

Snaptie Forming System

Product Knowledgement Handbook







13407 Yorba Ave. Chino, CA 91710 Phone: (909) 590-0066

AN OVERVIEW OF SNAPTIES

HOW DOES A SNAPTIE WORK?

Most snapties include two 1" plastic cones. The plastic cones set the wall dimension and cover the plywood hole. After the plywood is stripped, the plastic cone and exposed tie end are removed with a twist.

ATTRIBUTES OF SNAPTIES

Standard and High Strength Snapties are made from high tensile wires; which have integral heads formed on each end. The integral heads come in standard rounds heads or hex heads. Snapties are equipped with flat spots to prevent turning in the concrete during removal. Available in any length from 6" to 480". Often equipped with a plastic cone, a flat fixed washer or cupped loose washer are also available upon request. Snapties can be manufactured with a tight fitting neoprene washer located near the center of tie to eliminate water seepage along the tie. Stainless steel snapties are also available.



Standard Snaptie Load

2,250 lbs. Safe Working Load

S.W.L. is based on a 2:1 Safety Factor



3,250 lbs. Safe Working Load

S.W.L. is based on a 2:1 Safety Factor

SNAPTIE ACCESSORIES



SNAPTIE WEDGES



A-BRACKETS



SNAP BRACKETS



SNAPTIE EXTENDERS



C-BRACKETS



PUSH-IN PLASTIC PLUGS



FORM ALIGNER BRACES



WALER BRACKETS



CONCRETE PLUGS

SNAPTIE



HOW TO USE THE SNAPTIE FORMING SYSTEM

PREPARATION

The gang drilling of plywood is the only preparation required. Holes should be drilled 1/8" larger than snaptie head. Normally a 5/8" diameter drill bit will be required.

The 5/8" eccentric take up on the "A" Brackets allows the snaptie with an end dimension 4-3/4" to be used with 5/8" or 3/4" plywood. The 5/8" eccentric take up will also allow the "C" bracket and 8-5/16" end snaptie to be used with 5/8" or 3/4" plywood.



SNAPTIE SPACING AND RATE OF PLACEMENT

The most common snaptie spacings which are currently being used with the Snaptie Forming System are shown below. Call our office for other rates of pour or tie spacing.



12" Vertical x 24" Horizontal snaptie spacing

Recommended rate of placement 4.5 ft./hour at 70°F.



16" Vertical x 24" Horizontal snaptie spacing

Recommended rate of placement 1.7 ft./hour at 70°F.

PLYWOOD USED STRONG WAY (FACE GRAIN PARALLEL TO SPACING)

Notes: The above recommendations are based on the use of 3/4" plywood sheathing (Plyform B-B Class 1, Grade Stress Level S-1) and 2 x 4 (S4S) Studs (Douglas Fir-Larch, Southern Pine or equal with a minimum allowable fiber stress of 1,200 P.S.O.)

Design is based on all formwork members being continuous over 4 or more supports.

PROPER "A" BRACKET INSTALLATION

INSTALLATION OF SNAPTIES AND BRACKETS

Insert end of snaptie through hole in plywood. The 4-3/4" end, 3,000 lb. S.W.L. snaptie is recommended for use with the "A" Bracket, 5/8" or 3/4" plywood and 2×4 walers.



INSTALLATION OF INSIDE WALL PANEL

To install inside wall panel, or second wall panel, two men slip the sheet of plywood over the snaptie end, starting at the bottom and moving the panel from side to side or up and down to align the holes with the snaptie ends.



INSTALLATION OF WALERS

Working from top to bottom, install walers in "A" Brackets, tightening as you go. Waler joint should occur at the "A" Bracket or install a scab at waler joint with "C" Brackets. Check plumbness and alignment to plywood.





INSIDE CORNER FORMING

There is no special treatment required for inside corners, merely alternate the walers as shown.



OUTSIDE CORNER FORMING

To reduce the cutting of full width plywood panels, a corner may be started on the inside wall first, using a full 4'-0" plywood panel. When the outside wall is erected, full panels are installed in line with the inside panel and special filler panels, the same width as the wall thickness, plus plywood thickness, are used to fill out the exterior corner.

INSTALLATION OF CORNER LOCK

The Corner Lock's cam action draws 2 x 4's securing together. It eliminates costly overlapping, blocking, and nailing. Just place one waler flush at the corner, the other waler may then run free. The Corner Lock slips into place with its handle perpendicular to the waler; nails are driven through the holes on the clamp and the handle pulled around 90°. A snug tight outside corner is easily accomplished.





INSTALLATION OF STRONGBACKS

Strongbacks are used for form alignment and also act to tie stacked panels together. Loose double 2 x 4's are used for the strongbacks along with "C" Brackets and 8-5/16" end snapties or 4-3/4" end snapties with the Snaptie extender.

Normal spacing of the strongbacks is 8'-0" on center.



JOINT COVER DETAILS

ALTERNATE #A

Drill a 5/8" diameter hole 1-1/8" down from the top edge. In the lower sheet of plywood, install snapties, "A" Brackets and waler, then plywood. Nail top sheet of plywood to waler.

ALTERNATE #B

Install snaptie in joint between panels; add the double walers and "C" Bracket.

Single Wale and A'' Brackets



ALTERNATE #C

Nail 4 x 4 waler to lower plywood panel, hold in place with strongbacks and then add second layer of plywood.

APPLICATION OF SPANDREL TIES AND WEDGE SPACING

SPANDREL POINT TIE

The Spandrel Point Tie holds the outside top end of concrete beam forms. One end is bent 90° and a chisel point is cut on the wire. Good practice dictates driving a 1-1/4" long fence staple over the tie within 1" of the bend. Breakback is the same as standard ties.



SPANDREL HOOK TIE

The Spandrel Hook Tie is designed to secure light beam forms to structural steel spandrel beams when fireproofing is required. The hook end of the tie fits over the beam flange and is tack welded to the underneath side.





S.W.L. is based on a 2:1 Safety Factor

- Fence Staple

Λ

PROPER WEDGE PLACEMENTS



INSTALLATION OF SECOND LIFT OF PLYWOOD

Lift up layer of plywood and set it into position. Nail bottom of sheet to joint over waler while holding plywood panel in place with a short 2x4 spacer block, snaptie and "C" Bracket.

Set additional panels, nailing them to the joint cover wale and securing them to the previously installed panel with a Jahn Ply Holder.

Install snapties, brackets and waler, working from bottom to top.



USING SINGLE VERTICAL WALES FOR CURVES WALLS

"A" Brackets are always set on the left side of the 2" x 4" so that the eccentric is properly positioned to be vibration-proof. "A" Brackets may be installed after studs are in place.

Filler strips may be required on the outside face. To eliminate the need for filler strips, the two sides of the interior sheets may be trimmed to take car of the difference in circumference of the inner and outer forms.



COLUMN AND PILASTER FORMING IDEAS



SNAPTIE BREAK BACK PROCEDURES

HOW TO BREAK HEX-HEAD SNAPTIES

1. To break back hex-head snapties, place a 9/16" 6-point socket and wrench over the head of the tie

2. Push eccentric away from the hex-head of the tie

3. Standing directly in front of the tie, hold the socket on the hex head with one hand, then turn the wrench with your other hand. Rotating the wrench 1/4 to 1/2 turn as shown results in the tie end breaking off.



HOW TO BREAK SNAPTIES OR LOOP TIES

1. Slide the Snaptie Wrench up against the tie so that the front of the wrench is touching the concrete.

2. Keeping the front of the wrench tight against the concrete, push the handle end towards the concrete wall so that the tie is bent over at approximately 90° angle.

3. Rotate the wrench and tie end 1/4 to 1/2 turn breaking off the tie end.



BLINDSIDE WALL FORM USING STAY-FORM

BLINDSIDE WALL FORM USING STAY-FORM

NOTES:

- 1. Wire tie Stay-Form to rebar every other rib.
- 2. The Stay-Form ribs go into the pour.
- 3. Lap Stay-Form sheets over a rebar support.
- 4. Vertical lap (2 ribs minimum).
- 5. Recommended pour rate is 4' to 7' per hour.*
- 6. Do not vibrate previous lift by more than 6".
- 7. Where sheets lap, use 16-gauge tie wire or sheet metal screws with a minimum 3/8" head.
- 8. Stay-Form is compatible with self-consolidating concrete.

*Horizontal lap 4-8" minimum





APPLICATIONS USING STAY-FORM BLINDSIDE WALL TIES



INSTALLATION:

Cut a slit in the Stay-Form Steel Rib using metal snips. After the Stay Form tie has been inserted through the slit in the Steel Rib, engage the rebar stud. Slide the keeper into place. Stay Form ties are available up to 48" long.



DOUBLE WALER

The lumber dimension "A" for a double waler is 8^{1}_{4} -inches to accomodate the general thickness of 5/8" or 3/4" plywood, two widths of 2x4's and 1/2" for the Snaptie Bracket.



SINGLE WALER

The lumber dimension "A" for a single waler is 4-11/16" to accomodate the general thickness of 5/8" or 3/4" plywood, one width of 2x4 and 1/2" for the Snaptie Bracket.

COMPONENTS OF THE SNAPTIE SYSTEM

"A" BRACKETS

The "A" Bracket is made of high strength steel with a cadmium plated eccentric and painted body resulting in a high quality rust resistant bracket. The 5/8" take up of the eccentric compensates for minor lumber size variations. Minimum job skills are required for erection or stripping of formwork using the "A" Bracket. It can be used to hold a loose single 2" x 4" as a horizontal wale or as a vertical stud.

"A" Brackets when properly installed are the only brackets that will not vibrate loose from the internal vibration of the concrete. The "A" brackets can be installed either before or after walers are in place. The slots in the bracket allow it to easily slip over the snap tie end eliminating laborious threading through a hole. Pressure of the bracket body is against the 2" x 4" instead of the plywood.

The "A" Bracket can be used for any type of wall forms round, curved, battered, beams, and/or columns. The durable "A" bracket and the forming components may be used repeatedly.

Utilizes 4-3/4" snapties for economy of construction. No nailing, economical, fast—reduces labor and lumber costs—so simple, one person can set up or strip.





2,250 lbs. Safe Working Load

S.W.L. is based on a 2:1 Safety Factor

"C" BRACKETS

The "C" bracket is used to attach vertical strongbacks for formwork alignment. Made of the same materials as the "A" bracket, this bracket is designed for use with single 2x4 studs, double 2x4 wales and 8-1/4" snapties. The eccentric securely holds formwork while compensating for minor variations in lumber sizes. The "C" bracket and double walers can also be used to support a horizontal plywood joint.



2,250 lbs. Safe Working Load

S.W.L. is based on a 2:1 Safety Factor



1" CONCRETE PLUG

Concrete Accessories & Steel Fabrication

SNAPTIE WEDGE

The Snaptie Wedge is fabricated from high strength steel and heat treated for added strength. Combined with snapties, wedges are used to secure the form in placement.





3,350 lbs. Safe Working Load

S.W.L. is based on a 2:1 Safety Factor

SNAPTIE EXTENDER

The Snaptie Extender converts 4-3/4" (short) snapties into 8-1/4" (long) snapties. Combined with "C" Brackets and 2x4's, vertical strongbacks can be erected anywhere on the wall form. Short / Long count is eliminated. Short ties may be ordered for an entire job — resulting in job flexibility and cost savings.





WALER BRACKET

Unsafe toenail connections can be eliminated and waler lumber saved by using this bracket. Fasten to studs with double head nails, insert walers and secure with Snaptie Wedges. Normal spacing 4' on center. Designed for double 2x4 or 2x6 strongbacks, used with a heavy duty snaptie wedge.





LINER CLAMP

Designed for use with a single 2x4 strongback for vertical form alignment, this liner clamp can be installed after erection of the forms and is not limited by form-tie spacing. Sturdy, galvanized construction reduces maintenance and replacement, and speedy installation reduces forming costs. Strongbacks are used to align and not to strengthen forms. They are normally used on one side only, spaced 6' horizontally. Liner clamps should attach the strongback to every other single waler.





SNAP BRACKET

Snap Brackets are used for all types of poured-in-place forms, using snapties and single waler forming. Made from durable, plated steel, Snap Brackets can be reused for different projects.

2,250 lbs. Safe Working Load

S.W.L. is based on a 2:1 Safety Factor



CORNER LOCKS

The Corner Lock is used at outside corners to secure the 2x4 walers. Only two nails are needed for attachment, while barbed plated grip the sides of the 2x4's for positive non-slip action. The locking handle has a "Cam Action", drawing the wales together at true right angles. No special tools are needed for either installation or removal.

Combine with "A" Brackets for sturdy, quick wall or column erection.



SCAFFOLD JACK

The Scaffold Jack is a one piece, all steel unit, designed to fit 24" x 24", 16" x 24" tie and waler spacings. This jack has a built in guard-rail receptacle and is designed to hold two 2x10 planks for a comfortable working platform.

Space jacks at 8'-0" maximum centers.

The horizontal rod slides easily through the body of the "A" bracket for support, with the long end being installed first. Nail holes are provided for securing the jack to both the top and bottom support wales.





Jack adjusted for 16" spacing of wales

Jack adjusted for 24" spacing of wales

METAL FORM PATCH

Metal Form Patches are used to cover unnecessary drilled holes in form ply to prevent grout leakage. These patches are applied by hammer or magnetic setting tools. The sharp spikes on the patches stick into the ply form like nails. Metal Form Patches should be applied on the inside of the ply form so they will stay in place during concrete pour.



PLASTIC TIE HOLE PLUGS

Plastic Form Plugs are simply pushed in place by hand to fill in any unwanted holes in form ply, to eliminate grout leakage on future pours. Available in 9/16" and 13/16".

