



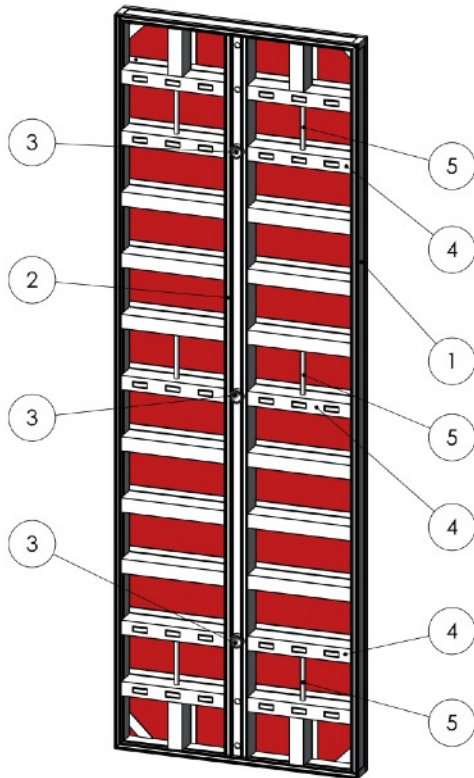
ALPAN HD Wall Forms

■ The Formwork Professionals

www.nationalforming.com

HIGH LOAD BEARING CAPACITY

1,500 psi (60 kN/m²) pressure of fresh concrete over entire panel surface



1	Panel edge frame
2	Panel edge strongback
3	Tie rod holes
4	Perforated member for accessories attachment
5	Fall protection anchor point

PANEL STRUCTURE

Panel structure is made of extruded high strength weldable Aluminum Alloy and faced with phenol resin high density HDO plywood 100/30.

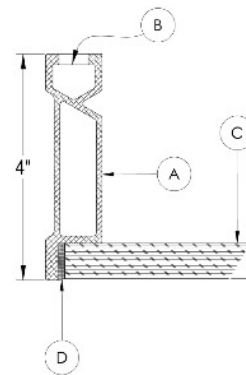
HDO plywood is constructed with high strength Douglas fir venire and coated with phenol resin giving a hard surface finish. The high resin content is applied in a one step process. The adhesives used are fully waterproof phenolic resins that are CSA exterior glue bond standard.

For additional protection against moisture, all HDO plywood panels are edge puttied and then thoroughly coated with a silver, aluminized, resin-rich alkaloid edge seal.

Aluminum panel structure and combination of materials used for plywood assembly ensure high number of repeat uses with excellent concrete results:

- High quality concrete finish
- Less repair needed
- Easy clean work of panel structure and plywood surface
- Spacing at panel edges where plywood meets aluminum structure is filled with high strength silicon sealing strip

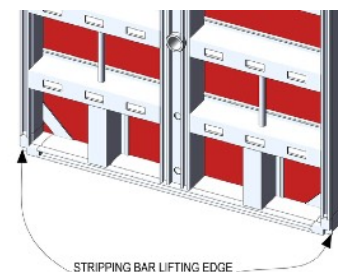
PANEL EDGE FRAME DETAIL



- A** Perimeter frame profile
- B** Continuous groove for Aligner Wedge clamp grip
- C** Plywood sheet
- D** Silicone sealing strip

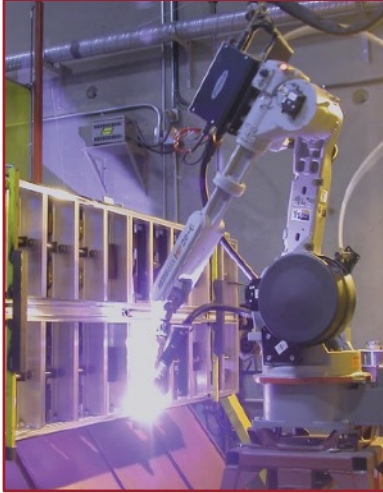
- Edges have a continuous groove all around to accept T-bolt for the attachment of accessories
- The edges of plywood sheets are protected by the frame profile
- Cross members are with boreholes for platform attachment
- End panel sections and middle section have integral handles for attachment of fall protection devices, as well for carrying purpose of panels

LIFTING EDGE



LIGHTWEIGHT, HIGH STRENGTH

ALPAN HD Panel is made of a high strength aluminum alloy, faced with high density plastic coated plywood for durability and to exceed number of pours, before plywood needs to be replaced.



PANELS WITH CENTRALLY ARRANGED FORM TIE POINTS

The main structural support member "Strongback" of ALPAN HD panel is positioned in the middle of the panel. Tie holes only through the middle Strongback are symmetrically positioned to the size of panels.

Upon dismantling of ALPAN HD Panels, due to the unique position of tie holes in the middle of the panel, a symmetrical imprint of the panels is created on the concrete wall.

EFFICIENT FORMWORK

With single sided tie rod installation:

- The Tie rods can be installed from one side, offering savings of up to one third in forming and stripping times
- Reduce man hours as some of the operations have been eliminated, e.g. not having one person on each side of the wall form
- There is no need to plug unused tie holes on the panel as all form-tie positions are used for tying the forms.
- Use of ALPAN HD Taper Ties eliminates extra cost of tie sleeves and cones with ready rod ties.

HIGHLY COST-EFFICIENT

- Extra durable HD plywood of ALPAN HD Panels, provides high number of repeat uses
- Aluminum frames are made of high strength aluminum for long lifespan
- Form ties to be well greased before concrete placement and with use of ratchet to remove ties, minimal wear-and-tear occurs on panels.

EASY HANDLING AND PLANNING

Small number of panel sizes ensures optimum material use and effective logistics

- Panel sizes enable vertical and horizontal stacking, without a multitude of additional small panels
- With central position of tie holes, it is required to place ties at each tie hole position eliminating possibility for errors.

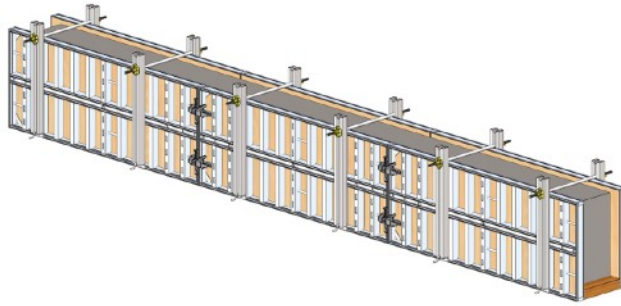
SYMMETRY

Arranged imprint on the concrete surface upon dismantling of ALPAN HD Panels gives a nice and symmetrical architectural appearance.

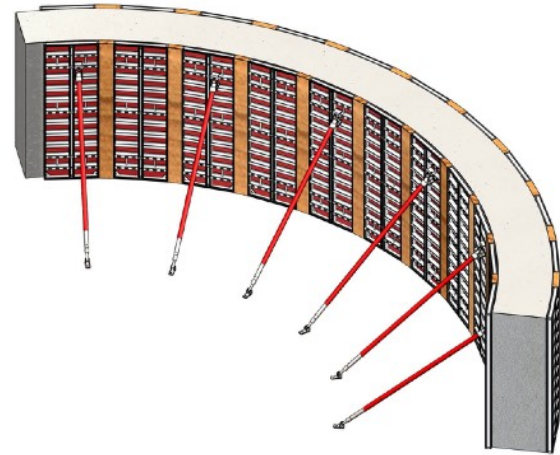


ALPAN HD CONSTRUCTION FORMS

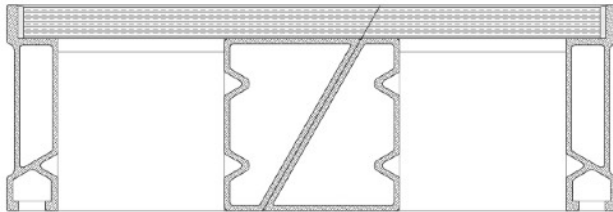
FOUNDATION FORMWORK



CIRCULAR FORMWORK

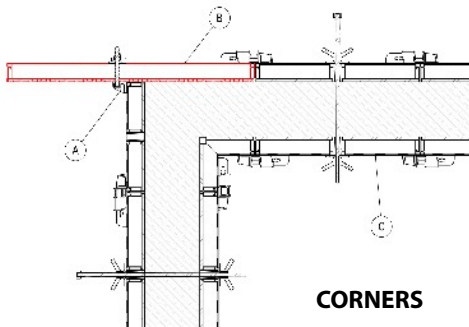
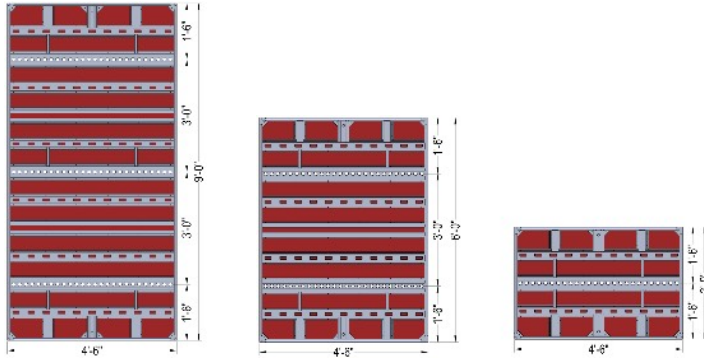


STRIPPING PANELS

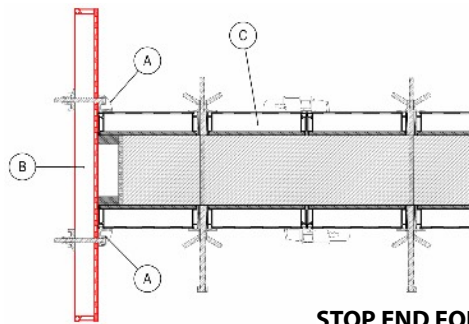


UNIVERSAL PANELS 3' - 6' WIDE

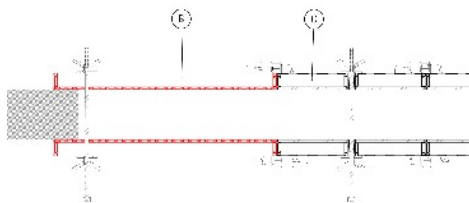
The special hole pattern makes these panels particularly suitable for efficient forming of:



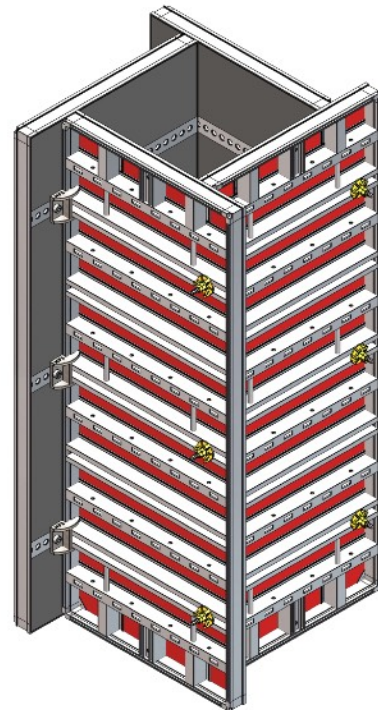
CORNERS



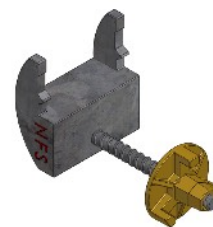
STOP END FORMWORK



WALL JUNCTION



COLUMN



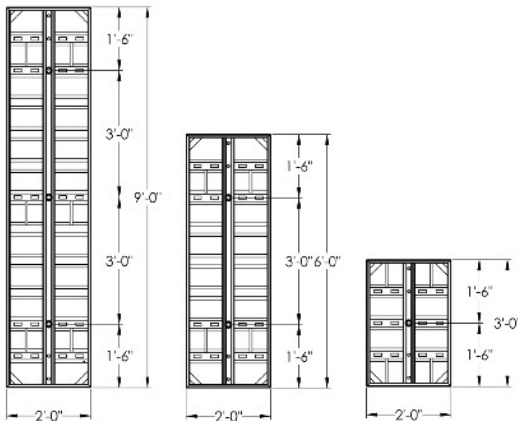
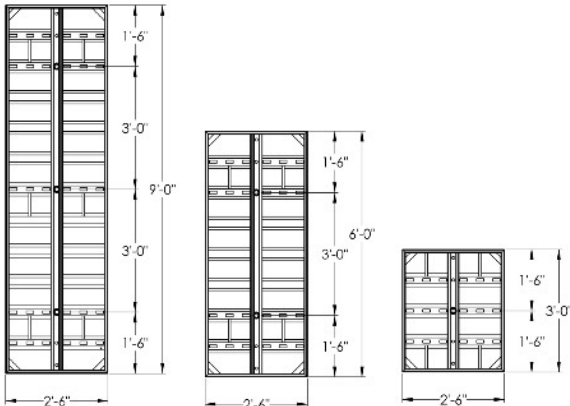
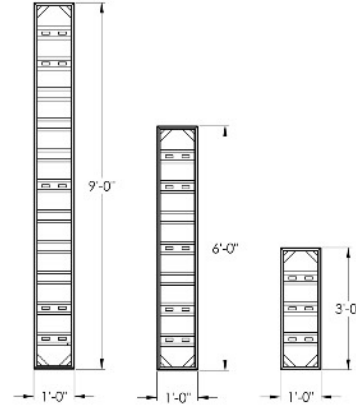
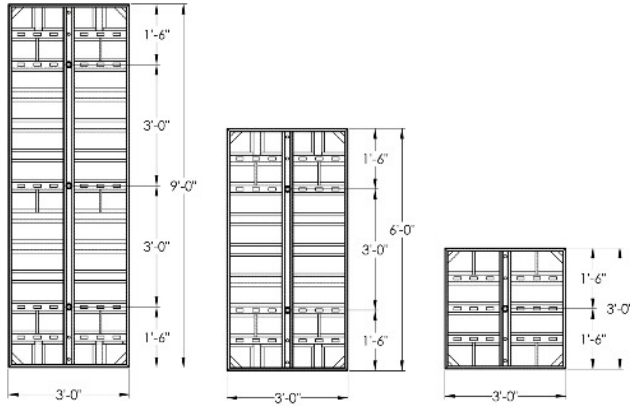
Required number of Connecting Bolt Bracket and Plate

Panel Height	Number of Connecting Bolt Brackets
3'	1
6'	3
9'	4

- A** Connecting Bolt Bracket
- B** Universal Panel
- C** ALPAN HD Panel

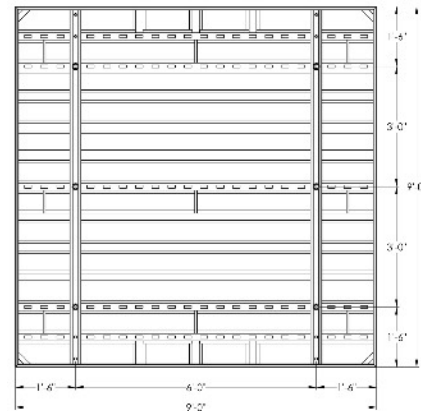
STANDARD PANEL SIZES

The width and height dimensions of panels are based on 6 inches multiplications.
Panels could be arranged in vertical or horizontal positions or combination of vertical and horizontal configuration.

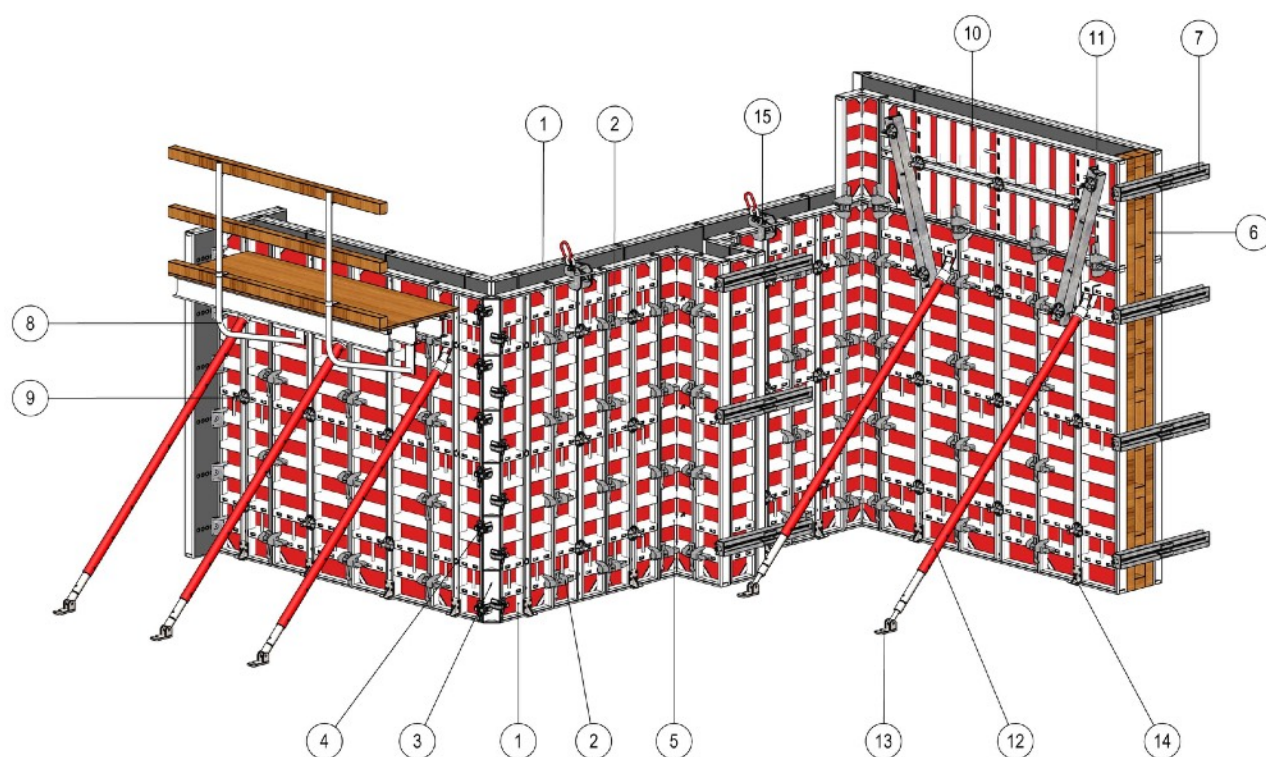


MEGA PANEL SIZE

For large wall forming areas and availability of crane assistance, MEGA ALPAN HD panel 9ft wide by 9ft high is desirable forming solution in order to accelerate construction cycle.



Panel Heighs	Panel width				
	9'-0"	3'-0"	2'-6"	2'-0"	1'-0"
9'-0"	395 Lb	143.17 Lb	119.30 Lb	106.75 Lb	54.60 Lb
6'-0"	N/A	96.43 Lb	80.35 Lb	71.95 Lb	36.75 Lb
3'-0"	N/A	49.70 Lb	43.07 Lb	37.00 Lb	19.00 Lb



1. Alpan HD Panel
2. Aligner Wedge Clamp
3. Alpan Outside Corner
4. Wedge Clamp
5. 90° Degree Inside Corner
6. Bulkhead Formwork
7. Bulkhead Clamp
8. Platform Bracket
9. Tie Rod System
10. Vertical Stacking Panel
11. Strongback Stiffener
12. Plumbing Brace
13. Anchor Bolt
14. Floor Anchor Bracket
15. Lifting Lug

FOOTINGS AND LOW-HEIGHT FOUNDATION WALL FORMING

ALPAN HD panels versatility application without use of Taper Ties: Footings forming and low-height foundation walls.

Items required to form footings and low-height foundation walls are:



A Perforated galvanized steel strap cut to size



B ALPAN Foundation Strongback



C Tie Rod with Wing Nut Counter plate



D Plastic Sleeve cut to size

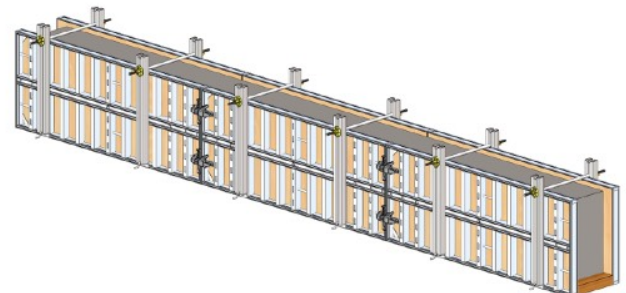
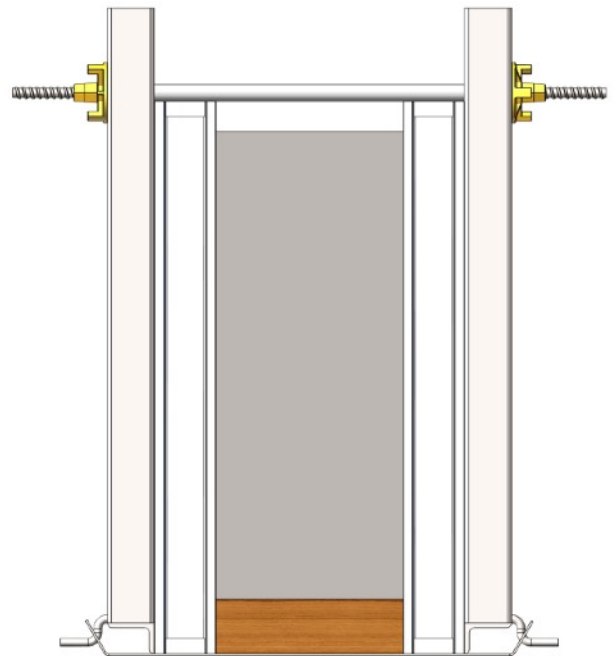
ASSEMBLING PROCEDURE

Footings or low-height Foundation wall forming requires two people working together.

Step 1 Place perforated galvanized steel strappings on leveled ground at the distance of panel tie holes locations.

Step 2 Place two panels sideways in vertical position opposite to each other on top of perforated strap and put wood spacer between two panels at the bottom to keep panels at desire spacing.

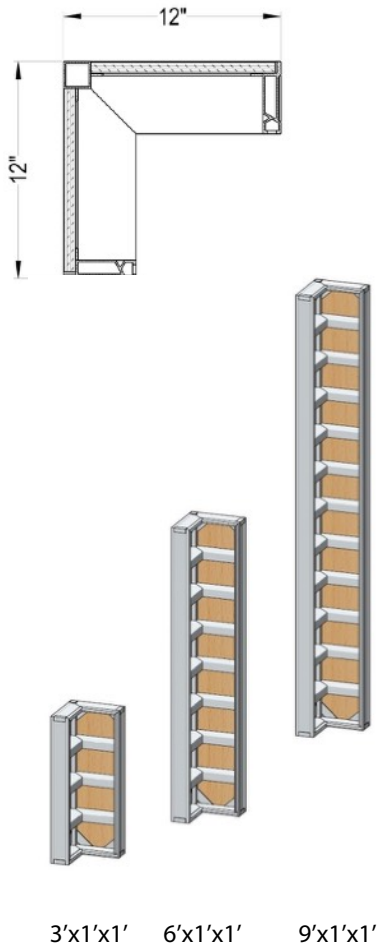
Step 3 Install ALPAN Footing Stringbacks with hooks through perforated plate and install Tie Rod in Plastic Sleeves cut to the length following design width of footing or low-height Foundation wall.



INSIDE CORNER

ALPAN HD Inside Corner is a ridged L-shape box type of frame member with three height configurations. It connects with APLAN HD Panel with Aligner Wedge Clamp positioned over horizontal panel members.

It requires a same number of Aligner claps along vertical frame as number of Aligner Clamps connecting two ALPAN HD panels.

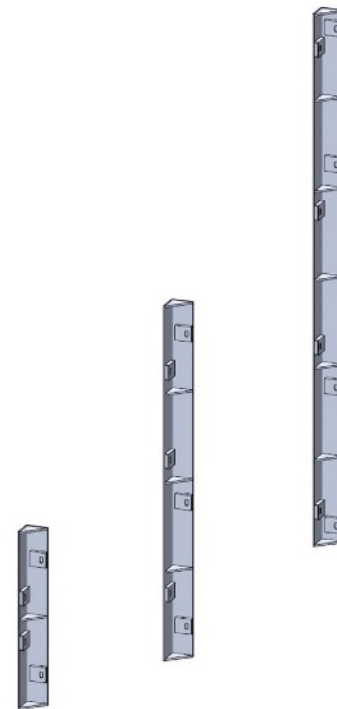
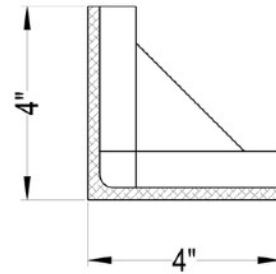


3'x1'x1' 6'x1'x1' 9'x1'x1'

INSIDE CORNER

OUTSIDE CORNER

ALPAN HD Outside Corner is a rigid L-shape galvanized steel member connecting two perpendicular panels with Wedge Clamp.



3' 6' 9'

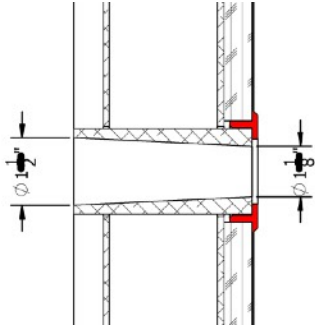
OUTSIDE CORNER

		Inside Corner	Articulated Corner
Panel Height (Ft)	9	90.20 Lb	88.00 Lb
	6	66.00 Lb	57.75 Lb
	3	30.80 Lb	29.35 Lb

		Outside Corner	Articulated Corner
Panel Height (Ft)	9	57.53 Lb	88.00 Lb
	6	38.50 Lb	57.75 Lb
	3	19.25 Lb	29.35 Lb

PANEL TIE HOLE DETAIL

Centrally positioned tie-holes with coned aluminum sleeve.

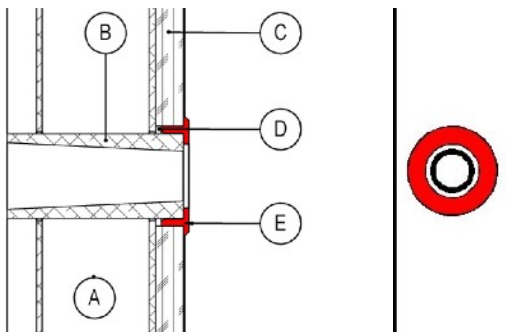


- A Coned aluminum sleeve
- B Panel Strongback
- C 5/8" Plastic Plywood
- D Industrial type of coupling
- F Protection ring

Coned aluminum sleeve is welded to panel Strongback and accept Taper Ties 3/4" to 1" and 5/8" Dywidag bars in plastic sleeves.

Capacity working load is 18,000 lb with F.O.S. 1:2

Space between Coned aluminum sleeve and plywood is sealed by industrial type of sealant and complete perimeter of the opening is shield / covered by metal cap ring.

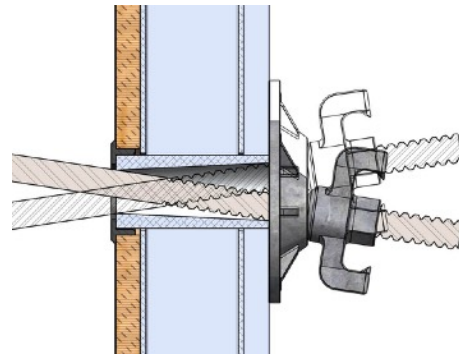


- A ALPAN HD Strongback
- B Coned aluminum sleeve
- C Plywood
- D Silicon Sealant
- E Flat metal cap ring

ADVANTAGE OF CONED ALUMINUM SLEEVE

Due to larger diameter of Coned aluminum sleeve at end opposite of concrete surface, Tie Rod could be angled in order to accommodate imperfection of two opposite panels lining or to avoid rebar blocking the center of the tie holes.

Tie Rod angel is allowed only with use of ALPAN HD Swivel Tie Plates.



Angled limitations with use of ALPAN HD Swivel Tie Plates		
Angled One side of wall form 4 Max.	Angled Two sides of wall form 2 x 4 Max.	Height imperfection 6" Wall - 3/4" difference 8" Wall - 1/2" difference





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