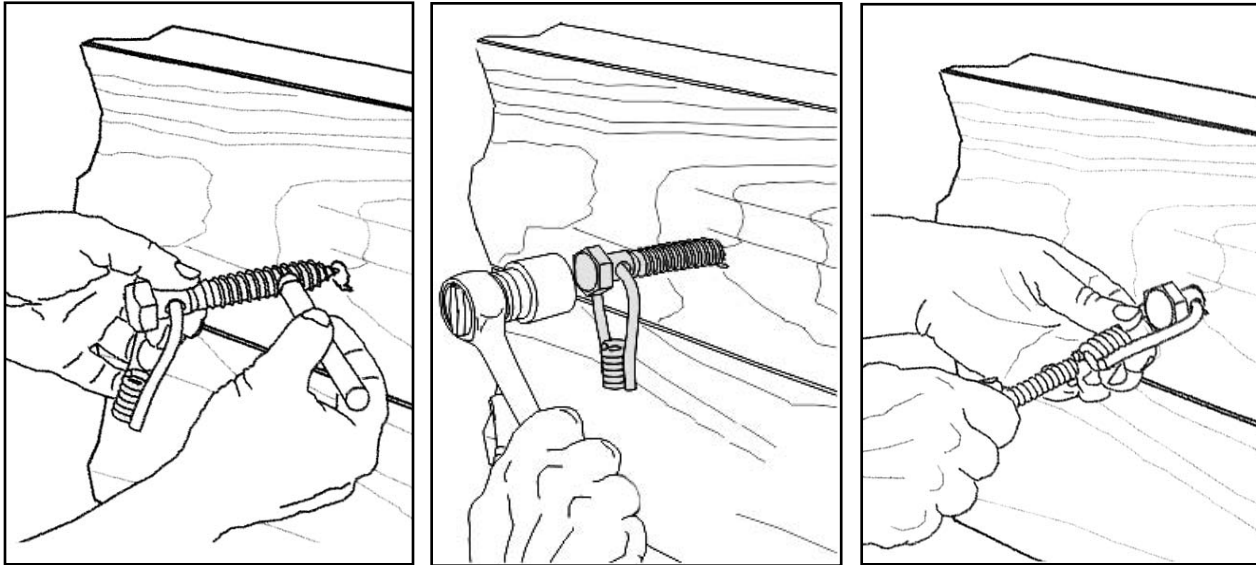
No.	Size	Wt (lbs)
DD TLB	3/4"x5"x1/2" N.C. inner	0.51



TREATED TIMBER SIZE	PILOT HOLE SIZE	SWL TENSIONS (LBS)
2" x 10"	9/16"	1,575 LBS*
3-3/4" OR 4" x 12"	9/16"	2,820 LBS*

\* QUALITY OF LUMBER WILL EFFECT STRENGTH.

## TIING/HANDSET



### Coil-Lag™

Designed to provide a temporary means of attaching formwork to wood timbers. Typical application: one-sided forming against soldier piles with wood lagging. Standard hex head lag bolt for sock wrench installation. Swivel loop coil tie end to accommodate misalignment between lag bolt placement and formwork tie location. Accepts either industry-standard 1/2" coil rod or N/C rod. Bolt is ASTM A307. Swivel loop is AISI C1038. Maximum safe working load is 3,000 lbs. (2-to-1 safety factor). Actual SWL will depend on pull-out strength of lag in wood and off-axis loading angle.

Wood Species	Specific Gravity <sub>3</sub>	Axial Lag Withdrawal Load in Different Thickness Wood <sub>1,2</sub>					
		1-1/2"	2"	2-1/2"	3"	3-1/2"	4"
Oak, Red	0.62	1,590	2,120	2,660	<b>3,190</b>	<b>3,720</b>	<b>4,250</b>
Western Larch	0.53	1,260	1,680	2,100	2,520	2,940	<b>3,360</b>
Douglas Fir	0.50	1,150	1,540	1,920	2,310	2,690	<b>3,080</b>
Western Hemlock	0.48	1,090	1,450	1,810	2,170	2,530	2,890
Southern Yellow Pine	0.48	1,090	1,450	1,810	2,170	2,530	2,890
Eastern White Pine	0.37	730	980	1,220	1,470	1,710	1,960

Off-Axis Load Angle	Off-Axis Load Factor <sub>4,5</sub>	
	With Grain	Across Grain
10°	1.0	1.0
30°	1.0	0.7
45°	0.9	0.5
60°	0.7	0.4
90°	0.5	0.3

No.	Size	Wt (lbs)
SD SCL4NC	3/4" LAG bolt with 1/2" coil/NC tie.	0.7

1. Load lbs at approximat 3-to-1 safety factor. Figures based on  $p=8,100^2D^3L$ , where G is specific gravity, D is lag shank diameter, and L is penetration of threaded portion in wood (from Forest Products Laboratory Wood Handbook, 1999). Load not to exceed 3000 lbs in any case (chaded areas represent pull-out values which exceed max. SWL of the Coil-Lag™).
2. All load ratings are for bolt installation into side grain in sound wood, minimum 1-1/2" from edge and 4" from end of timber.
3. Specific gravity figures typical for kiln-dried samples of the listed species. Load ratings based on S.G. figures shown, actual S.G. values for wood vary widely. Unless acutal S.G. is known, use lower figure for load calculations.
4. Multiply off-axis load factor times axial lag withdrawal load for allowable off-axis. Example: 60° off-axis, with-the-grain load into 3" Douglas Fir would be  $0.7 \times 2310 = 1617$  lbs max. Remeber: this is the load applied to the swivel loop coil, NOT the axial load on the lag.
5. Bolt must be threaded into timber until swivel loop is in contact with wood surface.

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