Advantages of Gang Forming:
- Lower construction costs
- No loose hardware
- Gang form both sides
- Pass-thru form ties

GATES #5 Anchor-Lock System uses 3/4" plywood with the 2x6 flat walers on 12" centers, crossed by 4 x 4's on 24" centers to minimize the unsupported plywood span. GATES Anchor-Locks are spaced 24" x 24" (or 4 sq. ft. per tie).
GANG FORMING IS BECOMING INCREASINGLY MORE POPULAR AND PRACTICAL ON MANY TYPES OF CONCRETE WORK WHERE REPEATED USE OF THE FORMS CAN BE MADE. BECAUSE THE ANCHOR-LOCKS ARE ATTACHED TO THE FORM, MOVING AND ResetTING OF THE FORM Can BE QUICKLY ACCOMPLISHED.

**GATES PICK-UP LOOP**

3/4” Plywood form

2x6 Waler on flat

A secondary strap from the bottom of the Pick-Up Loop down with one additional bottom bolt must be used.

**A Safety Requirement:**

Four (4) bolts must always be used when attaching Pick-Up Loop, as shown.

NO LOOSE HARDWARE! Design service available from GATES

**GATES Anchor-Lock Gang Form Pass-Thru Tie**

As the tie is inserted into the form, the plastic cone on the form tie sweeps out any foreign material that may be inside the plastic sleeve.

You must add cross bolts above the Pick-Up Loop bolt as a safety precaution.

**GATES #5 ANCHOR-LOCK GANG FORM**

The GATES Form System uses 3/4” plywood with flat 2x6’s on 12” centers and vertical 4x4 strongbacks spaced on 24” centers. The GATES #5 Anchor-Lock is spaced 24”x24”. Tie spacing must never exceed 4 square feet per tie.

2x6 Flat waler

Vertical 4x4’s on 16” centers

The GATES #5 Anchor-Lock plates may be attached as the gang forms are set in place for the first time.
You can have LEAK-PROOF corners using GATES adjustable Pin’N Lock heavy duty outside steel corners, with no loose parts.

Bolt outside corner units to corner of gangs. Position as shown in top view (at right).

GANG FORM CONNECTION WITH NO LOOSE HARDWARE!

GATES PIN’N LOCK OUTSIDE CORNER

GATES RETRACTABLE INSIDE CORNER
For use in elevator or stair gang forms. Provides 5/8" clearance on each side at all 4 corners.

4x4 Strongbacks with Anchor-locks attached
2x6 Waler on flat
3/4" Plywood form

USE OF GATES ‘U’ CLAMPS TO ATTACH FORMS

Attach GATES connecting ‘U’ Clamps with chain to end of one gang form with large staple or 5/16"x2" lag screw every 2x6 flat waler.

‘U’ CLAMP

TOP VIEW

OUTSIDE CORNER

OUTSIDE CORNER

TOP VIEW

GANG FORM CONNECTION WITH NO LOOSE HARDWARE!

GATES PIN’N LOCK OUTSIDE CORNER

ALTERNATE METHOD

OUTSIDE CORNER OUTSIDE CORNER

GANG FORM CONNECTION WITH NO LOOSE HARDWARE!

GATES RETRACTABLE INSIDE CORNER

TOP VIEW

INSIDE CORNER

TOP VIEW

ALTERNATE METHOD

U-Clamps

4 1/4"x 4 1/4"x 3/16"
Outside Angle

2"x2"x3/16" Angle

Gang Form

4x4 Strongbacks with Anchor-Locks attached
2x6 Waler on flat
3/4" Plywood form

‘U’ CLAMP

WITH CHAIN
FOUR STEPS TO KEEP YOUR FABRICATION COSTS LOW...

STEP #1:
BUILD TEMPLATE (JIG TABLE)

3/4" Plywood cleats or 2x4 blocking to position the 2x6 walers.

Blocking to position 4x4 strongbacks

Template should be built high enough above the ground so that the carpenters may work under the gang to tighten bolts.

After the jig table is built, diagonal braces should be added to keep it perfectly square throughout the building of all gang forms.

Nail blocking lightly so they may be moved in or out for different length gang forms.

Template (Jig Table) must be built square, level & sturdy to support gang form.

STEP #2:
POSITIONING OF 4x4 STRONGBACKS AND 2x6 FLAT WALERS

2x6 Waler being set in place on template.

Pick-up loops attached to 4x4 as shown (see pg. 2)

4x4 Strongbacks are placed on 24" centers 12" in from each edge. They are then crossed by 2x6's on the flat on 12" centers from top to bottom of the gang form. Tie spacing must never exceed 4 square feet per tie.

After template is built, 4x4 strongbacks and 2x6 walers are cut to required length and placed between 4x4 and 2x4 blocking as shown.
USING A GANG FORM BUILDING TEMPLATE

STEP #3: BUILDING GANGS

Typical 16'-0" wide by 12'-0" GATES Anchor-Lock gang form

3/4" Plywood panels attached with drywall screws to 2x6 walers

When all 2x6 walers are set in place on template, set 3/4" plywood panels over 2x6 walers and nail to walers preferably with cement coated or ring-shank nails, or drywall screws.

Be certain form is square before fastening plywood.

Template should be built high enough above the ground so that the carpenters may work under the gang to tighten bolts.

After the jig table is built, diagonal braces should be added to keep it perfectly square throughout the building of all gang forms.

STEP #4: DRILLING OF FORMS

3/4" Plywood panels attached with drywall screws to 2x6 walers.

Bolt 4x4 strongbacks to gang with 3/8" dia. bolt. Bolt through panels, walers and strongbacks.

2'-0"x2'-0" Tie spacing

Drill 1" hole through panel and walers for GATES plastic tie hole sleeve. If sleeve is not used drill 7/8" hole (See pg. 8)

3/4" Ply. 2x6 On the flat

2'-0"x2'-0" Angle may be attached to form while still on template for gang connections. Hold angles in place w/C Clamp while bolting.

On each side of the gang form, hold 2x2 angles back 0"-1/32" from edge of plywood.

After plywood is attached use GATES Drill Stand to drill vertical tie holes.

USING A GANG FORM BUILDING TEMPLATE

3/4" Ply. 2x6 On the flat

2'-0"x2'-0" Angle

5/16"x1 1/2" F.H. Bolt

4x4 Strongback
GATES ADJUSTABLE RADIUS WALL GAN FORMS

Use vertical 4x4s with 2"x3" rolled radius waler from GATES.

Contact GATES for proper form design on your next radius wall project.

Plywood Bending Table

<table>
<thead>
<tr>
<th>Diameter (ft)</th>
<th>Plywood (in)</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-0&quot;</td>
<td>1/4&quot;</td>
<td>3 pcs.</td>
</tr>
<tr>
<td>30-0&quot;</td>
<td>3/8&quot;</td>
<td>2 pcs.</td>
</tr>
<tr>
<td>40-0&quot;</td>
<td>3/8&quot;</td>
<td>2 pcs.</td>
</tr>
<tr>
<td>50-0&quot;</td>
<td>5/8&quot;</td>
<td>1 pc.</td>
</tr>
<tr>
<td>60-0&quot;</td>
<td>3/4&quot;</td>
<td>1 pc.</td>
</tr>
<tr>
<td>And Larger</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

GATES radius #5 Anchor-Lock forms produce a smooth curved surface.

#5 Anchor-Lock

2"x2 Angle each end to attach gangs together

GATES adjustable 2"x3" rolled radius steel waler spaced 6'-0"- 8'-0" apart

Vertical 4x4's on 16" centers

Additional GATES rolled 2"x3" waler should be added when radius is less than 30'-0"
For safe lifting, GATES gang forms should be picked up with the pick-up cables as close to plumb (90° to the top of the form) as possible. As the pick-up cables move away from plumb they lose lifting capacity, until at a 45° angle they have lost 1/2 (See Chart).

Alternate Attachment

Attach Scaffold Bracket arms over ears on C-section

Lag bottom of Scaffold Bracket to 4x4 strongback

Space GATES Scaffold Brackets at 6'-0" O.C.

Attach GATES Scaffold Bracket as shown with (2) 3/8"x6" hex bolts.

NOTE: Never attach a Scaffold Bracket to the back of the form with lag screws!

24" min. work space must be provided to meet safety requirements.

When attaching Scaffold Bracket to fir 4x4's (2) 3/8"x6" hex head bolts with washers must be used.

GATES HEAVY DUTY SCAFFOLD BRACKET

PROPER FLAT HEAD BOLT SIZES

5/16"x1 3/4" F.H. Bolts

5/16"x3" F.H. Bolts

3/8"x6 1/2" F.H. Bolts

3/8"x7 1/2" F.H. Bolts

3/8"x8 1/2" F.H. Bolts

3/8"x6" Lag Bolts

PROPER PICK-UP OF GANGS
GATES #5 ANCHOR-LOCK PLASTIC SLEEVE

- Easy to build into forms
- Centers Anchor-Lock over tie holes
- Fits closely around plastic tie cones to prevent excessive grout loss
- Cleans laitance from tie holes as ties are inserted

Step #1
Drill 1" hole thru 4x4 and 3/4" plywood from face side of form.

Step #2
Insert plastic sleeve from 4x4 side of form.

Step #3
Center and place Anchor-Lock over lip of plastic sleeve and nail in place.

Step #4
Tie with GATES molded cone locked in place.

GATES #5 WIRE TIE WITH PLASTIC PASS-THRU CONE AND 1-1/2" BREAKBACK

GATES #5 TAPER TIE

Always space your GATES form ties so that the working load NEVER EXCEEDS the safe load rating based on temperature, wall height, and speed of placement.

GATES #5 Anchor-Lock Tie:
• Ultimate Strength 6,500#
• 1.5 Safety rating 4,332#
• 2.0 Safety rating 3,250#
• Refer to formulas derived by ACI Committee 622

As the tie is inserted into the form, the plastic cone on the form sweeps out any foreign material that may be inside the plastic sleeve. If GATES plastic sleeves are not used, drill 7/8" tie holes in lumber.

GATES #5 TYPE ‘A’ TIE END WITH 3/8" INNER TIE