



# Concrete Construction Products







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# **Snap Tie System**

Job-built forming with 3/4" plywood, 2x4 lumber, Snap Ties and Jahn-style Brackets is popular on many construction sites. Though only a few components are required, time and labor is necessary to plan, mark, cut and drill the plywood.

Short-end (SE) Snap Ties are available for single waler applications. Long-end (LE) Snap Ties are available for waler/strongback combinations. Odd-end (OE) Snap Ties are available for forming with a single waler on one side and waler/strongback combination on the other side.

# Snap Tie Snap Tie View of the state of the s

# **Coil Ties**

The 2-Strut and 4-Strut designs, in standard and heavy-duty capacities, are designed for job-built plywood forming. The coil ties are resistance-welded for reliable performance and safety.

Coil Ties are available with optional cones, waterseals, galvanized finish or custom specification on request. Other related products include Coil Rod, Coil Nuts, Coil Nut Washers, Flat Washers and Coil Bolts.



# TieLock<sup>™</sup> System

A self-centering loop tie and TieLock Bracket, with 3/4" plywood as the form face and 2x4 lumber as the waler, creates an economical concrete forming system.

The self-centering tie sets the wall dimension, sits flush up against the plywood face, and breaks back cleanly within the plastic cone.

Typical tie spacing is 16"x24" for most concrete walls. The TieLock Bracket hooks the tie loop, while securely holding the 2x4 lumber walers. A Strongback Bracket hooks onto the TieLock Bracket when needed.





# SurePly<sup>™</sup> Handset

Two 2x8 panels are equal to the contact area of a 4x8 sheet of plywood, yet the SurePly forming system can be moved, placed, tied, poured and stripped 75% faster than job-built plywood forms.

Small or large projects, simple or cut-up layouts, and handset or gangform applications, will benefit from these SurePly labor-saving features:

- High-carbon 55,000 PSI structural steel frame
- · Rugged frame with 45% more weld than others
- Full 2"x2" crossmember support angle every foot
- Allowable 1,000 psf load-rated system
- Added dado slots make step footings easy
- Integral handle for carrying and setting
- · Baked-on powder paint in 12 optional colors
- Long-lasting 1/2" Birch or optional HDO plywood
- Panels in heights from 3' to 10', width 24"
- Fillers in heights from 3' to 10', widths 1" to 22"
- Inside corners in heights from 3' to 10', 6"x6" size
- Simple hardware for faster assembly







Wedge Bolt for fast connections



HD Turnbuckles (used with 2x4 lumber) for plumbing forms One-Piece Waler Clamp (used with 2x4 lumber) for formwork alignment





X-Flat Tie





# SureCurve<sup>™</sup> Radius

Concrete tanks and curved walls quickly take shape with SureCurve <sup>™</sup> panel. Each SureCurve panel has a series of turnbuckles that flex the desired radius.

Panels can be joined and stacked, with a lever-action connecting clamp, to create large gangs. This reduces assembly time and simplifies any reconfiguration.

The clamp, in combination with three interior and exterior panel sizes, can be used to form almost any radius. Properly spaced taper ties maximize the 1,250 psf load rating of the system.

A waler assembly is pinned to the horizontal tube struts. This assembly distributes the taper tie load to the panel components.

The same waler assembly has holes along the channel. These holes provide tie-off points for fall protection and a place to store taper ties.

Safe working access for concrete placement is provided when walkway brackets are properly spaced, bolted and decked with each gang.

Small dimensions between SureCurve panels or gangs are completed with a lumber filler and Adjustable Connecting Clamp.

Assembled SureCurve gangs are moved by crane, then braced in position. A brace shoe attachment plate provides for connection.







# **Taper Ties and Hardware**

Taper Ties are used in forming situations where the ties are completely removed from the concrete after the pour has cured. Commonly used with gangform systems, Taper Ties enable contractors to efficiently assemble and strip formwork.

Taper Ties are squared-off at each end, allowing the tie to be turned with a wrench during the removal process. The tie can also be struck on the squared-off end of the smaller side with a hammer for removal from the gangform and wall.



# **She-Bolts and Inner Rods**

She-Bolts are heavy duty, reusable forming ties used for medium and heavy concrete forming applications. She-Bolts are used in combination with an Inner Rod or Coil Rod cut-to-length on the job site.

The expendable Inner Rod joins two She-Bolts to create the form tie assembly. A Flat Washer and Wing Nut placed on the threaded end transfers the concrete load to the walers.



Inner Rod cut from Coil Rod

# **Euro Ties and Hardware**

Standard 15mm and 20mm threaded ties are compatible with European-style forming systems and designed for fast gangforming. Each end of the tie is threaded to the same diameter so the Wing Nut works on either end. Taper Ties, She-Bolts and Inner Rods are available in sizes to meet project specifications.





# **Butt Plate Walers**

The Butt Plate Waler is one of the most popular waler designs. Double 6" steel channel has 13/16" holes for 3/4" bolts, spaced on 6" centers for waler attachment hardware. The channels are positioned back-to-back and separated by a 3" gusset or spacer sleeve. The 1/2"x9"x9" steel plates have holes for end connections so different waler lengths can be combined. Butt Plate Walers are available in 2', 3', 4', 6', 8', 10' and 12' lengths.

Note: Pafco- and Symons-style double-channel steel walers are also available.



# **Articulated Walers**

Start with 3/4" plywood, aluminum joists or wood beams you may already own, connecting hardware, and the Articulated Waler, then build and "flex" the gang to any radius from 20' to 180'.

The adjustment screws make it easy to reconfigure the forming radius Standard taper ties or she-bolts, with flat washers and nuts, complete the forming assembly.





# Shoring

This shoring and deck support system is designed for an optimum strength-to-weight ratio, with a tested rating of 10K leg. The system components include frames, screw jacks, crossbraces, U-heads and coupling pins. The frame heights are 3',4', 5' and 6', and the widths are 2' and 4'. The system is quickly assembled and easily reconfigured for a wide range of shoring and deck support applications.



# **Post Shores**

Post Shores can be used for supporting deck joists or reshoring existing structures. The Post Shore 350 ranges in usable height from 6'-6" to 11'-5" with a safe working load of 6,445 to 4,400 lbs. The Post Shore 550 ranges in usable height from 11' to 18' with a safe working load of 8,176 to 2,732 lbs. A telescoping tube provides the rough height adjustment, in 3" increments, using a captured pin. A threaded collar provides the fine height adjustment, in a 4" range, using a pivoting handle. The Post Shore also includes a Quick-Release feature so the Post Shore can be easily removed, relocated and reused.



# **SPAN-X Beams**

The SPAN-X Beam consists of an aluminum box shape with a telescoping I-beam that provides a wide range of adjustment. A single Nut sets the beam length and End Tabs support the beam and loads during construction.

This self-spanning support can be positioned along the top of a concrete wall, shelf angle or stringer. The clear span provides a more accessible work space underneath, reducing conflict between trades. SPAN-X Beams have been used for box culverts, shaft core roofs, water channels and other concrete deck support.





# Self-Riser

The Self-Riser System is a cost-effective core forming method, reducing labor, and increasing productivity. This system allows core formwork to be lifted without a crane. Simply flipping a few switches moves the entire assembly, including platforms, plus interior and exterior formwork, up another story.

Hydraulic cylinders lift the grid beams, working platforms, placing boom, interior forms, and exterior forms. During that time, the crane is available for other important tasks.

When the system is used with specially designed Stripping Corners, no corner reassembly is required on the interior form. The amount of stripping space required can be as little as one inch and the core system will still rise smoothly.

Cores can be poured simultaneously with the slab or advance ahead of the floor construction.

The high load capacity of the gantry platform provides a large storage area for small equipment, tool chests, and other materials on top of the advancing core.

Placing the concrete from the working platform through the Upper Deck Grate, rather than hinged hatches atop the core, provides safer working conditions.

The use of Taper Ties means no forming hardware is sacrificed, reducing costs and increasing productivity.

The Self-Riser System allows you to construct cores faster and more efficiently than other conventional core forming construction methods.









# Precast

A precast concrete component is formed in a reusable mold, cured under controlled conditions, transported to the construction site, and lifted into position. Each component will require anchors, connectors, inserts and lifting hardware depending on the application.

### Anchor Rail HD

Cast-in-place galvanized channel for positioning and anchoring mechanical straps and supports.

### **Coil Inserts**

Loop, flared, double-flared, criss cross, L-leg, thin slab and wing types for precast panels.

### **Column Connector**

Column-to-base connection eliminates the need for panel bracing and welding.

### **Edge Connector**

A rebar-winged embed tied to reinforcing steel with "flat" positioned at the panel edge for later welding.

### **Ferrule Inserts**

Loop, flared, double-flared, criss cross, L-leg, thin slab and wing types for precast panels.

### Lifter

Ring-shape design, available in 2.5, 5.0 or 10.0 ton capacities, rotates through the lifting insert.

### Slant Anchor (U.S. Patent Pending)

Unique anchor provides simple panel-to-foundation connection without welding or bolting

### **Straight Leg Anchor**

An insert with anchor loop, steel legs and disposable plastic former for handling precast panels.

### Wall Connector

Bolted wall-to-base and wall-to-wall connection eliminates the need for panel bracing and welding.

### Wire Truss

Joins a bottom layer of concrete, a middle layer of insulation, and a top layer of concrete into one unit.





Call 708-493-9569



# Tilt-Up

A tilt-up concrete panel is formed on the construction site, lifted into position, and braced until the structure is completed. Each panel requires anchors, connectors, inserts and lifting hardware depending on the specific design and application.

### Brace Bolt Insert (U.S. Patent Pending)

An all-in-one design that includes the coil insert, sleeve, flange bolt and locator cap.

### **Brace Insert**

Standard panel insert with non-rusting plastic feet and locator plug for subsequent brace attachment.

### **Helical Ground Anchor**

A reusable steel shaft with helix plates that "screws" into the ground to anchor pipe braces.

### HGA Bracket (U.S. Patent Pending)

Load-rated device for quickly connecting tilt-up pipe brace shoes to helical ground anchors.

### Lifter

Ring-shaped design, available in 2.5, 5.0 or 10.0 ton capacities, rotates through the lifting insert.

### SureLift (SL) Insert (U.S. Patent Pending)

An effective lifting insert with disposable former and adjustable plastic feet for height adjustment.

### Slant Anchor (U.S. Patent Pending)

Unique anchor provides simple panel-to-foundation connection without welding or bolting.

### **Tilt-Up Profiles**

Detailed lines, chamfered edges, and smooth reveals, for a better tilt-up panel appearance.







HGA Bracket

for Double Brace Shoe

Brace Bolt Insert



SL Insert



Lifter





Tilt-Up Profile Double Chamfer

Slant Anchor



# **Pipe Braces**

The all-steel pipe braces are available in lengths from 7'-6" to 62'-6" and designed for forming, precast and tilt-up bracing applications.

**Adjustable Pipe Braces** have a telescoping pipe for rough dimension and a 6" threaded connecting shoe for final adjustment and anchoring. There are three sizes, ranging from 7'-6" to 40'-0".

**Fixed Pipe Braces** are a standard length with an 18" thread and connecting shoe for final adjustment and anchoring. There are four sizes of Fixed Pipe Brace, including extensions, ranging from 16'-6" to 32'-9".

**Heavy-Duty Fixed Pipe Braces** are large diameter pipes with greater capacity. There are three sizes of Heavy-Duty Fixed Pipe Brace, including extensions, ranging from 31'-0" to 62'-6".

**Modular Pipe Braces** have just five basic components that can be configured into 42', 52' or 62' sizes. These sizes, with greater capacities, reduce the number of braces needed for large panels.







Pipe Braces attached to HGA Bracket for Double Brace Shoe on a Helical Ground Anchor





# Stud Rail

Stud Rail is a double-headed stud anchor (DSA) reinforcement system, typically used for concrete deckto-column connections. The system is designed to transfer the load further into the concrete deck, create a larger shear area around the column, and resist punching shear forces.

Using the Stud Rail system can also eliminate the need for forming column capitals or drop heads. This provides significant savings, since these column details are difficult to form and place.

Each stud is double-headed so the load transfer is equal at the top and bottom of the Stud Rail assembly. Each stud is available in different sizes to match the engineered loads for each project.

The Stud Rail assembly is available with an optional bottom strap or top wire, allowing the contractor to determine the installation sequence. The assembly can be positioned before or after structural reinforcement and/or post-tension tendons are placed.

The Stud Rail assembly is engineered for every connection, on every floor, on every project. During production, each assembly is color-coded to correspond with the shop drawings for site installation.

This detailed planning eliminates field welding and reduces installation time, providing significant laborsavings and better shear load transfer.









# Staybox

The Staybox system is prebent rebar and a formed metal box that creates a single "pull out" bar assembly. The assembly is used as a keyway and lap splice between concrete construction joints, including slab, deck, wall, beam and column intersections.

The metal box is formed in two pieces that slide together. The box is typically 1-1/2" deep; 2-1/2", 3-1/2", 6" or 8" wide; and 48" long. While those are standard sizes, the metal box can be fabricated to match other specifications or conditions.

The rebar is typically #3, #4 or #5 A706, with optional epoxy coating. The exposed rebar will be a straight, hook or stirrup type, depending on the application. The unseen portion of the rebar is prebent to fit inside the formed metal box.

The two-piece metal box is designed so the back plate remains in the concrete, while the front plate can be removed for access to the prebent rebar inside. The box itself and both ends are sealed to prevent concrete from seeping into the assembly.

The exposed Staybox rebar is tied to the main reinforcement and the metal box is fastened to the form face material. After concrete placement, the cover plate is removed and the prebent bars are straightened to provide a lap splice for subsequent pours.

The Staybox system provides a cost- and labor-saving solution for most concrete construction joints. There is no need to drill or alter the form face during installation. The pre-positioned rebar provides alignment and load transfer between placements.









# Slab Bolster

Slab Bolster is used to support rebar and mesh at the proper elevation in concrete slabs. The legs are spaced 5" on-center and spot-welded to resist bending.

When a runner wire is spot-welded to the feet along the full length it becomes Slab Bolster Upper. This provides support on soft surfaces or upper rebar levels.

Standard heights from 3/4" to 4", in 1/4" increments, with other fractional sizes available on request. Options include plastic-dipped or plastic-tipped feet, and/or an epoxy-coated or galvanized finish.



# **High Chairs**

Individual High Chairs are used to span and straddle lower rebar, while "cradling" upper level rebar at the proper elevation. The legs are spot-welded to resist bending under rebar load.

Standard heights from 1" to 12", in 1/2" increments, with other fractional sizes available on request. Options include plastic-dipped or plastic-tipped feet, and/or an epoxy-coated or galvanized finish.

# Plain



Plastic-tipped

# **Beam Bolster**

Beam Bolster is used to support rebar at the proper elevation in beam form soffits. Legs are spaced 2-1/2" on-center and spot-welded to resist bending.

When a runner wire is spot-welded to the feet along the full length it becomes Beam Bolster Upper. This provides support on upper rebar levels.

Standard heights from 3/4" to 4", in 1/4" increments, with other fractional sizes available on request. Options include plastic-dipped or plastic-tipped feet, and/or an epoxy-coated or galvanized finish.





# **Basket Dowel**

The Dowel Basket provides pre-planned joint stability, load transfer and smooth transition, in a single costeffective assembly.

A properly installed Dowel Basket minimizes joint spalling, eliminates tripping hazards and improves joint filler appearance.

The Dowel Basket is recommended for joints up to 0.20" wide and is suitable for all types of ground level concrete floors, slabs or pavements.

(Dowel Basket sleeve U.S. Patent Pending)

# Taper Dowel

The size and shape of the Taper Dowel provides joint stability, load transfer and smooth transition, without restraining concrete floor movement.

The plastic sleeve fastens quickly to edge forms before concrete placement and the steel plate slides into the sleeve opening in preparation for the adjoining slab.

A properly installed Taper Dowel is recommended for joints up to 0.20" wide and is suitable for all types of ground level concrete slabs, such as jointed floors, flatwork and pavement.





# **Steel Edge Nosing**

High-traffic concrete floors and pavements require precise load transfer, smooth transition and joint protection. All of these requirements can be satisfied with the Steel Edge Nosing assembly.

The full-depth 10'-6" assembly includes steel nosing, dowel plates and channel for a complete joint installation. The leave-in-place design eliminates conventional slab edge forming costs.

The steel nosing, with studs tied to the concrete slab reinforcement, provides joint edge protection and a smooth transition from one concrete section to another.





# **Bridge Overhang Bracket**

The Bridge Overhang Bracket adjusts to fit both structural steel and precast concrete beams. The size and shape of a bracket is adjusted by changing the vertical and diagonal legs to meet the specific overhang requirements. Brackets can be preset, then moved into position to speed forming operations.

The Extension channel for wider overhangs, Guard Rail Receptacle for 2x4 lumber uprights, and Wall Plate for wall mounting, are options adding to the versatility of the Bridge Overhang Bracket.



# **Exterior Hangers**

Exterior Hangers generally use two types of end clips, a 45° end to support the overhang and a 90° end to support the interior. Hangers must support the live load, dead load, forming load and/or finishing load.

### **Exterior Hangers**

There are several types of exterior hangers, including Type 1-A, 2-A, 3-A, 4-A, 7-A, 8-A and 9-A.

### **Exterior Half Hangers**

There are several types of standard half hangers, including Type 4-AB, 9-AB, 4-APR and 9-APR.



# **Interior Hangers**

Interior Hangers are placed on the top of the interior bay beams. Two 90<sup>o</sup> end clips support the suspended formwork between the beams. Hangers must support the live load, dead load, forming load and/or finishing load.

### **Interior Hangers**

There are several types of interior hangers, including Type 1, 2, 3, 4, 5, 7, 8 and 9.

### **Interior Half Hangers**

There are several types of standard half hangers, including Type 1-S, 1-C, Precast, Adjustable and Hook.



Bridge Hangers



# Window Wells

Window Wells allow air, sunlight and access to a basement or below-grade space by acting as a barrier to the surrounding backfill. Each corrugated well is made using 18 gauge galvanized steel for durability and corrosion resistance.

The top and bottom edges are formed and rolled over to eliminate sharp edges and support a person standing on a ladder or grate. Fasteners are installed through the pre-punched key-hole slots on the flanges.

Standard heights for egress include 48", 60" and 72" tall wells. Other sizes are available on request.



# **HD Egress Ladders**

The HD Egress Ladder is designed for emergency situations. The HD Egress Ladder can be used to escape from the basement or as an access option for emergency personnel. The hooked ends of the ladder hang over the rim of the Window Well, supporting the ladder in the well.

IRC code requires ladders in wells deeper than 44". Standard HD Egress Ladders are 4', 5' and 6' lengths.



# Grates

High-quality Grates keep people and objects from falling into the Window Well. The Grate is made of rolled angle iron steel, and welded steel safety bars.

Premium mesh grates are also available to keep leaves and other debris out of the Window Wells.





# **Metal Rib**

This leave-in-place sheet is typically used to form footings, bulkheads, grade beams, pile caps and blindside walls. The expanded metal sheets are easy to cut, lap, splice, bend and pierce, minimizing related forming costs. When concrete is placed, the ribs and mesh are embedded in the structure, providing a rough surface for subsequent concrete placement.



# **Rebar Safety Cap**

An orange safety cap on exposed rebar will keep the hazard area visible and protect your forming crew. The patented design (U.S. Patent No. 8,776,464 B2) is a proven way to prevent injury on work sites and meets the OSHA 1926.70(b) requirement. Each Rebar Safety Cap is internally reinforced with a steel plate, providing additional protection against falls that occur from an angle. The Rebar Safety Cap fits rebar sizes #3 through #8, or 3/8" to 1" in bar diameter.



# **Steel Stakes**

Steel Stakes are used to secure lumber or metal concrete forms in flatwork applications. Although primarily used for concrete forming, a steel stake can also be used as a general-purpose product. Other purposes include attaching screed bar brackets for flatwork finishing, securing landscape timbers, and surveying stakes.

Each stake is hot-rolled with a "pencil" point, allowing it to be easily driven or hammered into clay, rock, or compacted soil. The holes on the stakes are drilled in a spiral, meaning a nail hole will always line up with the form for quick nailing.



**Articulated Waler** – Radius forming from 20' to 180', with 3/4" plywood, aluminum or wood beams, and an adjustable waler.

**Bar Support** – Wire slab bolsters and high chairs, with optional epoxy-coat, plastic-dip, plastic-tip or plate, to meet almost any slab requirement.

**Bridge Deck** – Overhang brackets and hangers provide an efficient deck forming solution for precast concrete or steel I-beam bridge structures.

**Coil Ties** – 2-Strut and 4-Strut designs, in standard and heavy-duty capacities, with optional cones, waterseals or custom combination, for job-built forming.

**Euro Rod** – 15mm and 20mm taper ties, she-bolts, inner ties, washers and wing nuts compatible with European-brand forming systems.

**Floor Dowels** – Plates, sleeves, baskets and joint nosings for high-performance concrete floors.

**Pipe Braces** – Contractor-preferred braces, with rated capacities and lengths ranging from 7'6" to 62'6", for almost any forming application.

**Precast** – Inserts, anchors, connectors and lifting systems for efficient precast concrete production.

**Self-Riser** – Integrated hydraulic system for multi-story building cores that virtually eliminates crane time.

**Shoring** – A conventional 10K load/leg system, with base plates, cross braces, screw jacks and U-heads, for productive deck support.

**Snap Ties** – Ties and brackets, with <sup>3</sup>/<sub>4</sub>" plywood and 2x4 lumber, create a simple and effective plywood forming system.

**Staybox** – A pre-engineered and pre-assembled rebar keyway that simplifies forming at wall and deck intersections.

**Stud Rail** – A reinforced column-to-deck connection that reduces shearing, transfers load further into the slab and eliminates column capitals.

**SureCurve™** – Concrete tanks and curved walls quickly take shape with this flexible and reusable gangform system.

**SurePly™** – An industry-recognized handset system, with more than 80 standard panel and filler sizes, for almost any forming application.

**Tilt-Up** – A start-to-finish system of lifting inserts, plates and hardware for tilt-up panel construction.

**Walers** – Double channel walers align panels, carry taper tie loads and maximize the surface area of almost any gang.



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