

GAMCO CLAMP GANG FORM

THE LARGE PANEL CLAMP TOGETHER FORM SYSTEM IN FEET AND INCHES



THE GAMCO CLAMP GANG FORM IS A CLAMP-TOGETHER, CRANE-SET WALL FORM SYSTEM DESIGNED FOR USE IN HEAVY CIVIL AND COMMERCIAL PROJECTS SUCH AS WATER TREATMENT PLANTS, BRIDGE PIERS AND ABUTMENTS, HIGH RISE FOUNDATIONS, CORE WALLS AND RETAINING WALLS. WITH ITS LARGE PANEL SIZES (UP TO 8' X 12") AND NORMAL FEET AND INCHES DIMENSIONS, THE GAMCO CLAMP GANG FORM IS A PERFECT FIT FOR CONTRACTORS LOOKING KEEP AHEAD OF THE CURVE WITH INCREASED PRODUCTIVITY AND EASE OF USE.

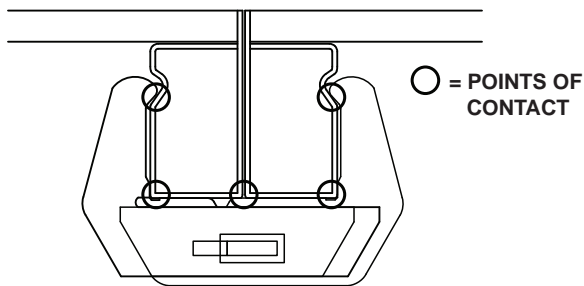
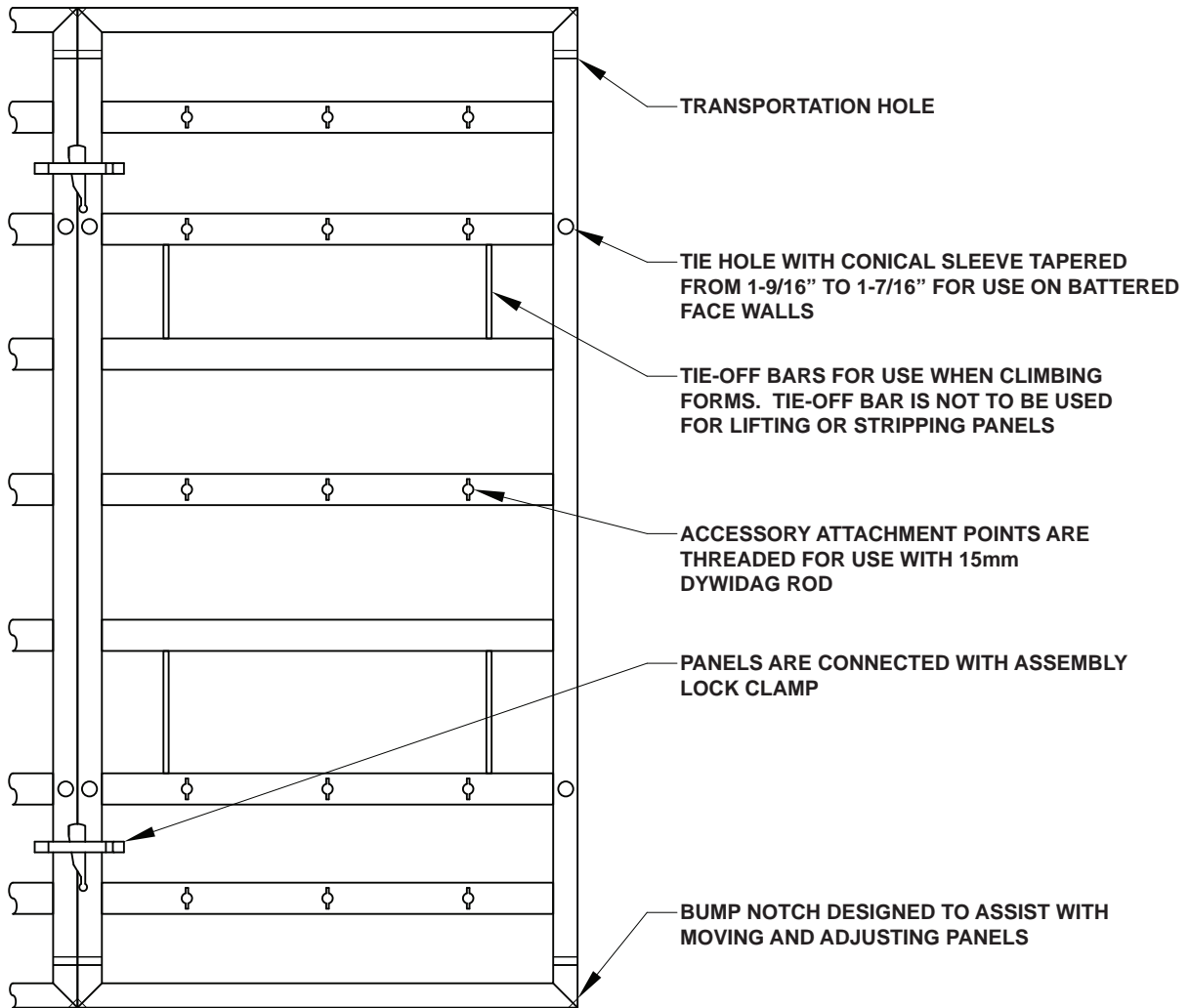
GAMCO CLAMP GANG PANELS ARE AVAILABLE IN 12', 8', 4', AND 2' HEIGHTS AND 1', 1'-6", 2', 2'-6", 3', 3'-6", 4' AND 8' WIDTHS. PANELS ARE SYMMETRICAL AND CAN BE USED IN ANY ORIENTATION.

AN ASSEMBLED GANG FORM COMPLETE WITH ACCESSORIES, BRACES AND SCAFFOLDING WEIGHS APPROXIMATELY 14 LBS/SQ.FT. ALLOWABLE FORMWORK PRESSURE IS 2000 PSF USING 7/8" DWIYDAG ROD OR TAPER TIES. PANEL FACES CONSIST OF HDO PLYWOOD ATTACHED BY SCREWS FROM THE BACK SIDE OF THE FORM FOR A CLEAN FINISH.



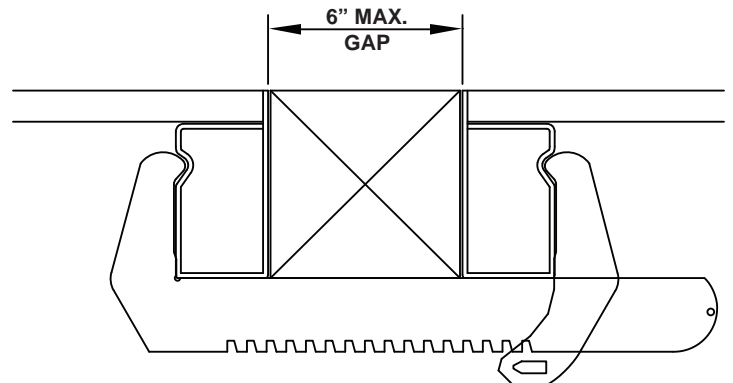
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GAMCO CLAMP GANG PANEL



ASSEMBLY LOCK CLAMP

PANEL CONNECTIONS ARE MADE QUICKLY AND SECURELY. THE 5 POINTS OF CONTACT DRAW THE FORMS TOGETHER AND AID IN ALIGNING PANELS. FOR 12' JOINTS THREE CLAMPS ARE REQUIRED, WHILE ONLY TWO ARE REQUIRED FOR 8', 4', 3' AND 2' JOINTS. WEIGHING LESS THAN 7 LBS. CLAMPS CAN BE EASILY ATTACHED WITH ONE HAND.



UNI-ASSEMBLY CLAMP

THE UNI-ASSEMBLY CLAMP IS USED TO SPAN FILLER GAPS UP TO 6" WIDE.



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THE MULTI-PURPOSE PANEL

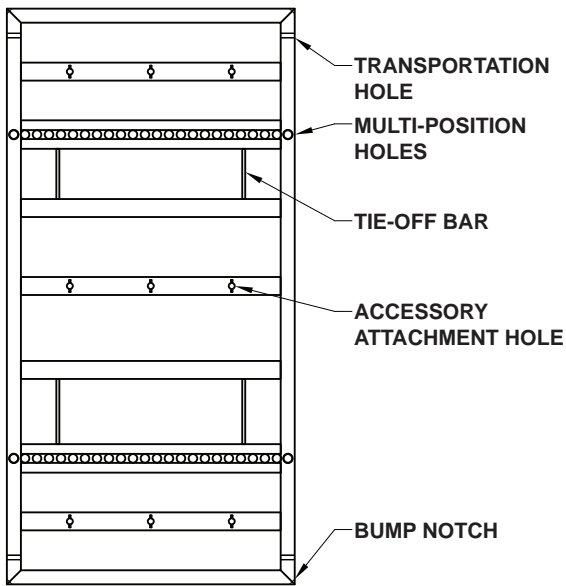


FIG. 1: THE MULTI-PURPOSE PANEL

THE MULTI-PURPOSE PANEL IS DESIGNED TO EASILY FORM 90° CORNERS, COLUMNS, PILASTERS, AND CONNECTIONS TO EXISTING WALLS. WITH HOLES SPACED AT 2" O.C. ACROSS THE FULL WIDTH OF THE FORM FOR MOUNTING TIES OR COLUMN CLAMPS, MANY SIZE CONFIGURATIONS CAN BE ACHIEVED. 12' PANELS HAVE 3 ROWS OF MULTI-PURPOSE HOLES, 8' PANELS HAVE 2 ROWS, AND 4' AND 2' PANELS HAVE 1 ROW.

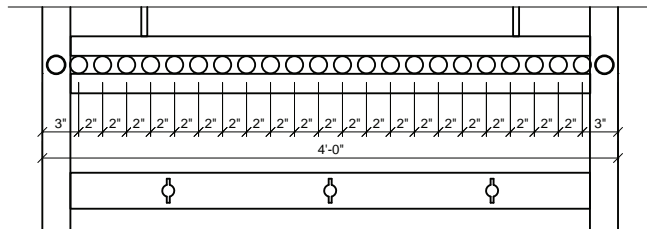


FIG. 2: MPP HOLE SPACING

TO FORM A 90° CORNER, YOU CAN USE AN MPP AND A STANDARD PANEL CONNECTED WITH A COLUMN CLAMP. THE MPP CAN BE USED TO FORM CORNERS WITH WALL THICKNESSES UP TO 2'-2" IN 2" INCREMENTS (FIG. 3), OR WITH THE ADDITION OF 1" FILLERS, 1" INCREMENTS (FIG. 4).

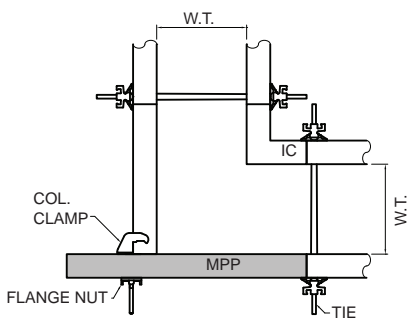


FIG. 3: USING MPP FOR EVEN WALL THICKNESS

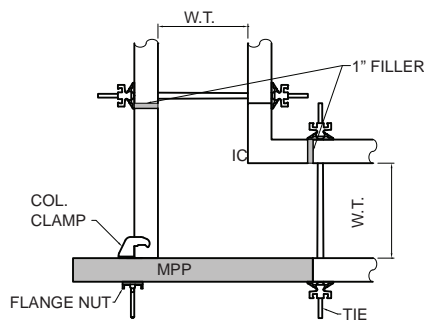


FIG. 4: USING MPP FOR ODD WALL THICKNESS

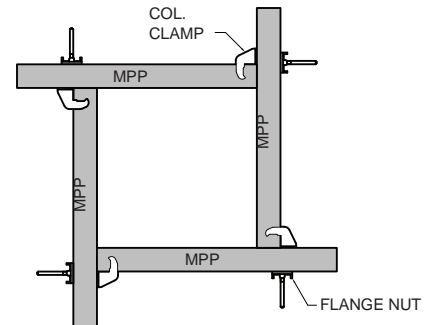


FIG. 5: MPP TO FORM COLUMNS THE MPP CAN BE USED TO FORM COLUMNS IN 2" SIZE INCREMENTS UP TO 3'-2".

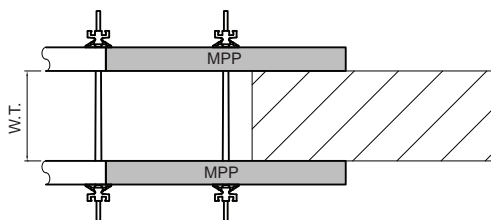


FIG. 6: USING MPP TO CONNECT FORMWORK TO EXISTING WALL

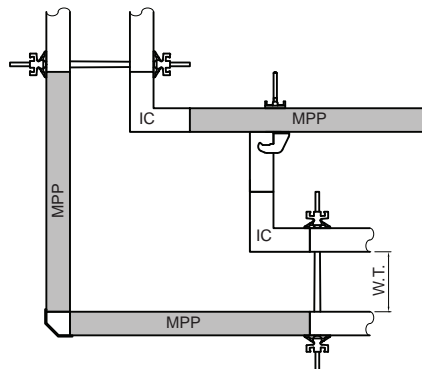


FIG. 7: USING MPP TO FORM PILASTERS AT CORNERS



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HEIGHT EXTENSION CAPABILITY

GAMCO CLAMP GANG PANELS CAN BE USED IN EITHER THE VERTICAL OR HORIZONTAL POSITION, AND IN ANY HEIGHT COMBINATION. HEIGHT EXTENSIONS ARE MADE USING 1' OR 2' PANELS. USING THE ASSEMBLY LOCK CLAMP, PANEL CONNECTIONS CAN BE MADE AT ANY LOCATION ALONG THE FRAME RAILS. JOB SPECIFIC CONDITIONS ARE DETAILED ON DESIGN DRAWINGS PROVIDED BY THE GAMCO ENGINEERING DEPT. IN GENERAL THERE MUST BE (3) ASSEMBLY LOCK CLAMPS FOR EVERY 12' PANEL JOINT AND (2) CLAMPS FOR EVERY 8', 4', 3', 2' AND 1' JOINT.

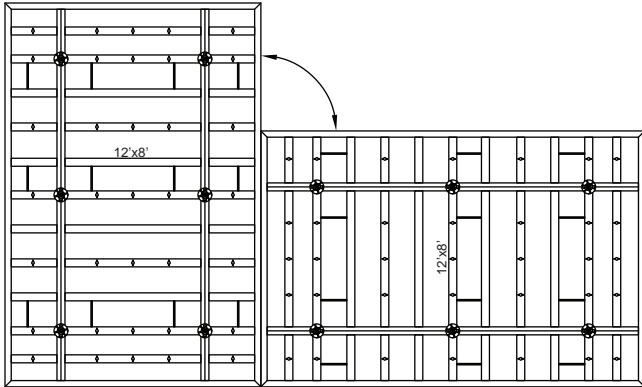


FIG. 1: PANELS CAN BE USED IN EITHER THE VERTICAL OR THE HORIZONTAL POSITION.

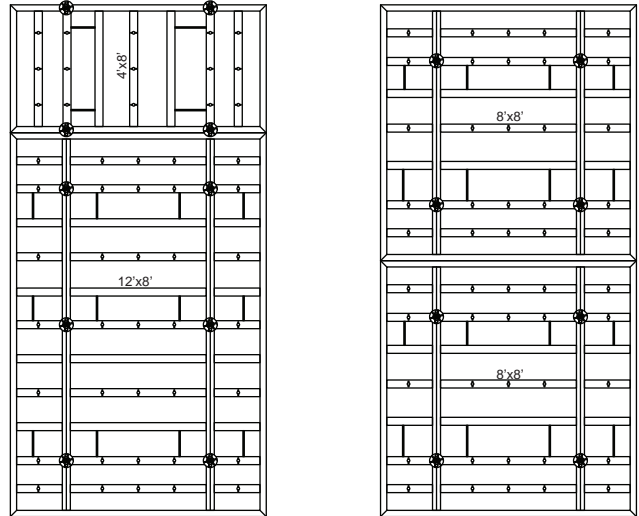


FIG. 2: PANELS CAN BE STACKED IN EITHER THE VERTICAL OR HORIZONTAL POSITION.

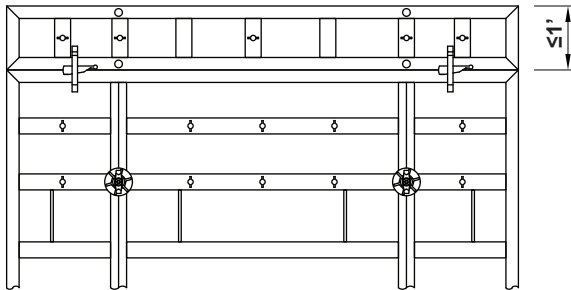


FIG. 3.1: NO TIE REQUIRED FOR HEIGHT EXTENSIONS $\leq 1'$ ABOVE LOWER FORM.

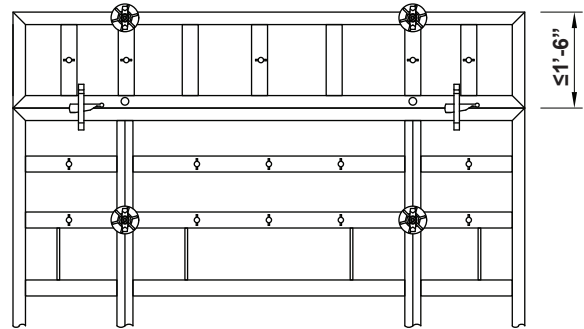


FIG. 3.2: FOR HEIGHT EXTENSIONS $>1' \leq 1'-6''$ ABOVE THE LOWER FORM A TIE IS ONLY REQUIRED IN THE TOP TIE HOLE.

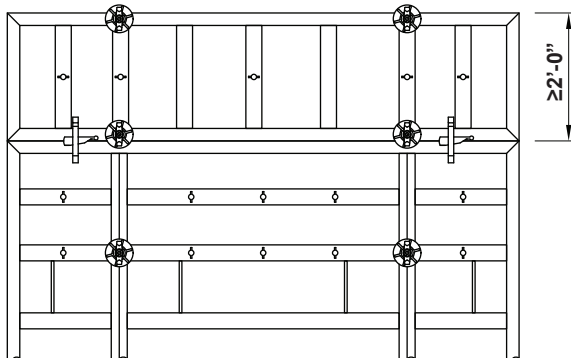


FIG. 3.3: FOR HEIGHT EXTENSIONS $\geq 2'$ ABOVE THE LOWER FORM A TIE IS REQUIRED IN EVERY TIE LOCATION.

WHEN STACKING PANELS, A HEIGHT EXTENSION OF LESS THAN 1' DOES NOT REQUIRE A TIE IN THE TOP PANEL (SEE FIG. 3.1).

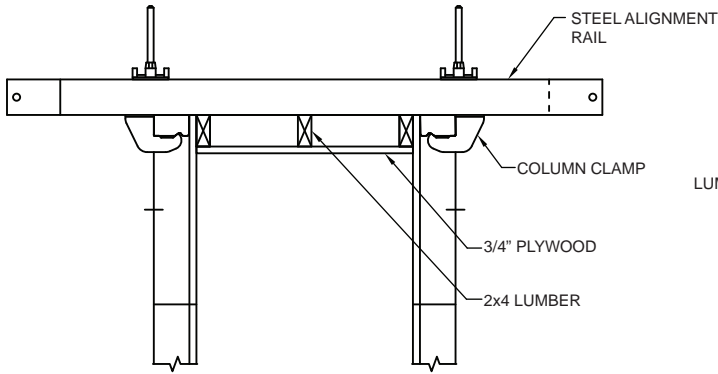
FOR HEIGHT EXTENSIONS GREATER THAN 1' BUT LESS THAN 1'-6" ADDITIONAL TIES ARE ONLY REQUIRED IN THE TOP TIE POSITION (SEE FIG.3.2).

FOR HEIGHT EXTENSIONS GREATER THAN 2' ABOVE THE LOWER PANEL TIES SHOULD BE USED IN ALL TIE LOCATIONS (SEE FIG.3.3).



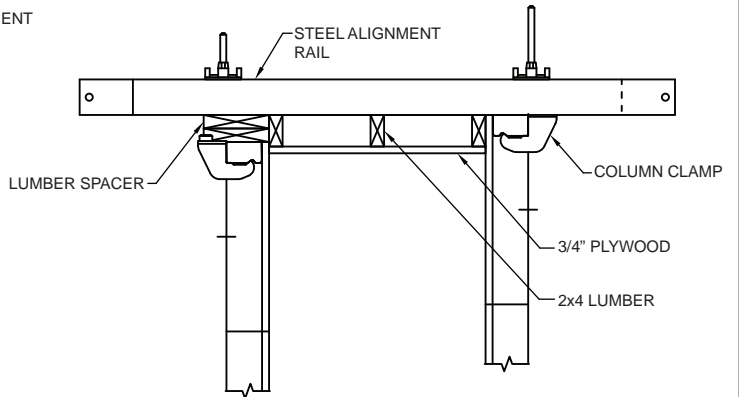
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GAMCO CLAMP GANG BULKHEAD FORMING



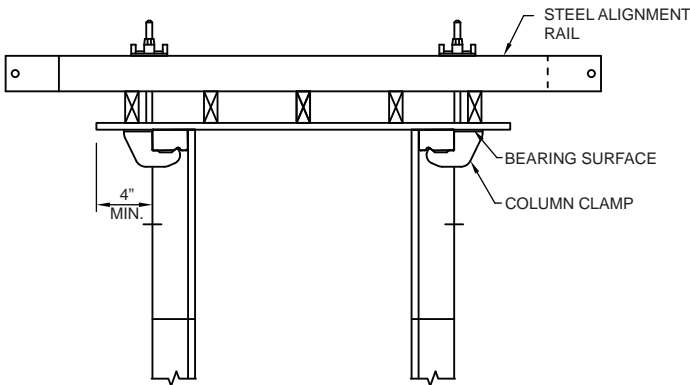
OPTION 1:

THE PROPER WAY TO FORM A BULKHEAD IS TO BUILD IT INTO THE GANG FORM. THE ALIGNMENT RAIL MUST BE SQUARE WITH THE END RAIL OF THE FORM. THIS ALLOWS THE COLUMN CLAMP TO STAY SQUARE FOR PROPER TIGHTENING.



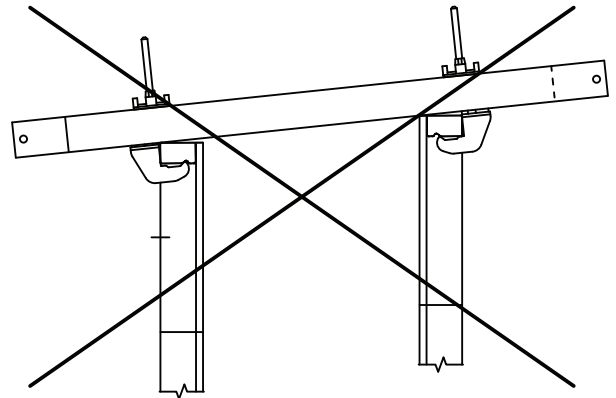
OPTION 2:

THE PROPER WAY TO FORM A BULKHEAD WHEN THE GANG FORMS ARE OFFSET IS TO ADD LUMBER SPACERS UNTILL THE FORMS ARE IN ALIGNMENT. LUMBER SPACERS MUST BE LONG ENOUGH TO PROVIDE A SURFACE



OPTION 3:

BUILDING THE BULKHEAD OUTSIDE OF THE GANG FORM IS **NOT** PREFERRED. IF NECESSARY, THE PLYWOOD AND LUMBER MUST RUN A MINIMUM OF 4" PAST THE END RAIL TO PROVIDE A SURFACE FOR THE COLUMN



THIS IS **NOT** AN OPTION FOR FORMING BULKHEADS

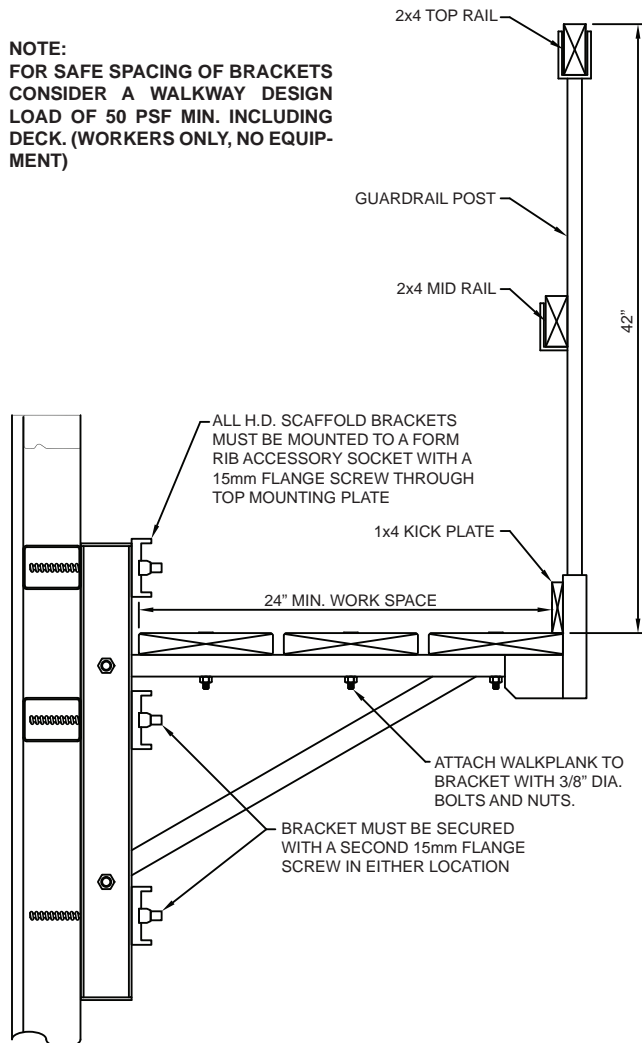


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GAMCO SCAFFOLD BRACKET & GUARDRAIL POST

TECHNICAL AND SAFETY DATA SHEET

NOTE:
FOR SAFE SPACING OF BRACKETS
CONSIDER A WALKWAY DESIGN
LOAD OF 50 PSF MIN. INCLUDING
DECK. (WORKERS ONLY, NO EQUIP-
MENT)



NOTE:
WHENEVER USING GAMCO PRODUCTS
ALL APPLICABLE FEDERAL, STATE
AND LOCAL CODES MUST BE OBSERVED.

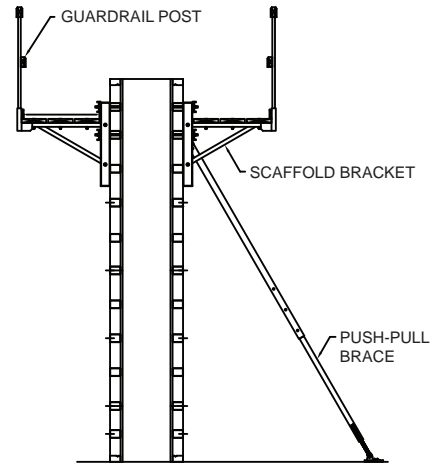


FIG. 1: GUARDRAIL OPTION 1 - SCAFFOLD BRACKETS BOTH SIDES OF FORM.

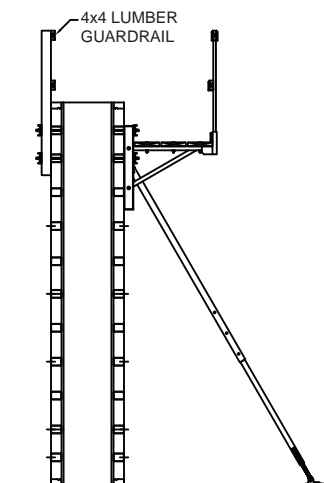


FIG. 2: GUARDRAIL OPTION 2 SCAFFOLD BRACKET ON ONE SIDE OF FORM WITH 4x4 LUMBER GUARDRAIL ATTACHED TO THE OTHER SIDE

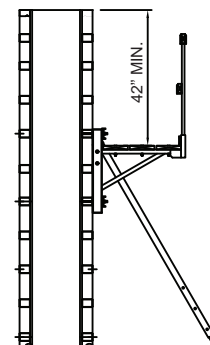


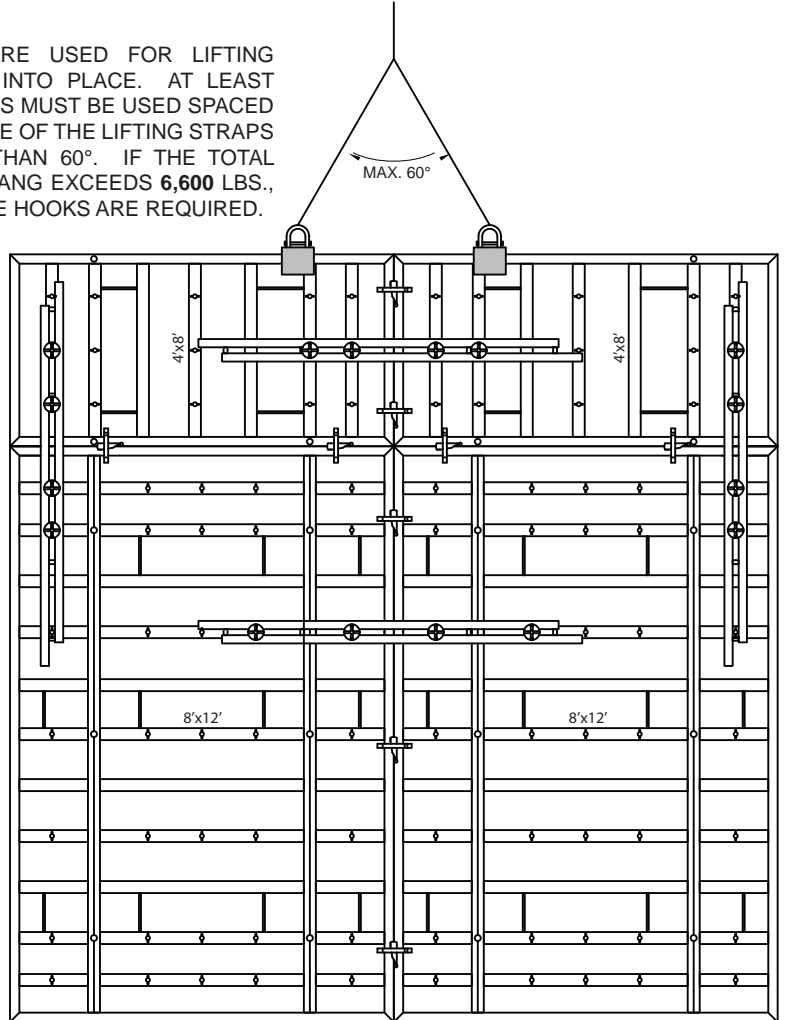
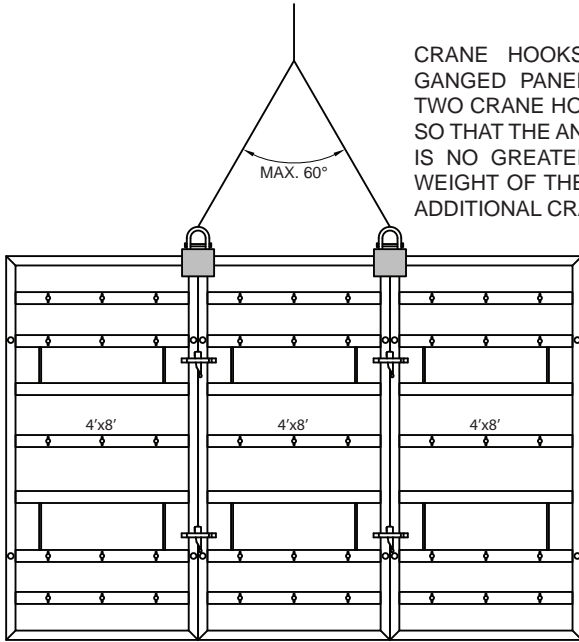
FIG. 3: GUARDRAIL OPTION 3 SCAFFOLD BRACKET ON ONE SIDE OF FORM ATTACHED TO A LOW ACCESSORY POINT AT LEAST 42" BELOW TOP OF FORM.



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GAMCO CLAMP GANG CRANE LIFTING

CRANE HOOKS ARE USED FOR LIFTING GANGED PANELS INTO PLACE. AT LEAST TWO CRANE HOOKS MUST BE USED SPACED SO THAT THE ANGLE OF THE LIFTING STRAPS IS NO GREATER THAN 60°. IF THE TOTAL WEIGHT OF THE GANG EXCEEDS 6,600 LBS., ADDITIONAL CRANE HOOKS ARE REQUIRED.



STEEL ALIGNMENT RAILS MUST BE MOUNTED AT BOTH HORIZONTAL AND VERTICAL JOINT POSITIONS WHEN CRANE LIFTING TO PROVIDE THE NECESSARY FLEXURAL RIGIDITY. ALIGNMENT RAILS ARE MOUNTED TO FORMS AT ACCESSORY ATTACHMENT HOLE LOCATIONS WITH (4) FLANGE SCREWS (2 SCREWS ON EACH SIDE OF THE JOINT).



CRANE HOOK

JOBSITE TRANSPORTATION

USING THE CRANE SLINGS WITH 4 LIFTING HOOKS, FORMS CAN EASILY BE LOADED AND UNLOADED FROM TRUCKS AND MOVED AROUND THE JOB SITE. LIFTING HOOKS INSERT INTO THE TRANSPORTATION HOLES IN THE BOTTOM FORM OF A STACK. ALWAYS USE 4 HOOKS WHEN TRANSPORTING STACKS OF PANELS. THE ALLOWABLE LOAD BEARING CAPACITY OF (4) LIFTING HOOKS IS 4400 LBS. (ASSUME 14 PSF FOR FORM WEIGHT). BEFORE LIFTING, CHECK TO MAKE SURE THE LIFTING HOOK ASSEMBLY IS LOCKED IN PLACE.



CRANE SLINGS



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CONCRETE PLACEMENT PRACTICES

FOR GAMCO CLAMP GANG FORM SYSTEM

Recommendations for placement of concrete:

- Concrete should be placed in layers which can vary in height from 18" to 4'
- Concrete should not be allowed to free fall from heights greater than 5'
- Vibration should be done layer by layer, never penetrating more than 18" into the previous layer
- It is not recommended to vibrate the concrete over the full height. Overall vibration does not provide any further compaction, as the concrete is fully compacted with initial vibration. Water bubbles which create shrinkage cavities may be formed by over-vibration.

Tie Size	Safe Working Load* (lbs.)	Max Liquid Head (ft)**
Taper Tie 1" to 1-1/4" 20mm Euro	32,500	12
20mm Euro Thread Bar	39,200	12
20mm She Bolt	37,500	12
1" Coil Rod	38,000	12
3/4" Coil Rod	18,000	10

- *Safe Working Load provides for a Safety Factor of 2:1
- **The Gamco Clamp Gang Form has a recommended maximum liquid head of 12 ft (10 ft for 3/4" Coil Rod). Following the above guidelines, concrete can be poured to a height of 12ft (10ft for 3/4" coil rod) without limiting the rate of placement.
- Maximum tie spacing for the Gamco Clamp Form:
 $4.25\text{ft} \times 4\text{ft} = 17 \text{ sq.ft. per tie}$
 $17 \text{ sq.ft.} \times 2000 \text{ lb/sq.ft.} = 34,000 \text{ lbs tie load}$
- The Gamco Clamp Gang Form is rated for a maximum lateral pressure of 2000 lbs/sq.ft.

Rate of Placement R (ft. per hr.)	Base Values For Lateral Pressure on Wall Forms <i>p</i> , Maximum Lateral Pressure, psf, for temperature (°F) indicated					
	40	50	60	70	80	90
1	1305	1074	920	810	728	663
2	1375	1130	967	850	763	694
3	1445	1186	1013	890	798	726
4	1515	1242	1060	930	833	757
5	1585	1298	1107	970	868	788
6	1655	1354	1153	1010	903	819
7	1725	1410	1200	1050	938	850
8	1795	1466	1247	1090	973	881
9	1865	1522	1293	1130	1008	912
10	1935	1578	1340	1170	1043	943
11	2005	1634	1387	1210	1078	974
12	2075	1690	1433	1250	1113	1006
13	2145	1746	1480	1290	1148	1037
14	2215	1802	1527	1330	1183	1068
15	2285	1858	1573	1370	1218	1099

• The Gamco Clamp Gang Form System is not recommended for use at rates below the heavy line.

• Walls with Placement Height Less Than 14ft:

General Formula: $p \cong 150 + 9000 R/T$ (ACI 347-04)

- Applies to walls with R less than 7 ft/hr where placement height is less than 14 ft

• Walls with Placement Height Greater Than 14ft:

Modified Formula: $p \cong 150 + 43,400/T + (2,800 R)/T$ (ACI 347-04)

- Applies to walls with R greater than 7 ft/hr and less than 15 ft/hr and walls with a placement height greater than 14 ft.

For controlled pours of normal weight (150 lb/ft³) in 18" layers, vibrated no more than 4'-0" deep, no retarders, plasticizers, or water-reducing agents. 15 ft/hr is considered to be the maximum rate of placement for controlled pours in wall forms. Adjust the calculated pressure accordingly for mix densities other than 150 lb/ft³. Temperatures given are concrete temperatures at end of chute. Outside air temperatures change stripping and curing time, not form pressure.

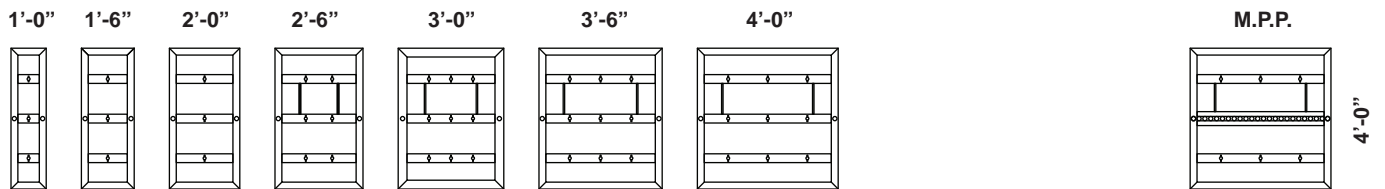
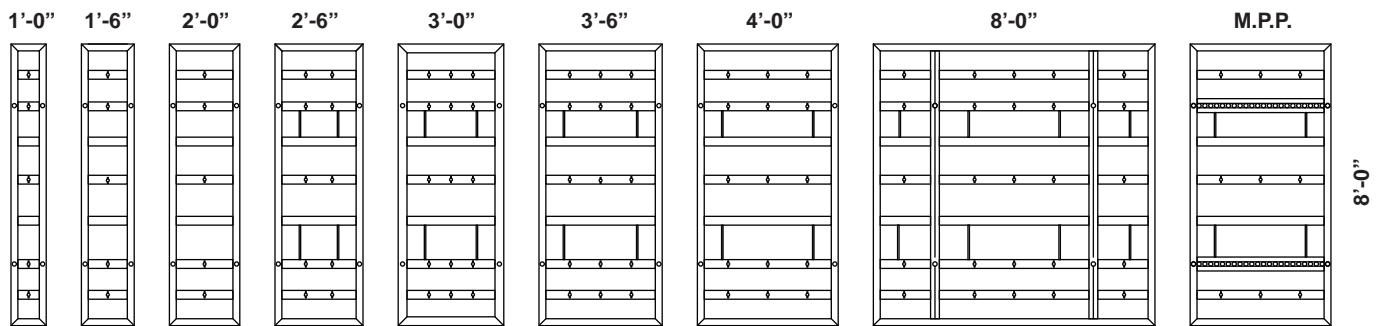
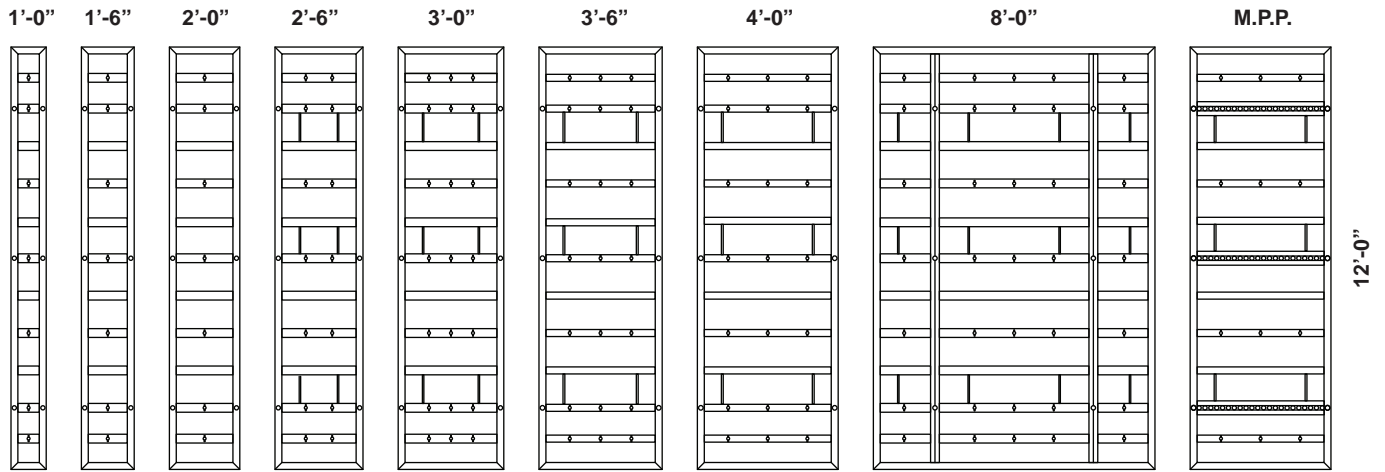
This chart is derived from formulas outlined in ACI 347-04



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GAMCO CLAMP GANG FORM PARTS IDENTIFICATION

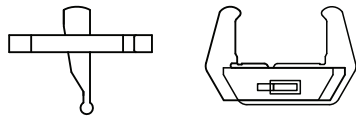
PANEL SIZES



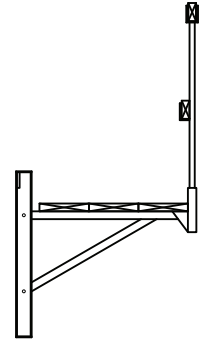
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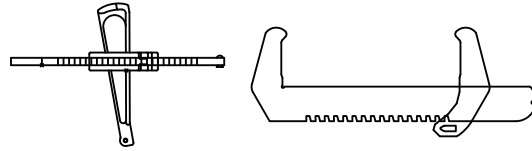
- ASSEMBLY LOCK CLAMP



- GUARDRAIL POST



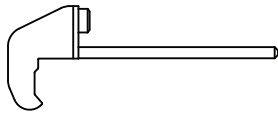
- UNI-ASSEMBLY CLAMP



- SCAFFOLD BRACKET



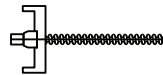
- COLUMN CLAMP



- CRANE HOOK

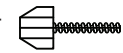


- FLANGE SCREW

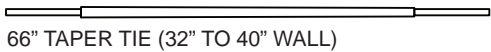


- CRANE SLING AND LIFTING HOOKS

- BRACE ATTACHMENT BOLT

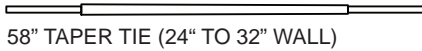
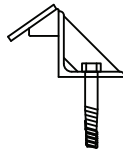


20mm TAPER TIES:



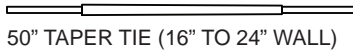
66" TAPER TIE (32" TO 40" WALL)

- SHOE PLATE



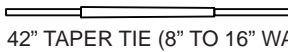
58" TAPER TIE (24" TO 32" WALL)

- ARTICULATING FLANGE NUT



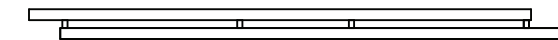
50" TAPER TIE (16" TO 24" WALL)

- FLANGE NUT



42" TAPER TIE (8" TO 16" WALL)

- STEEL ALIGNMENT RAIL
(8'-0" & 5'-6")



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