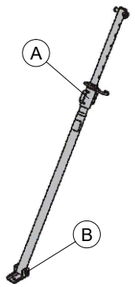
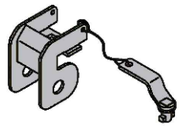


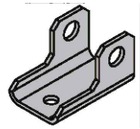
Galvanized	28.2 lbs.
4'-10" min. length	
8'-5" max. length	

(A) Plumbing Strut 260 IB



Galvanized	3.1 lbs.
3 1/2" wide	
5 1/2" height	

Strut Head EB (for Strut 260 IB)



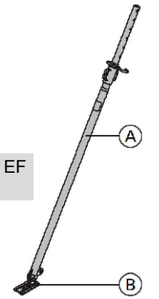
Galvanized	2.1 lbs.
3 1/4" wide	
5" height	

(B) Strut Shoe EB (for Strut 260 IB)

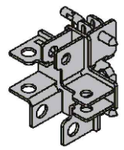
Strut 340
consisting of:

(A) Plumbing Strut 340 IB EF
Galv. Len.: 6'-3" to 11'-3"

(B) Prop Shoe EB
Galv. L: 8" W: 4 1/2" H: 4"



Plumbing Strut 340 IB EF



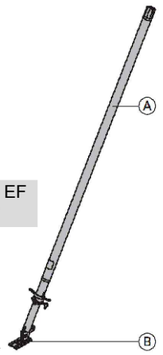
Galvanized	8.6 lbs.
7 1/2" wide	
7 1/2" height	

Bracing Head EB

Strut 540
consisting of:

(A) Plumbing Strut 540 IB EF
Galv. Len.: 10'-2" to 18'-0"

(B) Prop Shoe EB
Galv. L: 8" W: 4 1/2" H: 4"



Plumbing Strut 540 IB EF

Painted Blue	21.2 lbs.
3'-5" Length	

Connection Profile EB

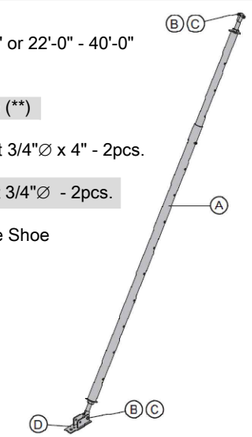
Pipe Brace:
**12'-0" - 21'-0" or 22'-0" - 40'-0"
consisting of:

(A) Pipe brace (**)

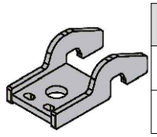
(B) Speed Bolt 3/4"∅ x 4" - 2pcs.

(C) Speed Nut 3/4"∅ - 2pcs.

(D) Pipe Brace Shoe



Pipe Braces



Galv.	1.2 lbs.
5" Length	
2 3/4" width	

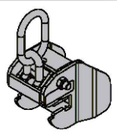
Bracing Clip (Anchoring to FOOTING)

Galv.	0.6 lbs.
7" Length	
see	sht. A006

Doka Express Anchor (SALE ITEM) (Re-USABLE)

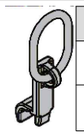
Galv.	0.2 lbs.
5/8" ∅	
see	sht. A006

Coil 16mm (SALE ITEM - (Singel Use)



Galv.	16.5 lbs.
6" width	
8" height	see "Operating instructions"

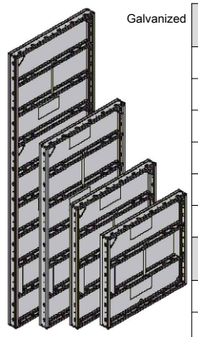
Frami Lifting Hook



Galv.	1.2 lbs.
7" length	see "Operating instructions"

Frami Transport Hook

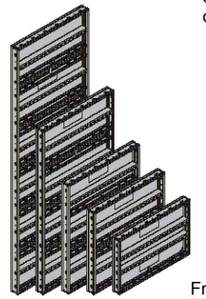
Plumbing / Bracing / Lifting / Pouring Components



Galvanized

Panel x 9'-0"	lbs.	Panel x 6'-0"	lbs.
3'-0" wide	181	3'-0" wide	135
2'-6" wide	159	2'-6" wide	109
2'-0" wide	145	2'-0" wide	98.8
1'-6" wide	116	1'-6" wide	80.2
1'-0" wide	95	1'-0" wide	65.3
0'-6" wide	63.5	0'-6" wide	41.9
Panel x 4'-0"	**lbs.**	**Panel x 3'-0"**	**lbs.**
3'-0" wide	94.8	3'-0" wide	69.4
2'-6" wide	75.8	2'-6" wide	61.3
2'-0" wide	66.1	2'-0" wide	53.1
1'-6" wide	67.5	1'-6" wide	45.2
1'-0" wide	46.1	1'-0" wide	37.5
0'-6" wide	29.3	0'-6" wide	21.8

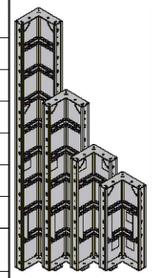
Standard Frami S Xlife Panels



Galvanized
Corners marked in blue

Universal Panel x 3'-0" wide	lbs.
9'-0" HT.	237
6'-0" HT.	162
4'-0" HT.	107
3'-0" HT.	83.8
2'-0" HT.	56.2

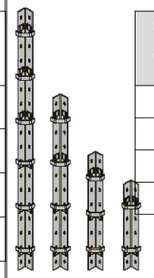
Frami S Xlife Universal Panels



Galvanized

Frami S Xlife Inside Corner	lbs.
1'-0" x 9'-0"	138
1'-0" x 6'-0"	94.1
1'-0" x 4'-0"	67.2
1'-0" x 3'-0"	52.5

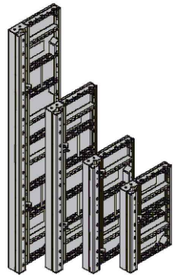
Frami S Xlife Inside Corners



Galvanized

Frami S Xlife Outside Corner	lbs.
x 9'-0"	54
x 6'-0"	35.5
x 4'-0"	24.3
x 3'-0"	17.4

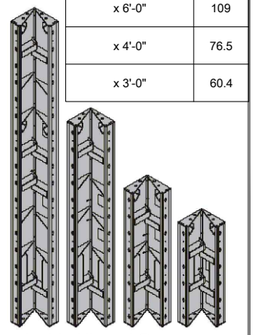
Frami S Xlife Outside Corners



Galvanized
Length: 2' (61 cm)
Width: 6" (15 cm)

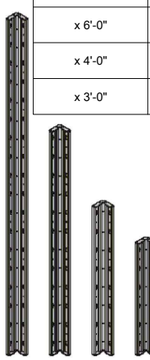
Frami S Xlife Pilaster Panel	lbs.
x 9'-0"	206
x 6'-0"	144
x 4'-0"	99.6
x 3'-0"	78.9

Frami S Xlife Pilaster Forms



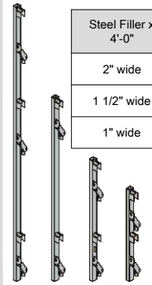
Hinged Inside Corner (H.I.C.) GALV.	lbs.
x 9'-0"	162
x 6'-0"	109
x 4'-0"	76.5
x 3'-0"	60.4

Inside Hinged Corners



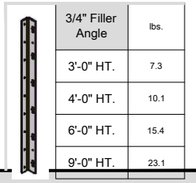
Hinged Outside Corner (H.O.C.) GALV.	lbs.
x 9'-0"	65
x 6'-0"	43
x 4'-0"	28.9
x 3'-0"	20.9

Outside Hinged Corners



Steel Filler x 9'-0"	lbs.	Steel Filler x 6'-0"	lbs.
2" wide	22.5	2" wide	15
1 1/2" wide	20.9	1 1/2" wide	13.9
1" wide	15.4	1" wide	9.3
Steel Filler x 4'-0"	**lbs.**	**Steel Filler x 3'-0"**	**lbs.**
2" wide	11	2" wide	9.7
1 1/2" wide	10.4	1 1/2" wide	8.6
1" wide	7.5	1" wide	6.4

Steel Fillers
Galvanized



3/4" Filler Angle	lbs.
3'-0" HT.	7.3
4'-0" HT.	10.1
6'-0" HT.	15.4
9'-0" HT.	23.1

Filler Angle 3/4"
Galvanized

Frami Panels, Corners, Pilasters, and Fillers

Taper tie 3/4"-1"x32" & 5/8" [16.0] ends 3.7
Taper tie 3/4"-1"x38" & 5/8" [16.0] ends 4.9
Taper tie 3/4"-1"x44" & 5/8" [16.0] ends 6.0
Taper tie 3/4"-1"x62" & 5/8" [16.0] ends 7.1
Kon. Ankerstab 3/4"-1" & 5/8" [15,0] End.

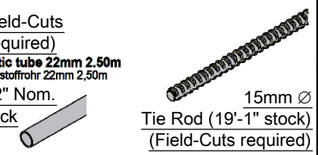
Rental Re-usable

Taper-Ties

Frami S she-bolt 5/8"x16" [16.0] 1.9
Frami S she-bolt 5/8"x24" [16.0] 2.6
Frami S-Ankerkopf 5/8"

She-Bolts
Rental Re-usable

(Field-Cuts required)
Plastic tube 22mm 2.50m
Kunststoffrohr 22mm 2,50m
8'-2" Nom.
Stock



15mm ∅
Tie Rod (19'-1" stock)
(Field-Cuts required)

Universal cone 22mm - Sale Item 0.011
Universal-Konus 22mm
Gray
Diameter: 1 5/8" (4 cm)

Plug 22mm - Sale Item 0.007
Verschlussstopfen 22mm
Gray

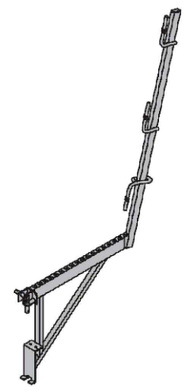
15mm∅ Threaded Rod Ties
(w/ Inner Tube & Cones) - Sale Items

Frami S frame hole plug - Form-Tie Holes 0.007
Frami S-Ankerstopfen
Brown
Diameter: 1 1/8" (3 cm)

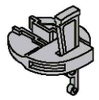
Frami universal panel plug - Univ. Panel 0.007
Frami-Abdeckstopfen
Yellow
Diameter: 3/4" (2 cm)

Form / Tie-Hole Plugs (Sale Items)

Tie-Systems

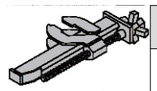


Galv.	17.0 lbs.
3-3" length	
5-2" height	
Follow "Operating Instructions"	see sht. A004



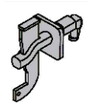
Galv.	2.6 lbs.
4 1/2" Length	

Frami Clamp



Galv.	7.9 lbs.
1'-4" Length	

Adjustable Clamp

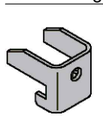


Galv.	2.4 lbs.
6 1/2" Length	

Wedge Clamp

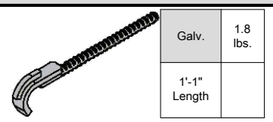
Galv.	lbs.
9" Length	0.95

Univ. Fixing Bolt 5-12cm



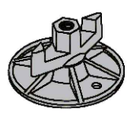
Galv.	1.3 lbs.

Frami Tie-Hole Bracket



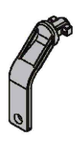
Galv.	1.8 lbs.
1'-1" Length	

Profile Connector 5-18cm



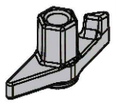
Galv.	2.4 lbs.
2'-1/4"	Height
4 1/2"∅	

Super-Plate 15.0



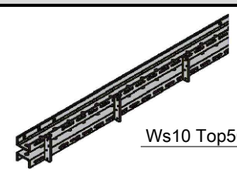
Galv.	0.57 lbs.
1 1/8" width	
4 1/2" Height	

Frami Clip



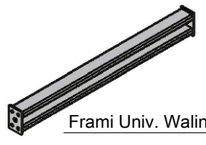
Galv.	0.68 lbs.
4" Length	
2" Height	

Wing Nut 15.0



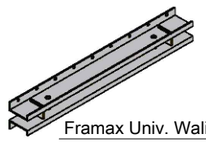
Painted Blue	82.2 lbs.
6'-0" Length	

Ws10 Top50 Waling: 6'-0"



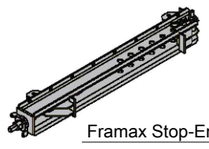
Painted Blue	lbs.
Waling 0.70m	8.2
Waling 1.25m	14.1

Frami Univ. Walings



Painted Blue	lbs.
Waling 0.9m	23.6
Waling 1.50m	39.2

Framax Univ. Walings



Galv.	19.4 lbs.
2'-9" Length	

Framax Stop-End Waling

For general safety notes, and standard details, please refer to sheet(s): A002

Please refer to the Corresponding "User Information" & "Operating Instructions" for additional information: @ www.Doka.com

No.	Description	Date	Drawn	CHECKED By
2	Released for FIELD USE	5/12/2017	AAS	RJM
1				

Revisions

Maximum Design Concrete Pressure = 1000 (48 kN/m²) P.S.F.(U.O.N.)

Doka USA Regional Office
Eastern Support Group
214 Gates Road
Little Ferry, New Jersey 07643
Phone: (877) DOKA-USA
Fax: (201) 329-6406

A003 - System Components
Frami S Xlife Formwork System Standards

Scale:	NTS	Approved:	
Drawn By:	AAS	Date Drawn:	5/12/2017
Checked By:	RJM	Date Checked:	5/12/2017
Sheet No.	A003	Revision: 2	Date Issued: 5/12/2017

Wkwy. Brkt. 60

Frami clamps, connectors, & hardware

Frami Walkway Bracket 60: Preconditions for use:

- Only fix the working platform onto form-work constructions that are sufficiently safe to transfer the expected loads.
- Also brace the formwork in a windproof manner when erecting it and when it is temporarily "parked" in the standing position.
- Ensure that the formwork gang has sufficient stiffness.
- Observe all applicable safety rules.
- The scaffold planks and guardrail material (supplied and furnished by contractor) shall meet or exceed any local, state, provincial or national regulations.

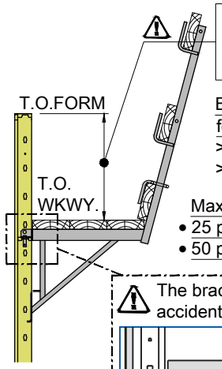


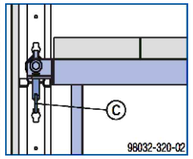
FIG. 1

When Applying to One side of Form gang set, Ensure Sufficient fall protection requirements are met.

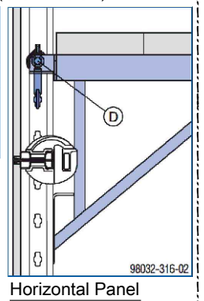
Below LL & OC's Comply with the following standards:
> OSHA 1926, >Subpart L
> CAN/CSA S26.1-16

Max. LL: Max. OC:
- 25 psf (120 kg/m²) = 6'-0" (1.8 m) oc
- 50 psf (239 kg/m²) = 4'-0" (1.22 m) oc

The brackets must be secured against accidental lift-out! (C & D below).



Upright Panel



Horizontal Panel

C Spring cotter

D Fastening pin + linch pin

FALL PROTECTION WARNING:
When Sufficient Fall protection Requirements can not be provided, Additional bracket 60 working platform assembly is Recommended on opposite side (as shown FIG. 2), or provided by contractor. For fall protection at walkway "bulkhead", see FIG. 3 this detail.

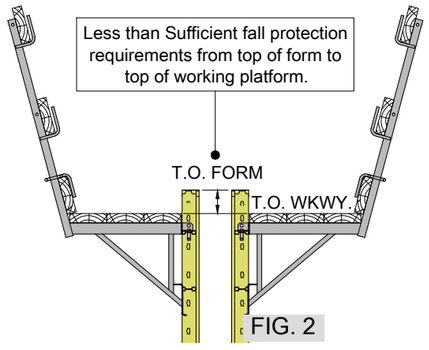


FIG. 2

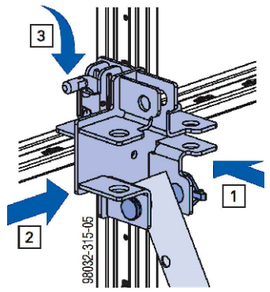
A Handrail Clamp S or Handrail by others

B Guardrail Planking by others (min. 2x4)

C Guardrail Planking by others (min. 2x6)

D Frami Bracket 60 (see above for LL and OC spacing)

1 Working Platform & Fall Protection Details and Saftey Notes

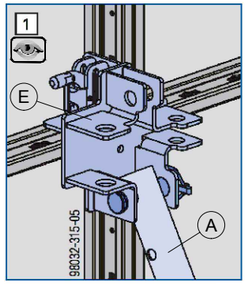


Steps for attaching Frami S Bracing Head to the Frami S Xlife frame profile:

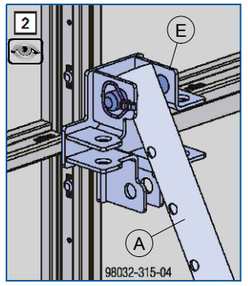
1) Place the Bracing Head onto an empty cross profile.

2) Slide the bracing head until it is flush with the frame profiles.

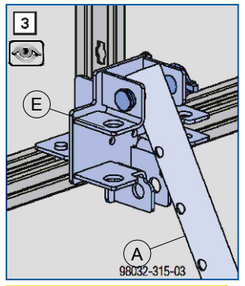
3) Push the U-bolt to secure the head in place.



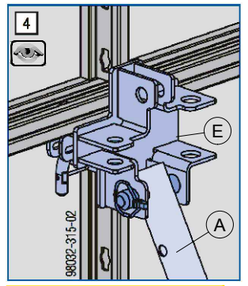
On a Vertically placed panel
(Panel Strut 340 / 540 shown)



On a Vertically placed panel
(Panel Strut 340 / 540 shown)

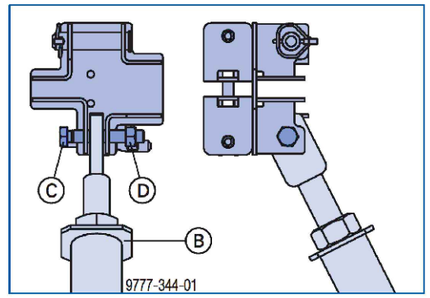


On a Horizontally placed panel
(Panel Strut 340 / 540 shown)



On a Horizontally placed panel
(Panel Strut 340 / 540 shown)

2A Bacing Head EB: Strut / Pipe brace



Conn. to: Pipe Braces (US) / or Eurex 60 550's (CAN)

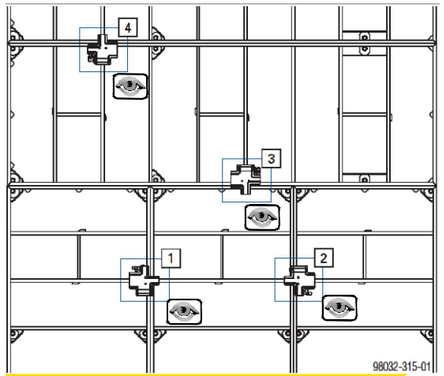


Diagram above shows: All Possible Connection Points (BRACING HEAD EB) on Vertically or Horizontally placed panels. (Fig. 1, 2, 3, 4 shown above)

A Strut 340 / 540

B Pipe Brace 12'-0" - 21'-0" (US) or Eurex 60 550 Struts (CAN)

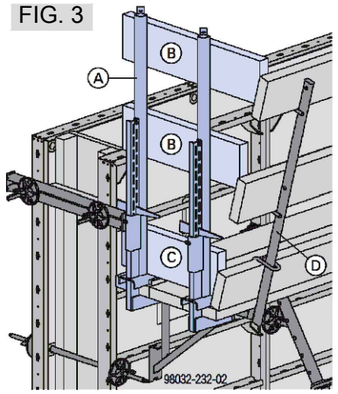
C 3/4"∅ x 4" Speed Bolt

D 3/4"∅ Speed Nut

E Bracing Head EB

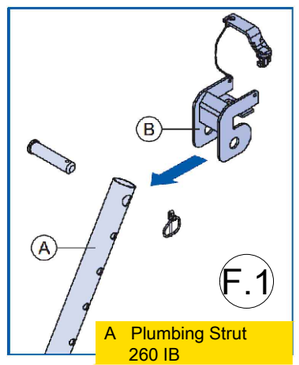
LEGEND: Frami Components

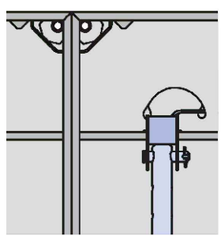
FIG. 3

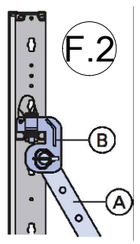


A Plumbing Strut 260 IB

B Strut Head EB



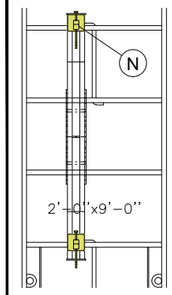




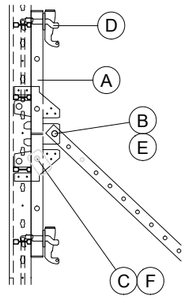
(Fig. 1)
Fit the Strut Head onto Plumbing Strut 260 IB.
(Fig. 2)
Fit the Strut Head into the holes in the CROSS PROFILE (frame profiles).

2 Plumbing Strut 260 Head: Strut 260, & Frami Panel Profile

Ref. sheet A005: Det. 4



Partial Elev. View



Partial Section

Upright Panel Position
Vertical position (Single or Stacked)

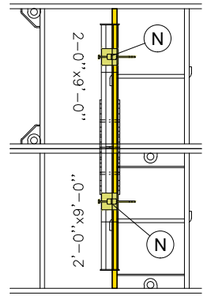
2B Frami S Conn. Profile EB on Frami Panels in Vertical position

Partial Elev. View

Partial Section

Universal Panel (3'-0" wide)
Upright Panel Position

2D Frami S Conn. Profile EB on Frami Universal Panels



Partial Elev. View

Partial Section

Note: Connecting Profile EB (A) MUST have full Frami rail bearing (N), and wedge clamp attachment as shown at (D) above!

Horizontally Stacked Panels
See Note

2C Frami S Conn. Profile EB on Frami Panels in Horizontal position

A Frami S Connection Profile EB

B Strut 340 / 540 Connecting location

D Frami Wedge Clamp

F 3/4"∅ x 6" Speed Bolt w/ Nut

N Profile EB Baring & conn. note (Ref. 2C)

LEGEND: Ref. Det. 2B, 2C, & 2D only!

For general safety notes, and standard details, please refer to sheet(s): A002

Please refer to the Corresponding "User Information" & "Operating Instructions" for additional information: @ www.Doka.com

No.	Description	Date	Drawn	Checked By
2	Released for FIELD USE	5/12/2107	AAS	RJM

Revisions

Maximum Design Concrete Pressure = 1000 (48 kN/m²) P.S.F.(U.O.N.)

This seal applies only to the application design of equipment provided by Doka USA Ltd. for the loading conditions as indicated herein.

Date:

Doka USA Regional Office
Eastern Support Group
214 Gates Road
Little Ferry, New Jersey 07643
Phone: (877) DOKA-USA
Fax: (201) 329-6406

A004 - Bracing & Walkway Attachment Details

Frami S Xlife Formwork System Standards

Scale:	NTS	Approved:	
Drawn By:	AAS	Date Drawn:	5/12/2017
Checked By:	RJM	Date Checked:	5/12/2017
Sheet No.	A004	Revision: 2	Date Issued: 5/12/2017

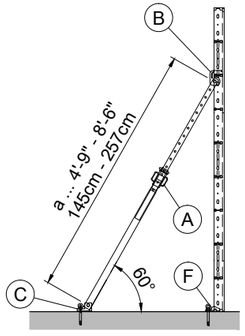
Brace Spacing Design Note:
Quantity & Spacing of Plumbing must be determined separately in the following cases:
> Wind pressures above 15psf.
> For Formwork Heights above 35'-5" Please Consult with your Local Doka Engineering Branch!

Safety Note:
Every gang-form must be supported by at LEAST 2 Plumbing / Bracing assemblies.

Min. Anchor SWL: 3 kip (13.5 kN) (shear & tension)		
Max. Spacing with a wind pressure load of: 15 psf (0.72 kN/m²)		
Panel Ht.	Strut / Pipe brace	Max. O/C
6'-0" (1.83m)	260	6'-0" (1.83 m)
9'-0" (2.75m)	260	6'-0" (1.83 m)
12'-0" (3.66m)	340	9'-0" (2.75 m)
15'-0" (4.57m)	540 1)	10'-0" (3.05 m)
18'-0" (5.48m)	540 1)	6'-9" (2.09 m)
21'-0" (6.4m)	340 + P.B. 22'-0"-40'-0" 2)	9'-0" (2.75 m) 9'-0" (2.75 m)
22'-0" (6.7m)	340 + P.B. 22'-0"-40'-0" 2)	9'-0" (2.75 m) 9'-0" (2.75 m)
24'-0" (7.31m)	340 + P.B. 22'-0"-40'-0" 2)	6'-9" (2.09 m) 9'-0" (2.75 m)
27'-0" (8.23m)	540 1) + P.B. 22'-0"-40'-0" 2)	9'-0" (2.75 m) 9'-0" (2.75 m)
1) or Pipe brace 12'-0" - 21'-0"		
2) or Eurex 60 550		

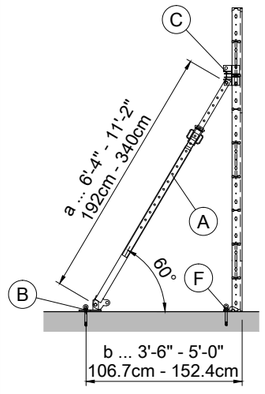
Panel height	15 psf (0.72 kN/m²)	Max. Spacing x (wind load PSF / kN/m²):
6'-0" (1.83 m)	5'-0" (1.50 m) Max. Spacing	
9'-0" (2.75 m)	3'-6" (1.05 m) Max. Spacing	
Max. Anchoring load: 1 kip (48 kN)		

3 Typ. Brace Spacing: O/C max.
Values apply to all Bracing & Plumbing Types



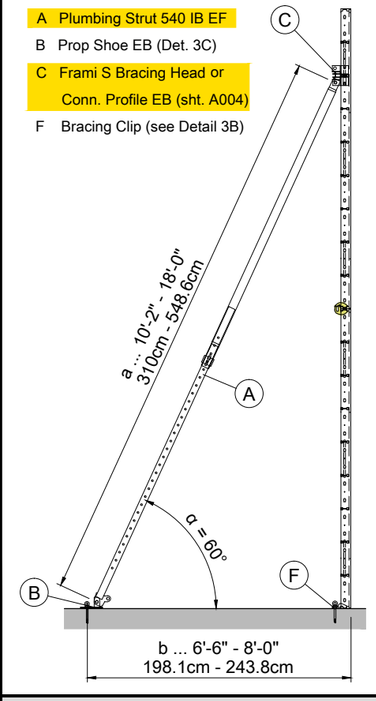
A Plumbing Strut 260 IB
B Strut Head EB (sht. A004)
C Strut Shoe EB (Det. 3C)
F Bracing Clip (see Detail 3B)

4 Strut 260 IB
Ref. Det. (3A)

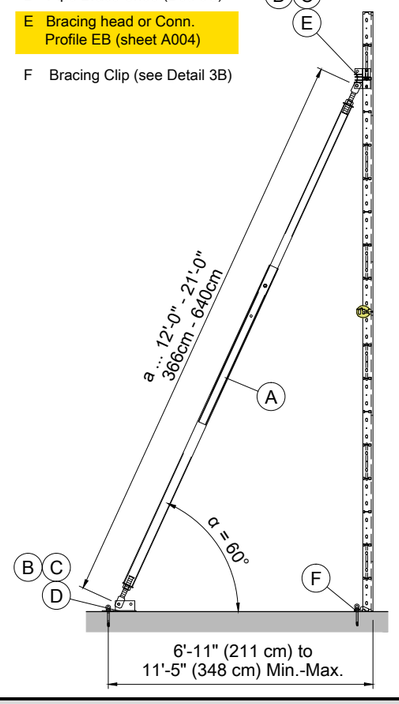


α ... approx. 60°
A Plumbing Strut 340 IB EF
B Prop Shoe EB (Det. 3C)
C Frami S Bracing Head or Conn. Profile EB (sht. A004)
F Bracing Clip (see Detail 3B)

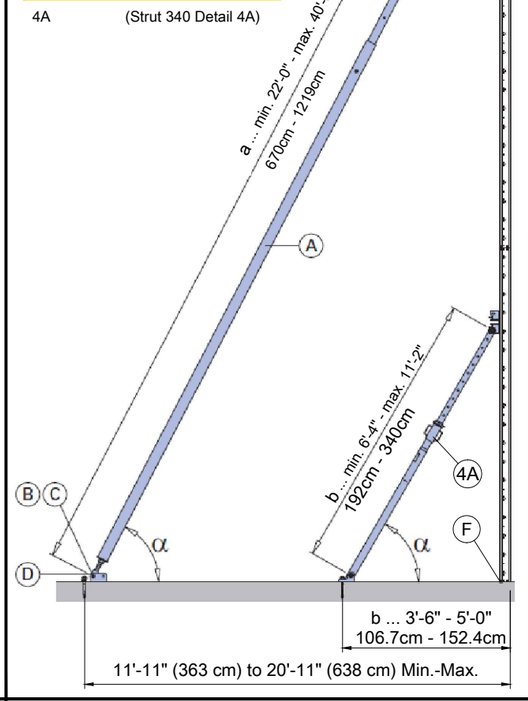
4A Strut 340 IB EF
Ref. Det. (3)



4B Plumbing Strut 540 IB EF
Ref. Det. (3)

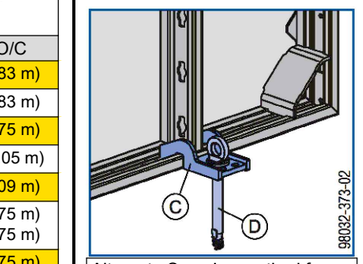


5 Pipe Brace 12'-0" - 21'-0"
Ref. Det. (3)



a ... min. 22'-0" - max. 40'-0"
b ... min. 6'-4" - max. 11'-2"
α ... approx. 60°
A Pipe Brace 22'-0" - 40'-0"
B 3/4"∅ x 4" Speed Bolt
C 3/4"∅ Speed Nut
D Pipe Brace Shoe (Det. 3C)
E Bracing head or Conn. Profile EB
F Bracing Clip (see Detail 3B)
4A (Strut 340 Detail 4A)

5A Pipe Brace 22'-0" - 40'-0" + Plumbing Strut
Ref. Det. (3)

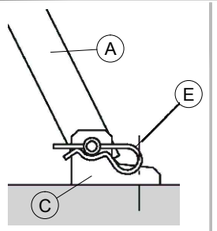


Alternate Securing method for bottom of form: Use nail-holes (in Frami form profile) to fasten the panels to the ground, or wood sills.

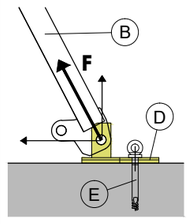
C Frami Bracing Clip
D Doka Express Anchor or Alt. (SEE sheet A006: Det. 3E for installation instructions.)
Cylinder Compressive strength of Concrete: min. 3,000 PSI
Follow Spacing Charts Detail 3 & 3B

3A Max. Spacing: Plumbing Strut 260
Plumbing Struts 260 w/ Strut Head EB (Only)

3B Bracing Clip: Follow Charts 3 & 3A
Ref. Det. 4, 4A, 4B, 5, & 5A



Strut Shoe EB: 260 IB



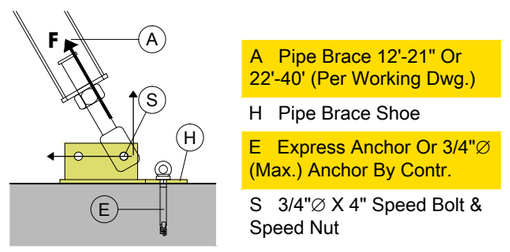
Prop Shoe EB: 340/540

A Plumbing Strut 260
B Panel Strut 340 / 540 (Per Working Dwg.)
C Strut Shoe EB
D Prop Shoe EB
E Express Anchor Or Equal By Contr.

Note: Connecting Hardware for Detail 3C components should come attached to brace on delivery (Strut 260, 340, or 540) .

3C Doka Strut & Prop Shoe EB
Ref. Det. 4, 4A, & 4B & NOTE >

a ... min. 12'-0" - max. 24'-0"
α ... approx. 60°
A Pipe Brace 12'-0" - 21'-0"
B 3/4"∅ x 4" Speed Bolt
C 3/4"∅ Speed Nut
D Pipe Brace Shoe (Det. 3C)
E Bracing head or Conn. Profile EB (sheet A004)
F Bracing Clip (see Detail 3B)



A Pipe Brace 12'-21" Or 22'-40' (Per Working Dwg.)
H Pipe Brace Shoe
E Express Anchor Or 3/4"∅ (Max.) Anchor By Contr.
S 3/4"∅ X 4" Speed Bolt & Speed Nut

Note: Connecting Hardware for Detail 3D components are delivered in separate bundles (not assembled to Pipe Brace)

3D Pipe brace Shoe (12'-21' or 22'-40')
Ref. Det. 5 & 5A

NOTE: For further information please read the fitting instructions on sheet A006: Doka express anchors !

3E Doka Express Anchor (A006)
Refer to sht. A006

This seal applies only to the application design of equipment provided by Doka USA Ltd. for the loading conditions as indicated herein.

Date:

For general safety notes, and standard details, please refer to sheet(s): A002

Please refer to the Corresponding "User Information" & "Operating Instructions" for additional information: @ www.Doka.com

No.	Description	Date	Drawn	Checked By
0	Released for FIELD USE	5/16/2017	AAS	RJM

Revisions

Maximum Design Concrete Pressure = 1000 (48 kN/m²) P.S.F.(U.O.N.)

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Fax: (201) 329-6406

A005 - Plumbing & Bracing Details
Frami S Xlife Formwork System Standards

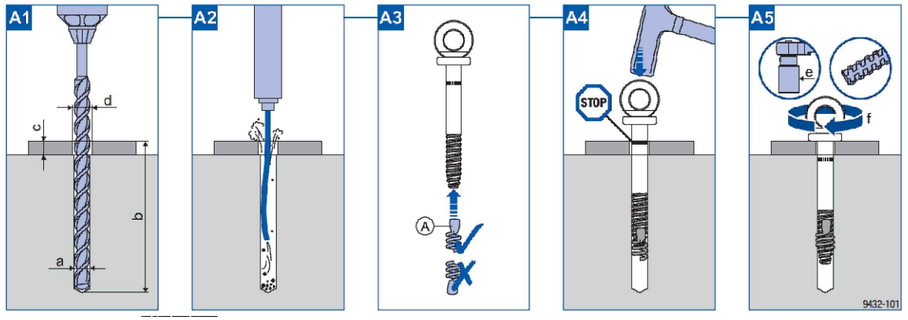
Scale:	NTS	Approved:	
Drawn By:	AAS	Date Drawn:	5/16/2017
Checked By:	RJM	Date Checked:	5/16/2017
	A005	Revision: 0	Date Issued: 5/16/2017

WARNING

- Use Doka coils 16mm only with the Doka express anchor 16x125mm.
- Never use Doka coils 16mm on normal standard screws or anchors.
- Screw the Doka coil 16mm onto the Doka express anchor 16x125mm only in the direction indicated. Do not pre-spread.
- The express anchor may only be re-used after performing a check for wear with the **Gauge for Doka express anchor 16x125mm**, and provided that this check has been successfully passed.

Installation and dismounting

Installation

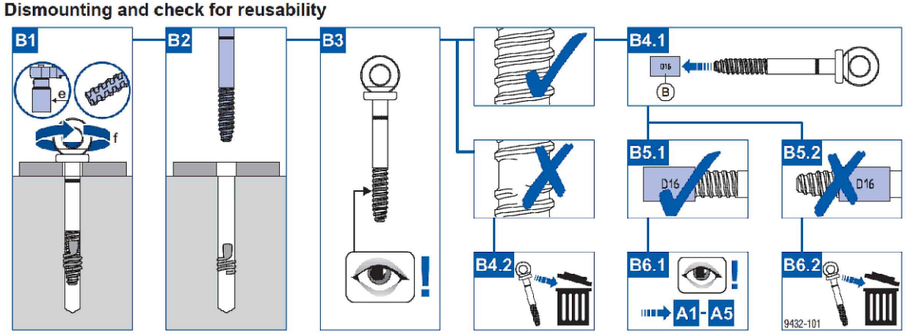


a ... Nominal drill bit diameter 5/8" (16 mm)
b ... Depth of drilled hole 5 1/2" (135 mm) (The depth of the drilled hole b can be reduced by dimension c.)
c ... Max. thickness of attached part 5/8" (15 mm)
d ... Diameter of hole drilled in the attached part 5/8"-1" (17-25 mm)
e ... Width-across 1 3/8" (36 mm)
f ... Torque T_{min} 133 ft-lb (180 Nm)

A Doka coil 16mm (art. n° 588633000)
Expendable part, can be used once only

B Gauge for Doka express anchor 16x125mm (art. n° 588632000)

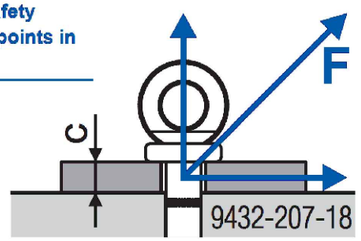
Dismounting and check for reusability



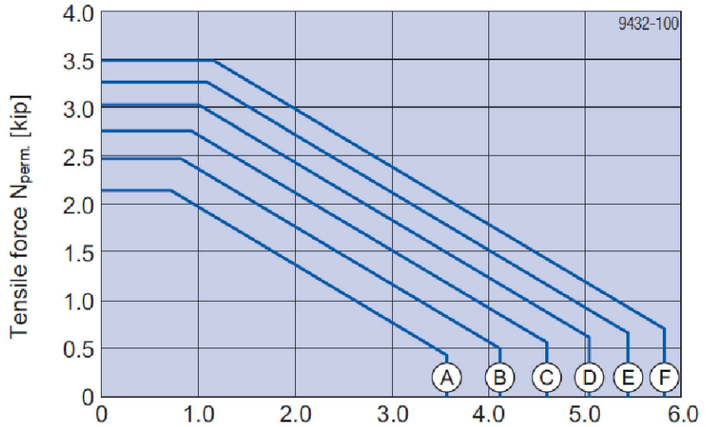
Refer to sheet A005

Structural design

Permissible values (4 : 1 safety factor) of temporary fixing points in uncracked concrete

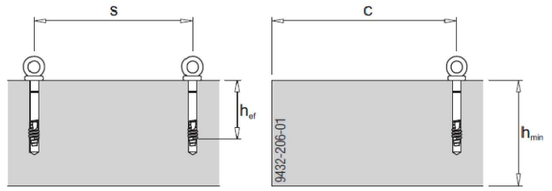


c ... Max. thickness of attached part 5/8" (15 mm)



A $f_{ck,cube,current}$ > 1500 psi
B $f_{ck,cube,current}$ > 2000 psi
C $f_{ck,cube,current}$ > 2500 psi
D $f_{ck,cube,current}$ > 3000 psi
E $f_{ck,cube,current}$ > 3500 psi
F $f_{ck,cube,current}$ > 4000 psi

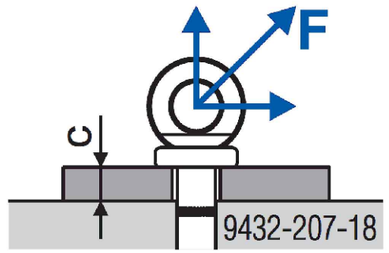
Boundary conditions



Anchoring depth h_{ef} ... 3 1/4" (85 mm)
Building-element thickness h_{min} ... 8" (200 mm)
Distance from edge c ... 1'-4" (400 mm)
Distance from one another s ... min. 3'-11" (1200 mm)

The following simplified values may be used:
- Permitted load $F_{perm.}$ in concrete with $f_{ck,cube,current}$ > 1500 psi: 2.1 kip
- Permitted load $F_{perm.}$ in concrete with $f_{ck,cube,current}$ > 3500 psi: 3.3 kip

Permissible values (4 : 1 safety factor) of back-stays on ring (values apply to uncracked concrete)



c ... Max. thickness of attached part 5/8" (15 mm)

Permitted load $F_{perm.}$ where $f_{ck,cube,current}$ ≥ 1500 psi: 2.1 kip

Important note:
If the ring is damaged (deformed), it is not permitted to use this back-stay!

This seal applies only to the application design of equipment provided by Doka USA Ltd. for the loading conditions as indicated herein.

Date:

For general safety notes, and standard details, please refer to sheet(s): A002

Please refer to the Corresponding "User Information" & "Operating Instructions" for additional information: @ www.Doka.com

No.	Description	Date	Drawn	Checked By
2	Released for FIELD USE	5/16/2017	AAS	RJM
1				
0				

Revisions

Maximum Design Concrete Pressure = 1000 (48 kN/m²) P.S.F.(U.O.N.)

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Little Ferry, New Jersey 07643
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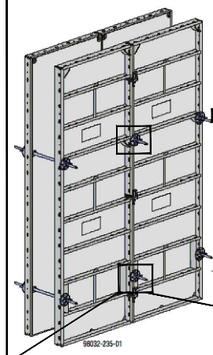
Fax: (201) 329-6406

A006 - Doka Express Anchor Details

Frami S Xlife Formwork System Standards

Scale:	NTS	Approved:	
Drawn By:	AAS	Date Drawn:	5/16/2017
Checked By:	RJM	Date Checked:	5/16/2017
Sheet No.	A006	Revision: 2	Date Issued: 5/16/2017

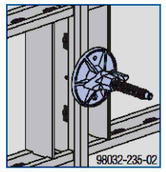
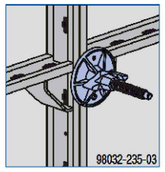


Tying Frami S Xlife panels: 9'-0" Form Ht. Example - ONLY (2) TIES ARE USED. (3rd) Tie Hole only used when stacking any add'l. panel height on top of 9'-0" Form-Ht.

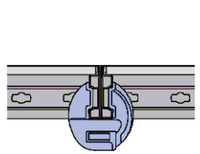
Place a Form-Tie in EVERY FORM-TIE HOLE within a panel that is NOT COVERED ALREADY by a SUPER-PLATE Tie Assembly @ Vertical Panel Joint.

Always Tie on the Wider Panel ("in plan-view") size.

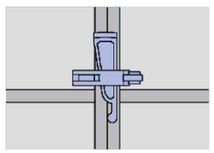
Form-tie situations

in the panel	when panels are vertically stacked
	

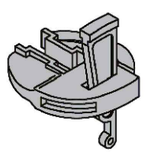
7 Standard Tie Detail Overview



Top View



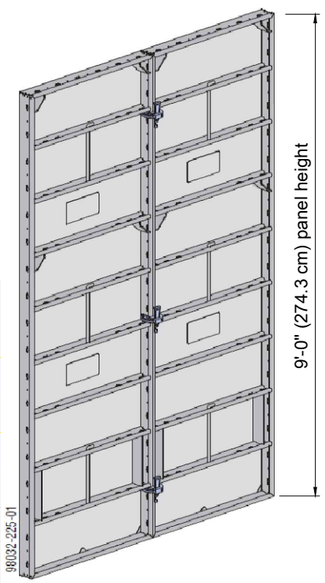
Front View



ISO View

HORIZONTAL: PANEL WIDTH	Minimum No. of FRAMI CLAMPS	UPRIGHT: PANEL HEIGHT	Minimum No. of FRAMI CLAMPS
6" (15.2 cm)	1	3'-0" (91.4 cm)	2
1'-0" (30.5 cm)	1	4'-0" (121.9 cm)	2
1'-6" (45.7 cm)	1	6'-0" (182.9 cm)	2
2'-0" (61.0 cm)	2	9'-0" (274.3 cm)	3
2'-6" (76.2 cm)	2	Bulkheads & Corners require Additional Clamps: See Sht. A010	
3'-0" (91.4 cm)	2		

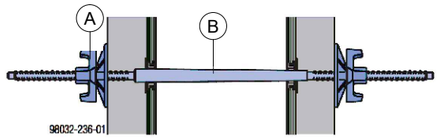
Min. Clamps per Frami Width — Min. Clamps per Frami Height



Elevation: 9'-0" (274.3cm) Form Ht.

8 Taper -Tie System Detail

3/4" to 1"∅ Taper



A Super-plate 15.0mm ∅

B Taper-tie 3/4"∅ to 1"∅ w/ 5/8"∅ (15mm) Threaded Ends

For Tie length @ wall thickness, see chart below

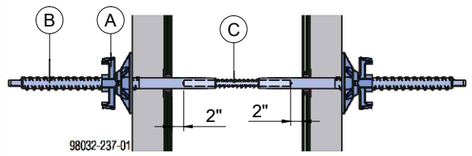
Wall thickness	Taper-Ties length
6" to 12" (15.2 to 30.5 cm)	32" (81.3 cm)
12" to 18" (30.5 to 45.7 cm)	38" (96.52 cm)
18" to 24" (45.7 to 61.0 cm)	44" (111.8 cm)
24" to 30" (61.0 to 76.2 cm)	52" (132.0 cm)

Note: Always loosen the Super-plate 15.0 on the THINNER end of the taper-tie first.

Taper tie 3/4" to 1" width 5/8"∅ ends: Permitted capacity with a 2 : 1 safety factor = 18,000 lbs. (80 kN)

9 5/8"∅ She-bolt System Detail

16" & 24" Lengths Available



A Super-plate 15.0mm ∅

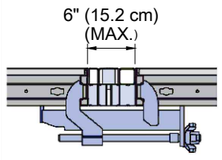
B Frami S she-bolt 5/6"∅ (15mm) x 16" L.**

Threaded Rod 5/8"∅ (15mm) Euro Tie-rod*

*Tie-rod required Field Cut. Length of Cut = wall thickness minus (-) 4" (10 cm) (2" (5 cm) x each she-bolt).

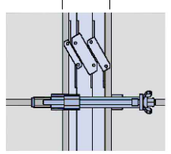
**24" long she-bolt available for special applications, please refer to working drawings as noted.

She-bolt system width 5/8"∅ ends: Permitted capacity with a 2 : 1 safety factor = 18,000 lbs. (80 kN)



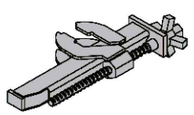
6" (15.2 cm) (MAX.)

Top View



6" (15.2 cm) (MAX.)

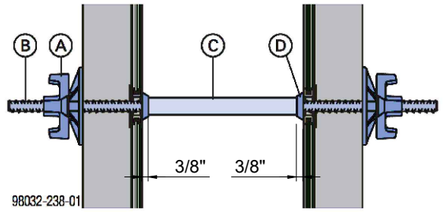
Front View



ISO View

10 5/8"∅ Tie-rod 15.0 Detail

Stock length of 19'-1" (Field-Cut Required)



A Super-plate 15.0mm ∅

B 5/8""∅ (15mm) Tie-rod: may require Field Cut. Length of Cut = wall thickness plus (+) 16" (40.6 cm) (approx. 8" (20.3 cm) x each side).

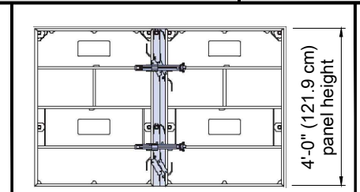
C Plastic tube 22mm∅

D Universal cone 22mm∅: Field cut= wall thickness minus (-) 3/4" (3/8" each side).

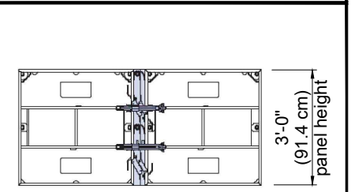
The "Plastic tube 22mm" consumable item (left behind in concrete wall) are sealed off with "Plugs 22mm"

Spanner for Tie-rod 15.0/20.0mm∅: is used for turning and holding tie rods for spinning with loosening for stripping.

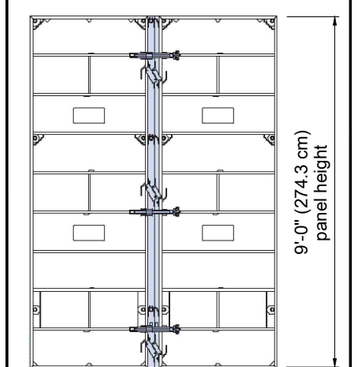
Tie-rod 5/8"∅: Permitted capacity with a 2 : 1 safety factor = 22,000 lbs. (98 kN)



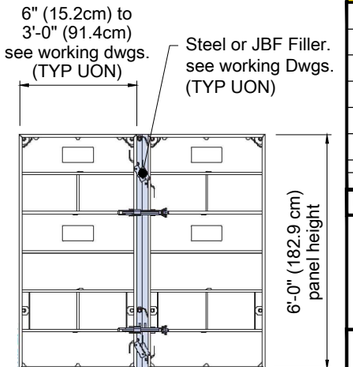
Form HT. 4'-0"



Form HT. 3'-0"



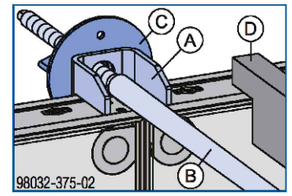
Form HT. 9'-0"



Form HT. 6'-0"

11 Dry-Tie w/ Taper-Tie system

15mm∅ Tie-Rod System Optional



A Frami S Tie-Holder Bracket

B Taper-Tie 3/4" to 1" & 5/8"∅ ends

C Super-plate 15.0∅mm

D Lumber Spreader (by others)

Xlife Panel (upright)	Qty. & Position of Frami Tie-Holder Bracket
up to 9'-0" (274.3 cm)	Over EVERY Panel Joint

12 Simple Inter-Panel Connections: Frami Clamp partial plans & elevations

13 Panel Connections @ Fillers: Frami Adjustable Clamp Partial plans & elevations

Ref. to Charts on Det. 12

This seal applies only to the application design of equipment provided by Doka USA Ltd. for the loading conditions as indicated herein.

Date:

For general safety notes, and standard details, please refer to sheet(s): A002

Please refer to the Corresponding "User Information" & "Operating Instructions" for additional information: @ www.Doka.com

No.	Description	Date	Drawn	Checked By
5	Released for FIELD USE	5/15/2017	AAS	RJM
4				
3				
2				
1				
0				

Revisions

Maximum Design Concrete Pressure = 1000 (48 kN/m²) P.S.F.(U.O.N.)

Doka USA Regional Office
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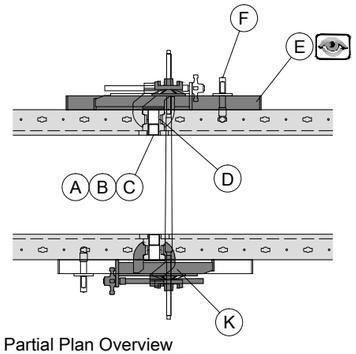
Phone: (877) DOKA-USA
Fax: (201) 329-6406

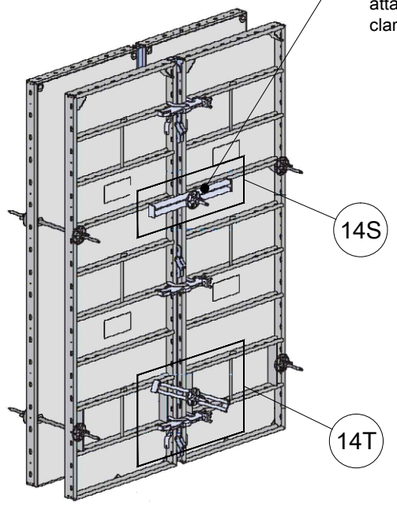
A007 - Panel Joining & Form-Tie Details

Frami S Xlife Formwork System Standards

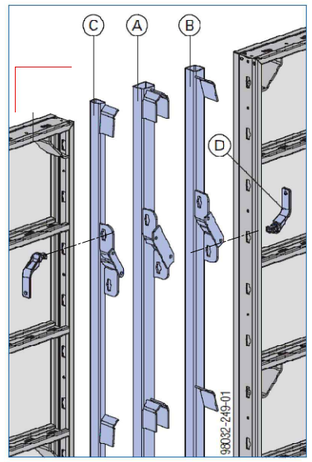
Scale:	NTS	Approved:	
Drawn By:	AAS	Date Drawn:	5/15/2017
Checked By:	RJM	Date Checked:	5/15/2017
Sheet No.	A007	Revision: 5	Date Issued: 5/15/2017



Partial Plan Overview

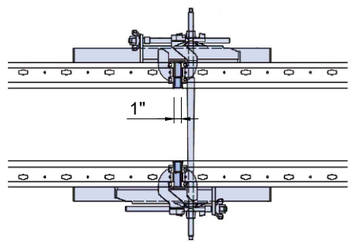


Partial Elevation Overview

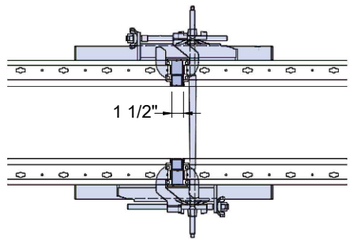


Filler assembly ISO

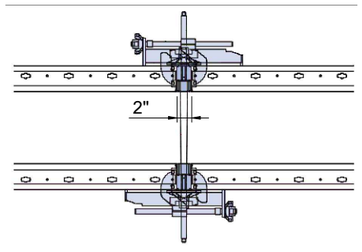
14 Typ. Filler Components & Details: Partial plan & Elevations
Ref. Legend & Details 14A to 14T



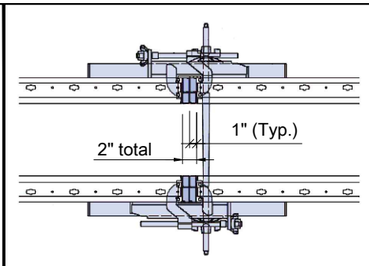
14A 1" Steel Filler Detail
Ref. Detail 14T



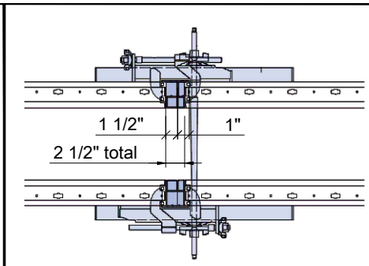
14B 1 1/2" Steel Filler Detail
Ref. Detail 14T



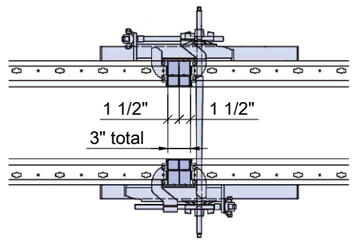
14C 2" Steel Filler Detail
TIE-THRU FILLER / NO WALING



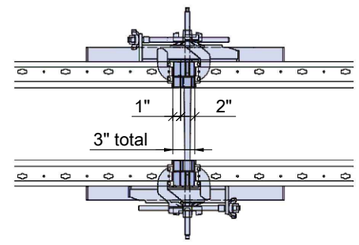
14D 2" Steel Filler Detail
Ref. Detail 14T



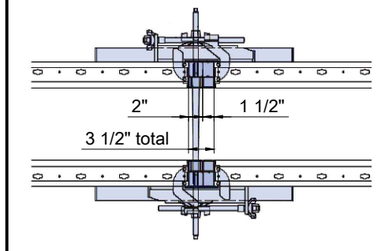
14E 2 1/2" Steel Filler Detail
Ref. Detail 14T



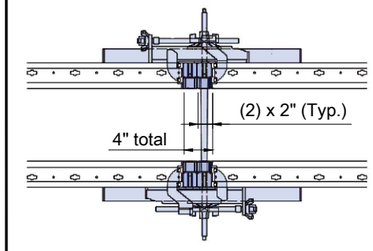
14F 3" Steel Filler Detail
Ref. Detail 14T



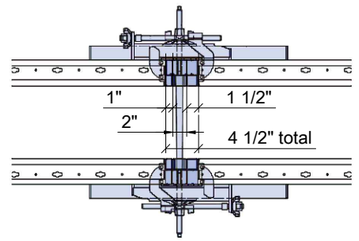
14G 3" Steel Filler Detail
Ref. Detail 14S



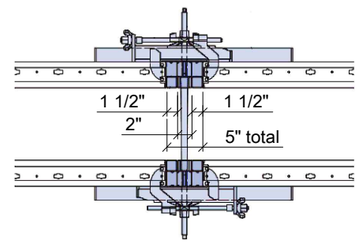
14H 3 1/2" Steel Filler Detail
Ref. Detail 14S



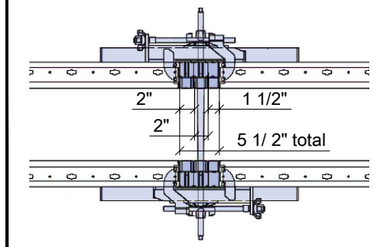
14J 4" Steel Filler Detail
Ref. Detail 14S



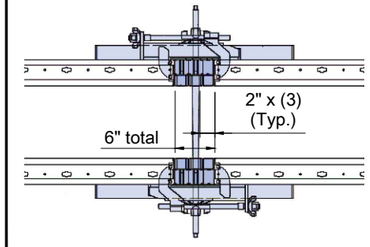
14K 4 1/2" Steel Filler Detail
Ref. Detail 14S



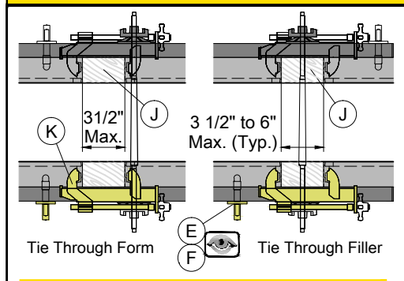
14M 5" Steel Filler Detail
Ref. Detail 14S



14N 5 1/2" Steel Filler Detail
Ref. Detail 14S



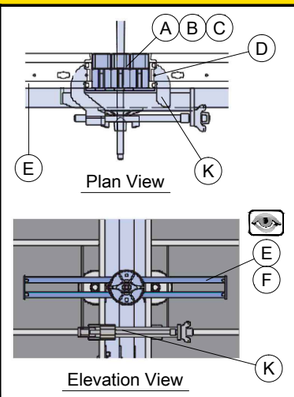
14P 6" Steel Filler Detail
Ref. Detail 14S



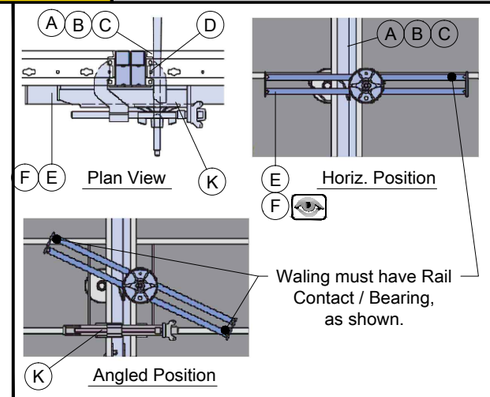
Tie Through Form Tie Through Filler

- E Frami Waling (0.70m or 1.25m)
- F Frami Wedge Clamp (Ref. legend)
- K Frami Adjustable Clamp
- J Job Built Filler: maximum widths as noted

14R 6" Wood Filler: 0" to 6"
Ref. Det. 14S & 14T & Legend



14S Tie Thru Filler Details
Ref. Legend



14T Tie Thru Panel Details
Ref. Legend

- A 2" Steel Filler
- B 1 1/2" Steel FIller
- C 1" STEEL FILLER
- D Frami Clip (BOTH SIDES)
- E Frami Waling (0.70m or 1.25m)
- F Frami Wedge Clamp (refer to sht. A012, and note below)
- K Frami Adjustable Clamp (Det. 13 sht. A007)

Waling attachment Note: When Ganging forms (multi-stack or 9'-0" single height) All Waling's should, and can-be attached to the form-rail, BEFORE Fully Removing the Form-Ties, stripping, and re-setting the gangs by crane. There is a high Risk of falling objects and harmful injury if this precaution is ignored! Refer to Detail 20F Sht. A012.

LEGEND
Ref. Details 14 to 14T

This seal applies only to the application design of equipment provided by Doka USA Ltd. for the loading conditions as indicated herein.

Date:

For general safety notes, and standard details, please refer to sheet(s): A002

Please refer to the Frami S Xlife "User Information" and "Operating Instructions" for additional info to that given in the drawings. Download @ www. Doka.com

No.	Description	Date	Drawn	Checked By
5	Released for FIELD USE	5/12/2017	AAS	RJM
4				
3				
2				
1				
0				

Revisions

Maximum Design Concrete Pressure = 1000 (48 kN/m²) P.S.F.(U.O.N.)

Doka USA Regional Office
Eastern Support Group
214 Gates Road
Little Ferry, New Jersey 07643
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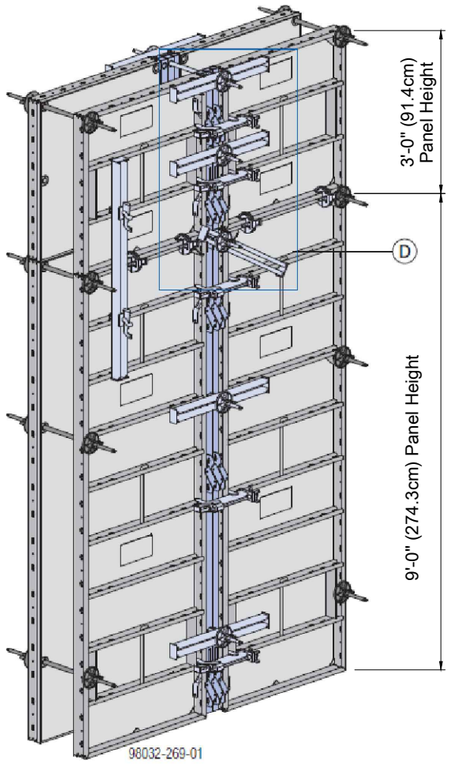
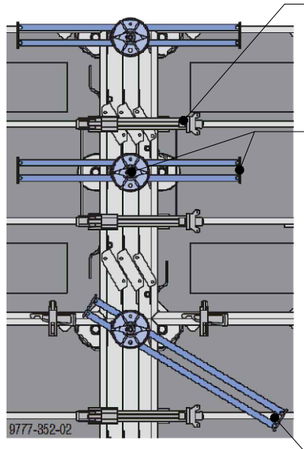
A008 - Steel Filler & Hardware Details

Frami S Xlife Formwork System Standards

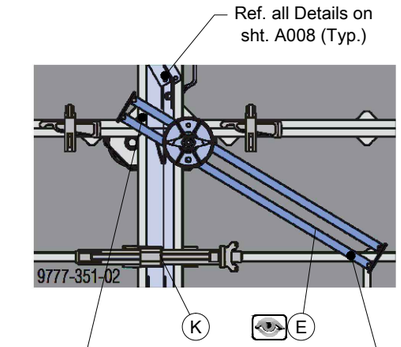
Scale:	NTS	Approved:	
Drawn By:	AAS	Date Drawn:	5/12/2017
Checked By:	RJM	Date Checked:	5/12/2017
Sheet No.	A008	Revision: 5	Date Issued: 5/12/2017



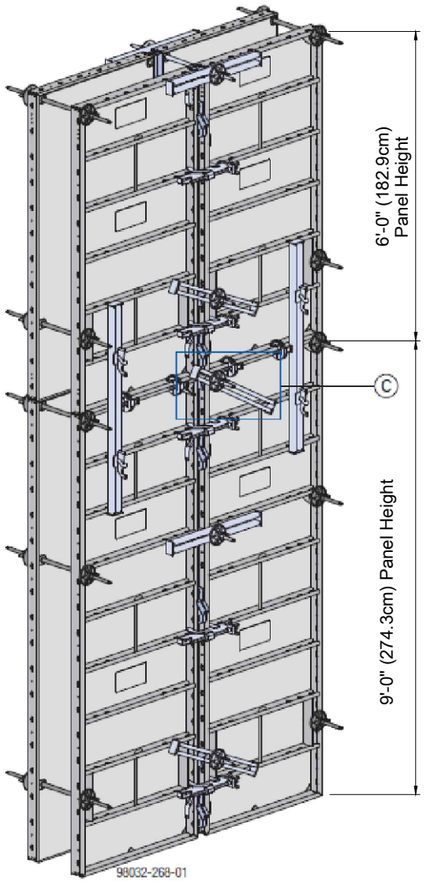


D Univ. Waling @ Horiz. Panel Joint
Enlarged Detail

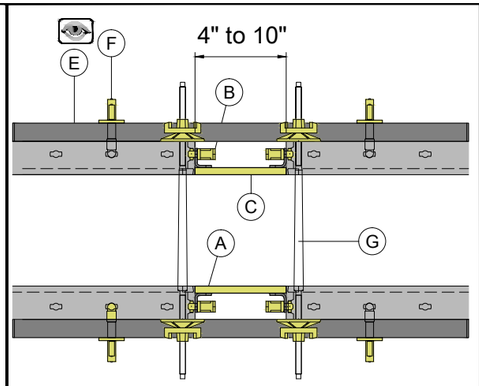
15 Elevation: 12'-0" Form Ht. Exp.
Stacked Panel @ Filler



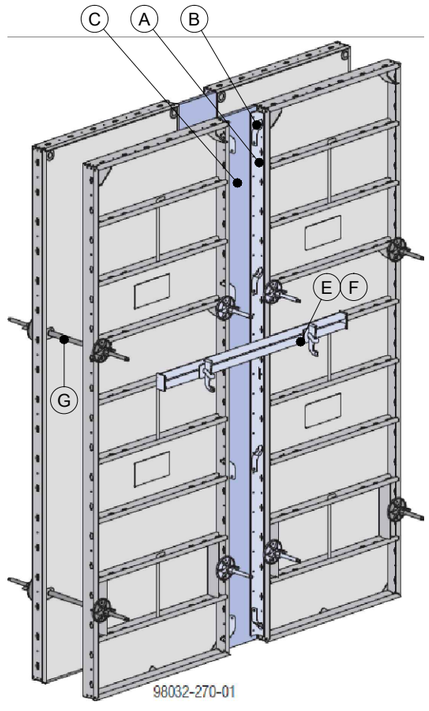
C Universal Waling at Angle
Enlarged Detail



15A Elevation: 15'-0" Form Ht. Exp.
Stacked Panel @ Filler

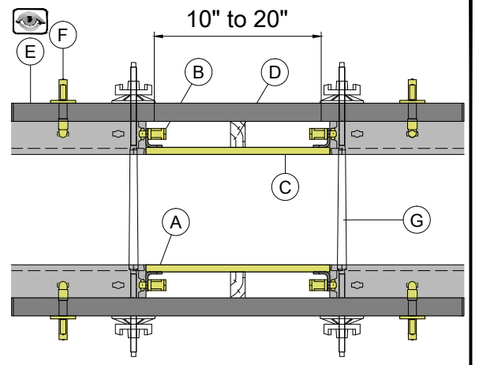


Partial Plan: Job built filler 4" to 10"
(10.2cm to 25.4cm) Ref. Legend

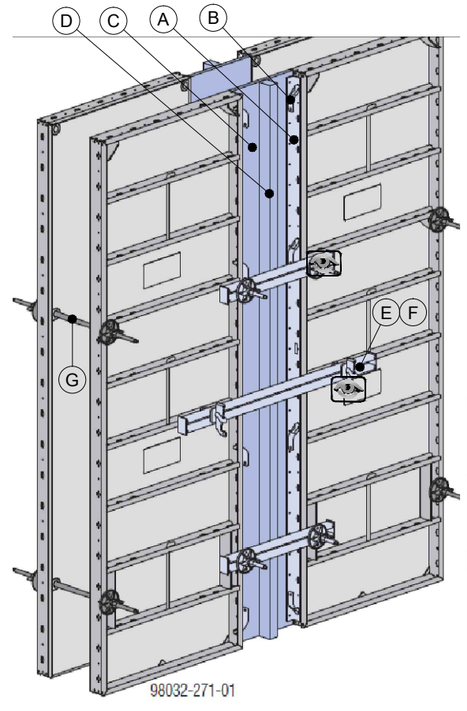


Elevation: Job built filler 4" to 10"
(10.2cm to 25.4cm) Ref. Legend

16 Job built filler 4" to 10"
(10.2cm to 25.4cm)



Partial Plan: : Job built filler 10" to 20"
(25.4cm to 50.8cm) Ref. Legend



Elevation: Job built filler 10" to 20"
(25.4cm to 50.8cm) Ref. Legend

16A Job built filler 10" to 20"
(25.4cm to 50.8cm)

Waling attachment Note: When Ganging forms (multi stack or 9'-0" single height) All Waling's should, and can-be attached to the form-rail, BEFORE Fully Removing the Form-Ties, stripping, and re-setting the gangs by crane. There is a high Risk of falling objects and harmful injury if this precaution is ignored! Refer to Detail 20F Sht. A012.

A Frami S Filler Angle 3/4"
B Frami Clip (Ref. Chart 16F this sheet.)
C 3/4" Plywood by others
D 2x4 (Nom.) Lumber cut to: x 2 3/4" (plan length)
E Frami Universal Waling 0.70m + 1.25m
Ref. Dets. 16D & 16E & Ref. 20F A012
F Wedge Clamp
G Form-Tie (see sht. A007)
H Framax Waler 1.50m
I Universal Fixing Bolt 5-12cm
J Super-plate 15.0
K Frami Adjustable Clamp

Frami 3/4" Filler Angle	Qty. of Frami Cips Per piece
3'-0" (91.4cm)	2
4'-0" (121.9cm)	2
6'-0" (182.9cm)	3
9'-0" (274.3cm)	4

Chart: Clips & Angles
16 & 16A

LEGEND

This seal applies only to the application design of equipment provided by Doka USA Ltd. for the loading conditions as indicated herein.

For general safety notes, and standard details, please refer to sheet(s): A002

Please refer to the Frami S Xlife "User Information" and "Operating Instructions" for additional info to that given in the drawings. Download @ www. Doka.com

Date:

No.	Description	Date	Drawn	Checked By
0	Released for FIELD USE	5/12/2017	AAS	RJM

Revisions

Maximum Design Concrete Pressure = 1000 (48 kN/m²) P.S.F.(U.O.N.)

Doka USA Regional Office
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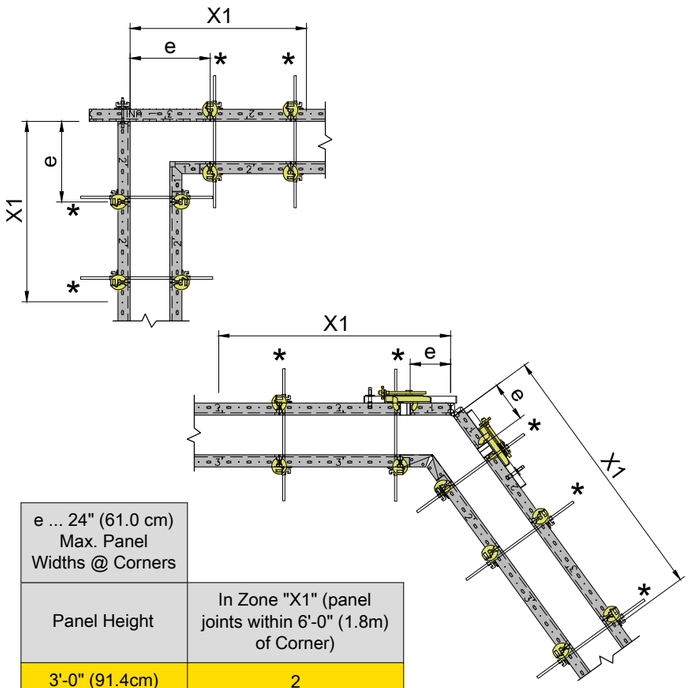
214 Gates Road
Little Ferry, New Jersey 07643
Phone: (877) DOKA-USA
Fax: (201) 329-6406

A009 - Steel/Job Built Filler & Hardware Details
Frami S Xlife Formwork System Standards

Scale:	NTS	Approved:	
Drawn By:	AAS	Date Drawn:	5/12/2017
Checked By:	RJM	Date Checked:	5/12/2017
Sheet No.	A009	Revision: 0	Date Issued: 5/12/2017

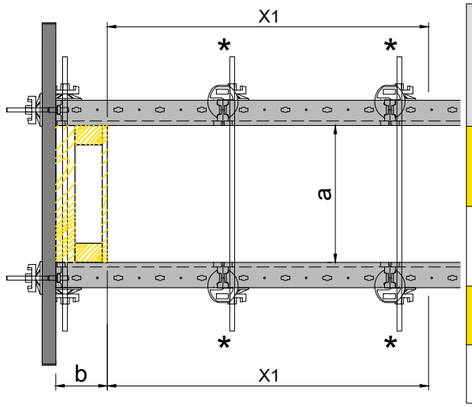


e ... 24" (61.0 cm) Max. Panel Widths @ Corners	
Panel Height	In Zone "X1" (panel joints within 6'-0" (1.8m) of Corner)
3'-0" (91.4cm)	2
4'-0" (121.9cm)	2
6'-0" (182.9cm)	2 + 1: 3 total
9'-0" (274.3cm)	3 + 1: 4: total

Chart gives TOTAL Qty. of Clamps Needed

17 Extra Clamps Near Corners: 12" MAX. Wall Thkns.

Ref. sheet A011 & A015



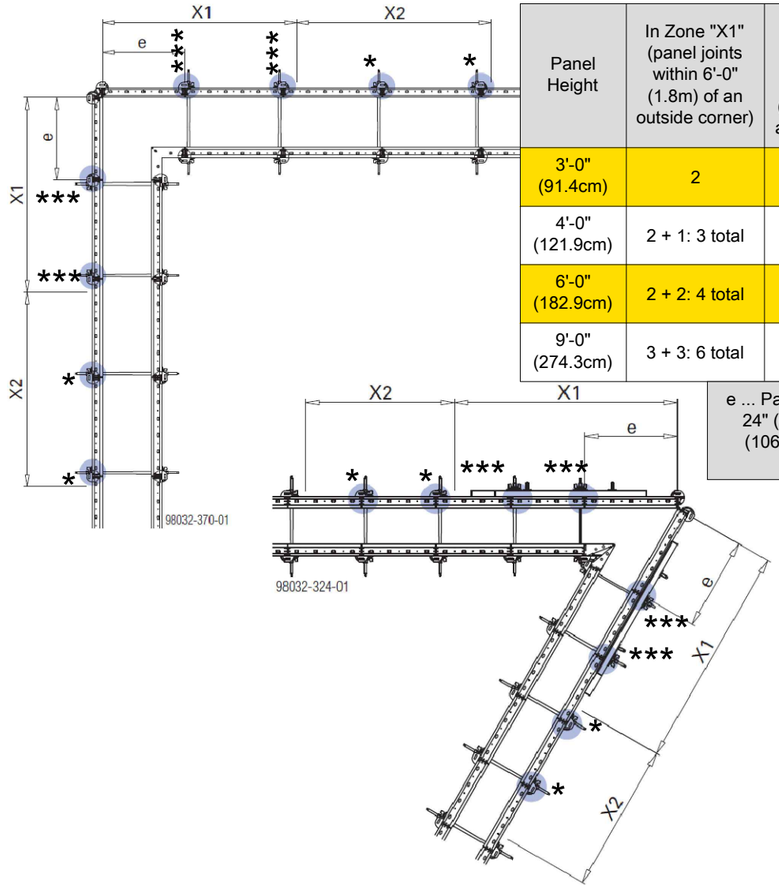
Panel Height	In Zone "X1" (panel joints within 6'-0" (1.8m) of Bulkhead)
3'-0" (91.4cm)	2
4'-0" (121.9cm)	2
6'-0" (182.9cm)	2 + 1: 3 total
9'-0" (274.3cm)	3 + 1: 4 total

b ... Lumber (or equal) bulkhead by others: 6" min.

Chart: 24" Max. Bulkhead

18 Extra Clamps @ Bulkheads: a ... 24" Max. Bulkhead

Ref. sheet A016 & A017

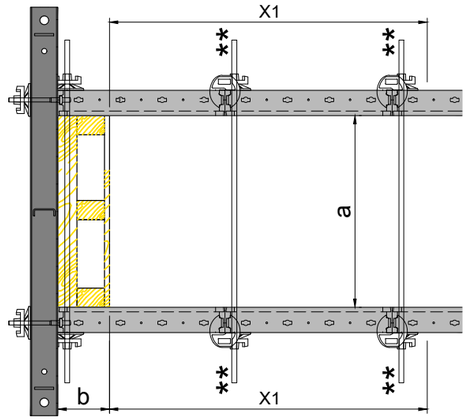


Panel Height	In Zone "X1" (panel joints within 6'-0" (1.8m) of an outside corner)	In Zone "X2" (panel joints between 6'-0" (1.8m) & 10'-0" (3.0m) away from an outside corner)
3'-0" (91.4cm)	2	2
4'-0" (121.9cm)	2 + 1: 3 total	2
6'-0" (182.9cm)	2 + 2: 4 total	2 + 1: 3 total
9'-0" (274.3cm)	3 + 3: 6 total	3 +1: 4 total

e ... Panel Widths Over 24" (61.0cm) to 36" (106.7cm) Max. @ Corners

17A Extra Clamps Near Angled & 90° Corners: >12" - 24" max. wall Thickness

Ref. sheet A011 & A015



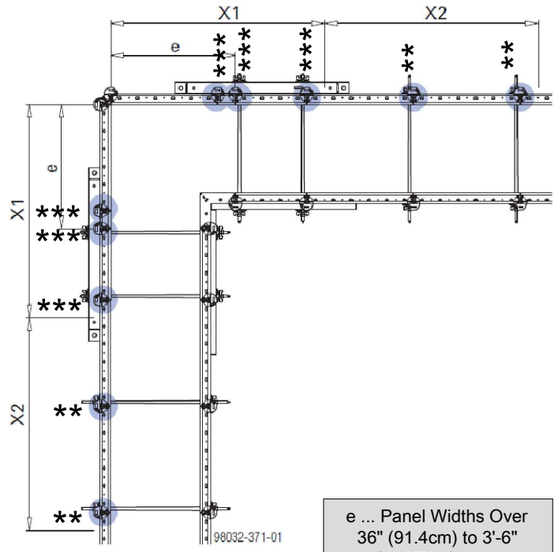
Panel Height	In Zone "X1" (panel joints within 6'-0" (1.8m) of Bulkhead)
3'-0" (91.4cm)	2
4'-0" (121.9cm)	2
6'-0" (182.9cm)	2 + 1: 3 total
9'-0" (274.3cm)	3 + 2: 5 total

b ... Lumber (or equal) bulkhead by others: 6" min.

Chart: 30" Max. Bulkhead

18A Extra Clamps @ Bulkheads: a ... 30" Max. Bulkhead

Ref. sheet A016 & A017



e ... Panel Widths Over 36" (91.4cm) to 3'-6" (106.7cm) Max.		
Panel Height	In Zone "X1" (panel joints within 6'-0" (1.8m) of an outside corner)	In Zone "X2" (panel joints between 6'-0" (1.8m) & 10'-0" (3.0m) away from an outside corner)
3'-0" (91.4cm)	2	2
4'-0" (121.9cm)	2 + 1: 3 total	2
6'-0" (182.9cm)	2 + 2: 4 total	2 + 1: 3 total
9'-0" (274.3cm)	3 + 3: 6 total	3 + 2: 5 total

Chart: Panel Widths over 36" - 3'-6" at Corners

17B Extra Clamps Near 90° Corner: 24" - 30" wall thickness

Ref. sheet A011 & A015

Note: Add'l. clamps are required on vertical joints at corner & bulkhead conditions where Tensile loads occur, thus Noted as (***) on working dwgs. Ref. sheet A002. Examples on this sheet are for 9'-0" Form Ht.

This seal applies only to the application design of equipment provided by Doka USA Ltd. for the loading conditions as indicated herein.

Date:

For general safety notes, and standard details, please refer to sheet(s): A002

Please refer to the Corresponding "User Information" & "Operating Instructions" for additional information: @ www.Doka.com

No.	Description	Date	Drawn	Checked By
2	Released for FIELD USE	5/12/2017	AAS	RJM

Revisions

Maximum Design Concrete Pressure = 1000 (48 kN/m²) P.S.F.(U.O.N.)

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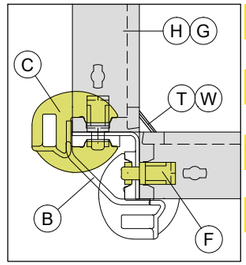
A010 - Increased Tensile Load Details

Frami S Xlife Formwork System Standards

Scale:	NTS	Approved:	
Drawn By:	AAS	Date Drawn:	5/12/2017
Checked By:	RJM	Date Checked:	5/12/2017
Sheet No.	A010	Revision: 2	Date Issued: 5/12/2017



B Frami Outside Corner (O.C.)
C Frami Clamp
F Frami Clip
G Frami S Xlife Panel
H Frami S Xlife Panel
T Chamfer (by others)
W Wire Nail (by others)

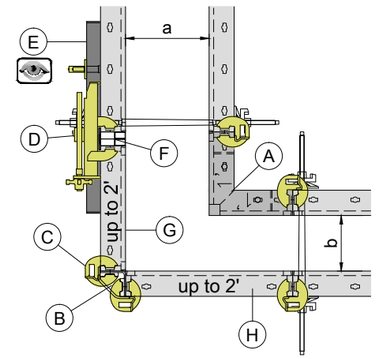
Enlarged Outside Corner Detail: Partial Plan

No. of Clamps needed at 90° Outside Corner w/ wall thickness of up to:			
Panel Height	16"	24"	30"
3'-0"	4	4	4
4'-0"	6	6	6
6'-0"	6	8	8 + 4 [1)]
9'-0"	10	12	12 + 4 [1)]

1) No. of Frami Clips (in addition to Typ. Clamps) needed at 90° Outside Corner

19 90° Outside Corner Details

See Detail 17 to 17B on sht. A010

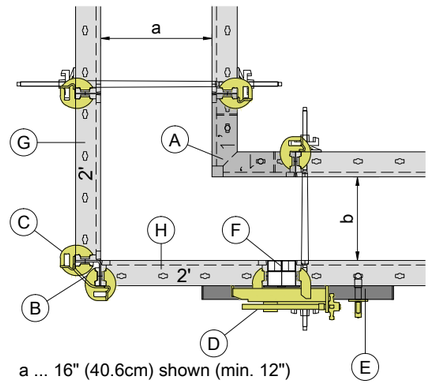


a ... 12" (30.5cm) max. - min. 6" (15.24cm)
b ... 8" (20.32cm) shown (ref. dim. "a" above)

A Frami S Xlife Inside Corner (I.C.)
B Frami S Xlife Outside Corner (O.C.)
C Frami Clamp
D Frami Adjustable Clamp
E Frami Universal Waling 0.70m + Wedge Clamp
F Frami Steel Filler (2" max. see det. 14 on. A008)
G Frami S Xlife panel x 1'-6" (show) 2'-0" max.
H Frami S Xlife panel x 2'-0" wide

20 90° Corner: 6" to 12" wall thkn.

See Detail 17 to 17B on sht. A010

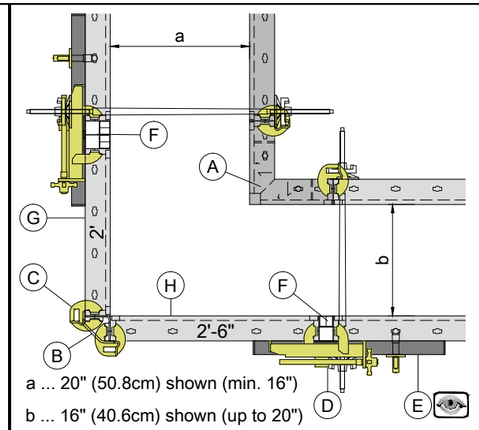


a ... 16" (40.6cm) shown (min. 12")
b ... 12" (30.5cm) shown (up to 16")

A Frami S Xlife Inside Corner (I.C.)
B Frami S Xlife Outside Corner (O.C.)
C Frami Clamp
D Frami Adjustable Clamp
E Frami Universal Waling 0.70m + Wedge Clamp
F Frami Steel Filler (4" max. see det. 14 on. A008)
G Frami S Xlife panel x 2'-0" wide
H Frami S Xlife panel x 2'-0" wide

20A 90° Corner: 12" to 16" wall thkn.

See Detail 17 to 17B on sht. A010

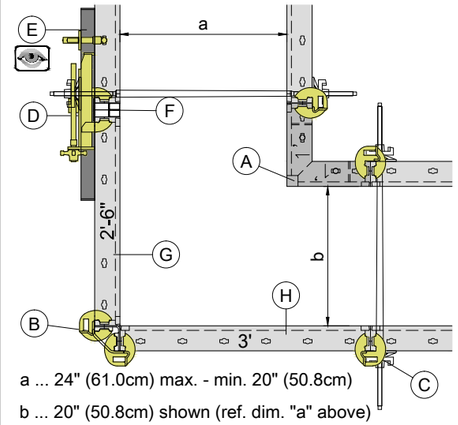


a ... 20" (50.8cm) shown (min. 16")
b ... 16" (40.6cm) shown (up to 20")

A Frami S Xlife Inside Corner (I.C.)
B Frami S Xlife Outside Corner (O.C.)
C Frami Clamp
D Frami Adjustable Clamp
E Frami Universal Waling 0.70m + Wedge Clamp
F Frami Steel Filler (4" max. see det. 14 on Sht. A008)
G Frami S Xlife panel x 2'-0" wide
H Frami S Xlife panel x 2'-6" wide

20B 90° Corner: 16" to 20" wall thkn.

See Detail 17 to 17B on sht. A010

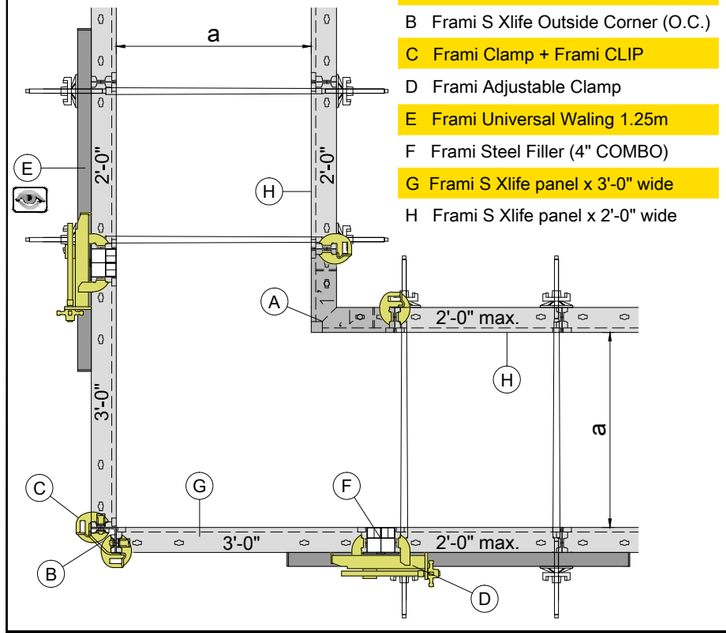


a ... 24" (61.0cm) max. - min. 20" (50.8cm)
b ... 20" (50.8cm) shown (ref. dim. "a" above)

A Frami S Xlife Inside Corner (I.C.)
B Frami S Xlife Outside Corner (O.C.)
C Frami Clamp
D Frami Adjustable Clamp
E Frami Universal Waling 0.70m + Wedge Clamp
F Frami Steel Filler (4" max. see det. 14 on Sht. A008)
G Frami S Xlife panel x 2'-6" wide
H Frami S Xlife panel x 3'-0" wide

20C 90° Corner: 20" to 24" wall thkn.

See Detail 17 to 17B on sht. A010

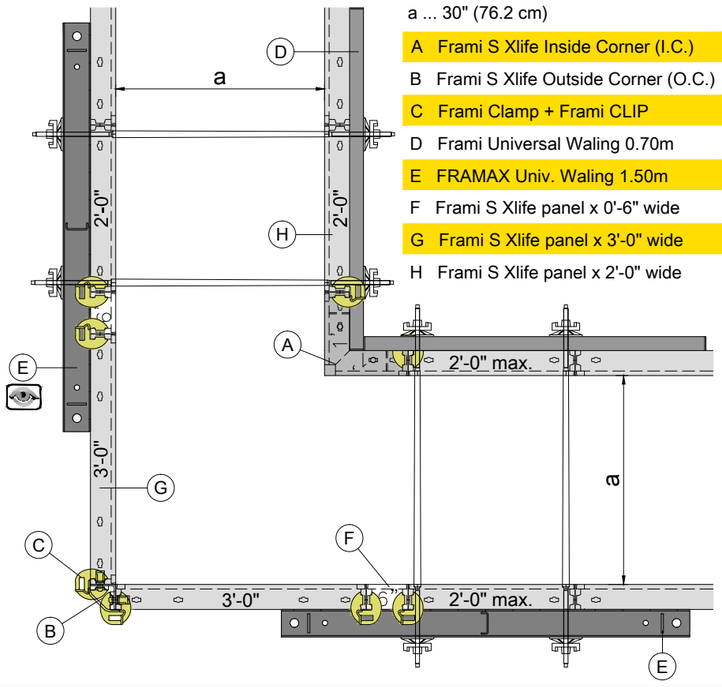


a ... 28" (71.1cm)

A Frami S Xlife Inside Corner (I.C.)
B Frami S Xlife Outside Corner (O.C.)
C Frami Clamp + Frami CLIP
D Frami Adjustable Clamp
E Frami Universal Waling 1.25m
F Frami Steel Filler (4" COMBO)
G Frami S Xlife panel x 3'-0" wide
H Frami S Xlife panel x 2'-0" wide

20D 90° Corner: >24" & Up to 28" wall thickness

See Detail 17 to 17B on sht. A010



a ... 30" (76.2 cm)

A Frami S Xlife Inside Corner (I.C.)
B Frami S Xlife Outside Corner (O.C.)
C Frami Clamp + Frami CLIP
D Frami Universal Waling 0.70m
E FRAMAX Univ. Waling 1.50m
F Frami S Xlife panel x 0'-6" wide
G Frami S Xlife panel x 3'-0" wide
H Frami S Xlife panel x 2'-0" wide

20E 90° Corner: Up to 30" wall thickness

See Detail 17 to 17B on sht. A010

Frami S Xlife Panel & Job Built Filler Width Chart:

IMPERIAL	METRIC
3'-0" Panel	(91.4cm)
2'-6" Panel	(76.2cm)
2'-0" Panel	(61.0cm)
1'-6" Panel	(45.7cm)
1'-0" Panel	(30.5cm)
0'-6" Panel or JBF	(15.2cm)
5 1/2" JBF	(14.0cm)
5" JBF	(12.70cm)
4 1/2" JBF	(11.4cm)
4" JBF	(10.2cm)
3 1/2" JBF	(8.9cm)
3" JBF	(7.6cm)
2 1/2" JBF	(6.4cm)
2" JBF	(5.1cm)
1 1/2" JBF	(3.8cm)
1" JBF	(2.5cm)
1/2" JBF	(1.3cm)

Waling attachment Note: When Ganging forms (multi stack or 9'-0" single height) All Waling's should, and can-be attached to the form-rail, BEFORE Fully Removing the Form-Ties, stripping, and re-setting the gangs by crane. There is a high Risk of falling objects and harmful injury if this precaution is ignored! Refer to Detail 20F Sht. A012.

For general safety notes, and standard details, please refer to sheet(s): A002

Please refer to the Frami S Xlife "User Information" and "Operating Instructions" for additional info to that given in the drawings. Download @ www. Doka.com

This seal applies only to the application design of equipment provided by Doka USA Ltd. for the loading conditions as indicated herein.

Date:

No.	Description	Date	Drawn	Checked By
2	Released for FIELD USE	5/12/2017	AAS	RJM
1				
0				

Revisions

Maximum Design Concrete Pressure = 1000 (48 kN/m²) P.S.F.(U.O.N.)

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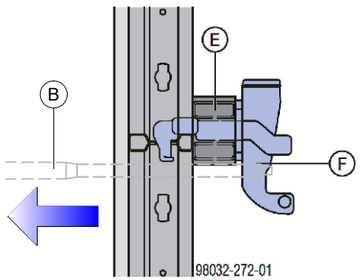
Fax: (201) 329-6406

A011 - 90° Corner Details

Frami S Xlife Formwork System Standards

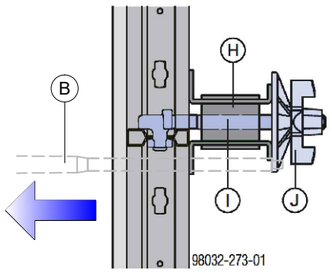
Scale:	NTS	Approved:	
Drawn By:	AAS	Date Drawn:	5/12/2017
Checked By:	RJM	Date Checked:	5/12/2017
Sheet No.	A011	Revision: 2	Date Issued: 5/12/2017

Waling attachment Note: When Ganging forms (multi stack or 9'-0" single height) All Waling's should, and can-be, attached to form BEFORE Fully Removing the Form-Ties, stripping, and re-setting the gangs. There is a high Risk of falling objects, and harmful injury, if this precaution is ignored! (as shown below & FIG. 3 this detail).



Enlarged Partial Side View Detail

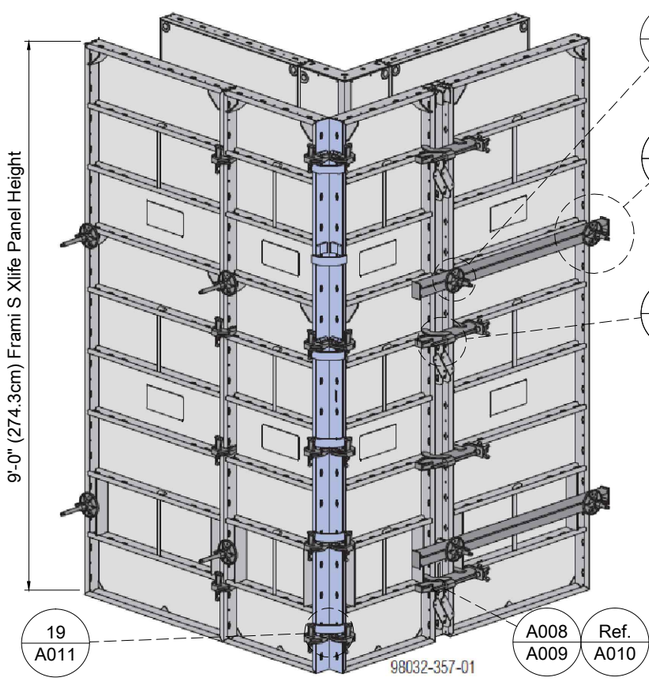
Frami Waler Connection

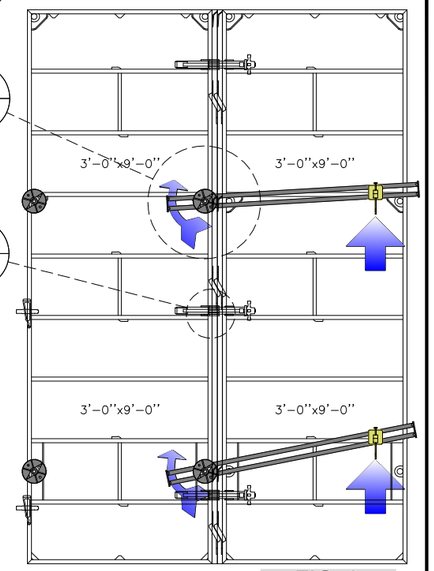


Enlarged Partial Side View Detail

Framax Waler Connection

B	Form-Tie (Shown in Gang Stripping Sequence)
E	Frami Universal waling (0.70 or 1.25m)
F	Frami Wedge Clamp
H	FRAMAX Universal Waling 1.50m
I	Universal Fixing Bolt 5-12cm
J	Super-plate 15.0mm∅





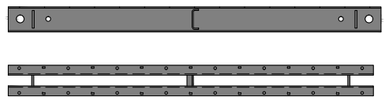
Partial Elevation View

FIG. 3

20F Waling Connection Details: Universal Frami or Framax walers - Side views, and Inside / Outside Corner partial elevations

SIngle 9'-0' Form Ht. example shown

LEGEND

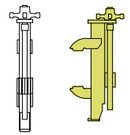


FRAMAX univ. waling 1.50m (4'-10 5/8" Nom.)

Frami universal waling 1.25m (4'-1" Nom.)

Frami universal waling 0.70m (2'-3" Nom.)

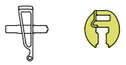
Frami wedge clamp



Frami Adjustable Clamp

Form-Tie or Fixing Bolt + Super-plate (as.)

Fixing bolt + Super plate

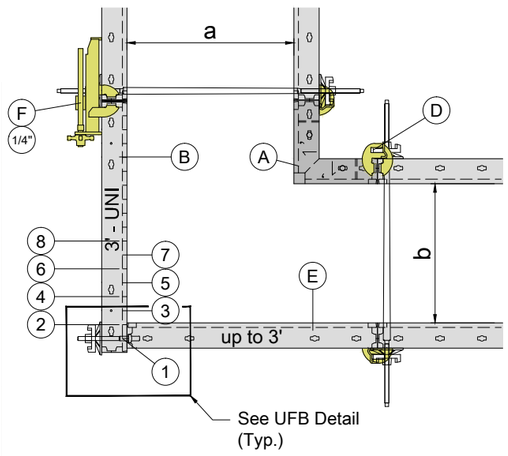


Frami Clamp

a ... 6" min. - 24" max.

b ... 6" min. 20" max.

Form-Hole Position (inches)	b ... wall thickness inches (metric +/-)
Hole (1) = 2"	20" (50.80cm) wall
Hole (2) = 4"	18" (45.7cm) wall
Hole (3) = 6"	16" (40.64cm) wall
Hole (4) = 8"	14" (35.6cm) wall
Hole (5) = 10"	12" (30.5cm) wall
Hole (6) = 12"	10" (25.4cm) wall
Hole (7) = 14"	8" (20.32cm) wall
Hole (8) = 16"	6" (15.2cm) wall

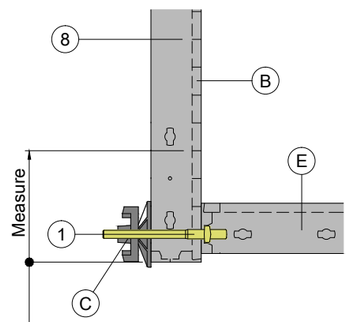


A	Frami S Xlife Inside Corner
B	Frami S Xlife Universal Panel (ref. chart above)
C	Frami Univ. Fixing Bolt 5-12cm + Super-plate 15.0
D	Frami Clamp (Det. 12 & 12A on A007)
E	Frami S Xlife Panel (max. 3'-0")
F	Frami Adjustable Clamp: 1/4" Job Built Filler (Typ. U.N.O.)

Close off any unneeded Panel-holes with Frami S Universal Panel plugs.

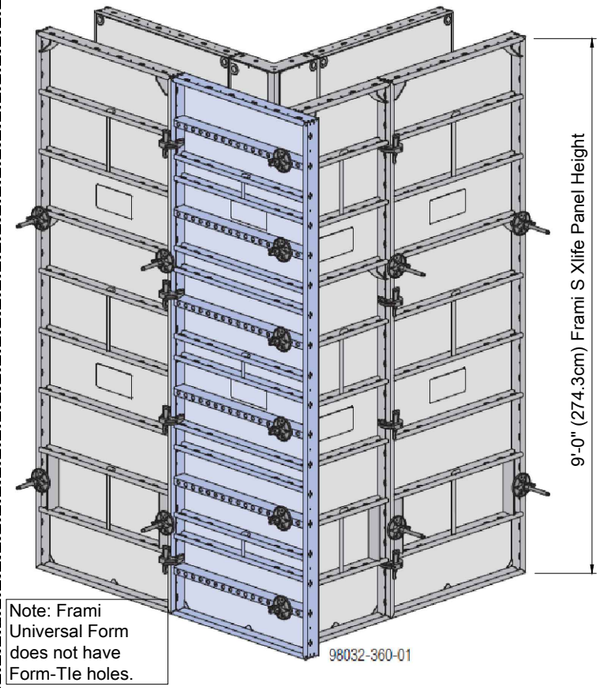
Yellow

Diameter: 3/4"



Universal 3'-0" (91.4cm) wide: Panel Heights	No. of Univ. Fixing Bolt 10-25cm + Super-plate 15.0
3'-0" (91.4cm)	2
4'-0" (121.9cm)	3
6'-0" (182.9cm)	4
9'-0" (274.3cm)	6

UFB Univ. Fixing Bolt Connection



Note: Frami Universal Form does not have Form-Tie holes.

20G Universal Panel 90° Corner Plan & Elevation: wall thickness of 6" to 20" (as shown), & up to 24" with steel fillers (ref. working dwgs.)

See Detail 17 to 17B sht. A010: Increased Tensile load Info.

This seal applies only to the application design of equipment provided by Doka USA Ltd. for the loading conditions as indicated herein.

Date:

For general safety notes, and standard details, please refer to sheet(s): A002

Please refer to the Frami S Xlife "User Information" and "Operating Instructions" for additional info to that given in the drawings. Download @ www. Doka.com

No.	Description	Date	Drawn	Checked By
5	Released for FIELD USE	5/12/2017	AAS	RJM
4				
3				
2				
1				
0				

Revisions

Maximum Design Concrete Pressure = 1000 (48 kN/m²) P.S.F.(U.O.N.)

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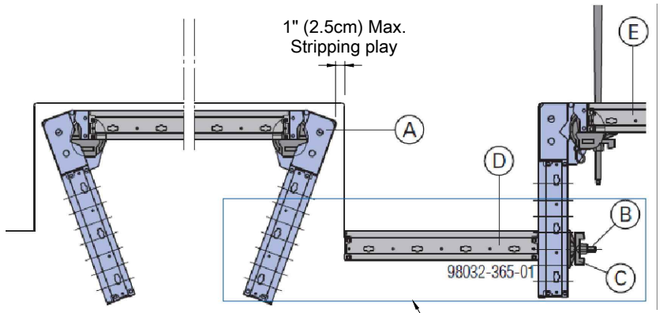
A012 - 90° Corners & Universal Panel Corner Details

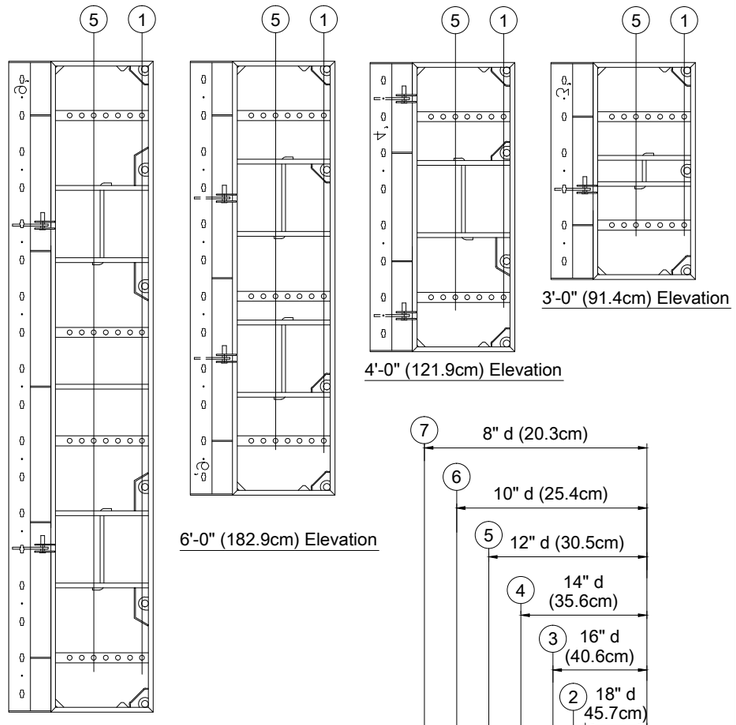
Frami S Xlife Formwork System Standards

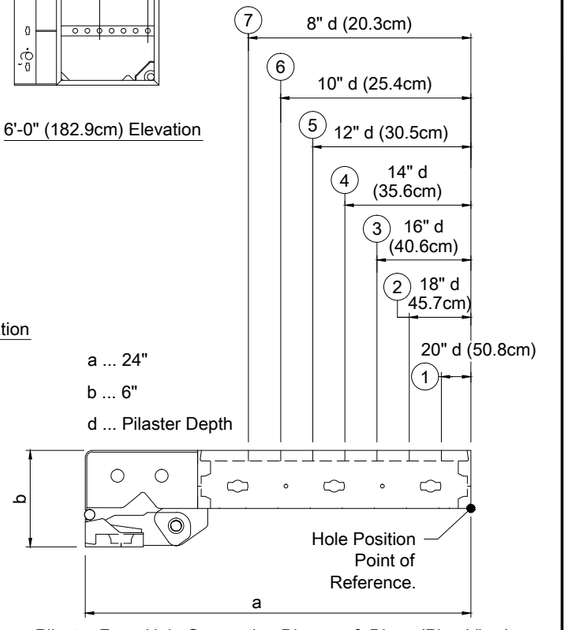
Scale:	NTS	Approved:	
Drawn By:	AAS	Date Drawn:	5/12/2017
Checked By:	RJM	Date Checked:	5/12/2017
Sheet No.	A012	Revision: 5	Date Issued: 5/12/2017



Stripping / Pouring Position Overview Detail

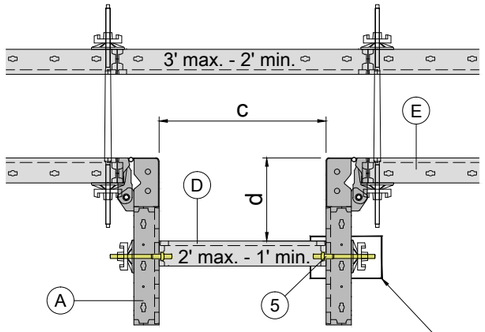
See UFB Detail on this sht. (Typ.)





Pilaster Form Hole Connection Diagram & Dims. (Plan-View)

21 Pilaster Form Overview Details

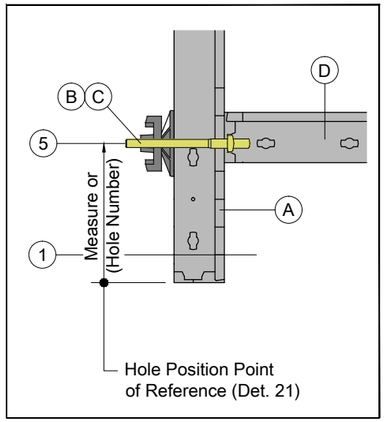


c ... 24" (61.0cm) - 12" (30.5cm)

d ... 8" (20.3cm) - 12" (30.5cm)

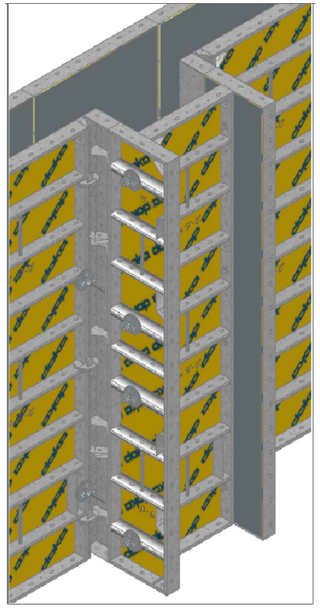
See UFB Detail on this sht. (Typ.)

A	Frami S Xlife Pilaster Panel (Det. 21)
B + C	Frami univ. fixing bolt 5-12cm + Super-Plate 15.0
D	Frami Xlife panel 2'-0" max. to 1'-0" min.
E	Frami S Xlife panel > 6" (with-out FILLER or J.B.F.)



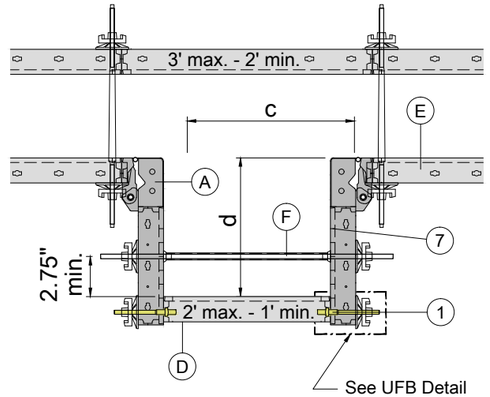
Pilaster Heights: Imperial (Metric)	Qty. of Universal Fixing Bolt 5-12cm + Super-plate 15.0 per Closed Gang (Pouring Position)
3'-0" (91.4cm)	4 Total (2 per single)
4'-0" (121.9cm)	4 Total (2 per single)
6'-0" (182.9cm)	6 Total (3 per single)
9'-0" (274.3cm)	8 Total (4 per single)

UFB Univ. Fixing Bolt Connection @ Pilaster Form



Partial Pilaster Elevation: 9'-0" Form Ht.

21A Pilaster Detail: Up to 12" Depth Ref. Detail 21



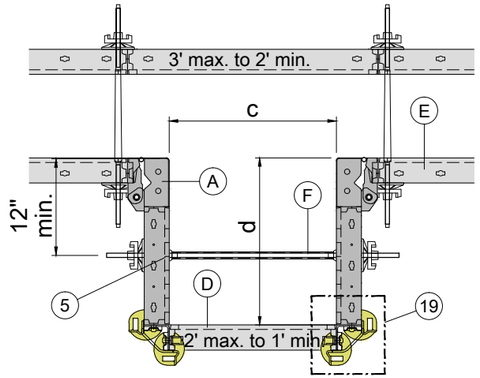
c ... 24" (61.0cm) - 12" (30.5cm)

d ... >12" - 20"

See UFB Detail on this sht. (Typ.)

A	Frami S Xlife Pilaster Panel (Det. 21)
B + C	Frami univ. fixing bolt 5-12cm + Super-Plate 15.0
D	Frami Xlife panel 2'-0" max. to 1'-0" min.
E	Frami S Xlife panel > 6" (with-out FILLER or J.B.F.)
F	Form-Tie System: Min. 2.75" distance from pilaster face

21B Pilaster Detail: >12" up to 20" Depth Ref. Detail 21



c ... 24" (61.0cm) - 12" (30.5cm)

d ... 12" (30.5cm) - 24" (61.0cm) shown

A	Frami S Xlife Pilaster Panel (Det. 21)
(19)	Outside Corner Assembly (Det. 19 on A011)
D	Frami Xlife panel 2'-0" max. to 1'-0" min.
E	Frami S Xlife panel > 6" (with-out FILLER or J.B.F.)
F	Form-Tie System: Detail 10 sht. A007

21C Pilaster Form Detail: Max. 24" Depth Ref. Detail 21

This seal applies only to the application design of equipment provided by Doka USA Ltd. for the loading conditions as indicated herein.

Date:

Frami S Xlife Panel & Job Built Filler Width Chart:

IMPERIAL	METRIC
3'-0" Panel	(91.4cm)
2'-6" Panel	(76.2cm)
2'-0" Panel	(61.0cm)
1'-6" Panel	(45.7cm)
1'-0" Panel	(30.5cm)
6" Panel / JBF	(15.2cm)
5 1/2" JBF	(14.0cm)
5" JBF	(12.70cm)
4 1/2" JBF	(11.4cm)
4" JBF	(10.2cm)
3 1/2" JBF	(8.9cm)
3" JBF	(7.6cm)
2 1/2" JBF	(6.4cm)
2" JBF	(5.1cm)
1 1/2" JBF	(3.8cm)
1" JBF	(2.5cm)
1/2" JBF	(1.3cm)

For general safety notes, and standard details, please refer to sheet(s): A002

Please refer to the Corresponding "User Information" & "Operating Instructions" for additional information: @ www.Doka.com

No.	Description	Date	Drawn	Checked By
0	Released for FIELD USE	5/12/2017	AAS	RJM

Revisions

Maximum Design Concrete Pressure = 1000 (48 kN/m²) P.S.F.(U.O.N.)

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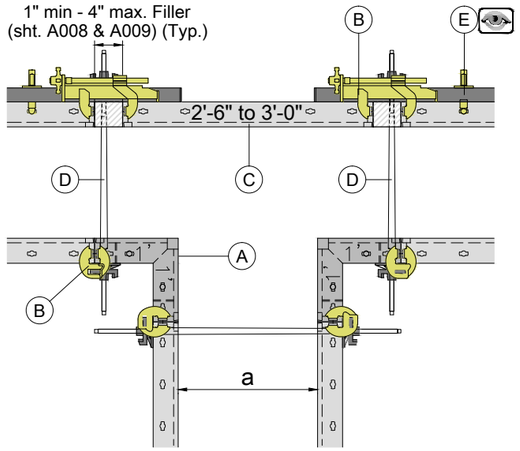
Fax: (201) 329-6406

A013 - Pilaster Details

Frami S Xlife Formwork System Standards

Scale:	NTS	Approved:	
Drawn By:	AAS	Date Drawn:	5/12/2017
Checked By:	RJM	Date Checked:	5/12/2017
Sheet No.	A013	Revision: 0	Date Issued: 5/12/2017



a ... 20" (50.8cm) max. - 8" min. (20.3cm)

A Frami S Xlife Inside Corner (I.C.)

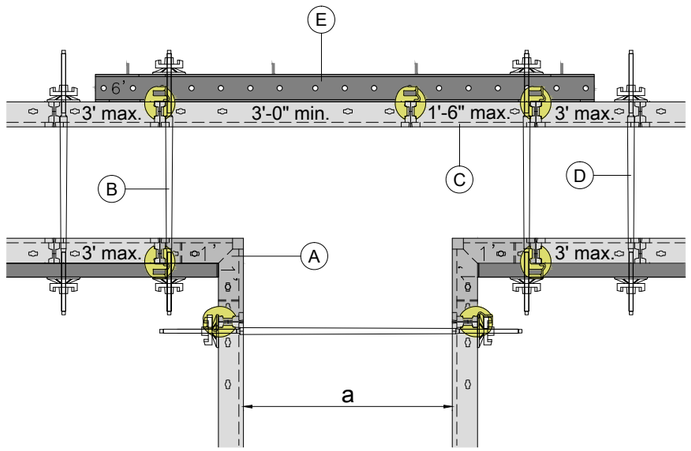
B Frami Clamp OR Adjustable Clamp

C Frami S Xlife panel x 3'-0" max. (2'-6" min.)

D FORM-TIE MUST BE ON INSIDE CORNER LOCATION

E Frami Universal Waling 0.70 + Wedge Clamp

22 T-Wall w/ Inside Corners: Up to 20" (50.8cm)
Ref. Detail 20F sht. A012



a ... 30" max. (76.2cm) - 20" min. (50.8cm)

A Frami S Xlife Inside Corner (I.C.)

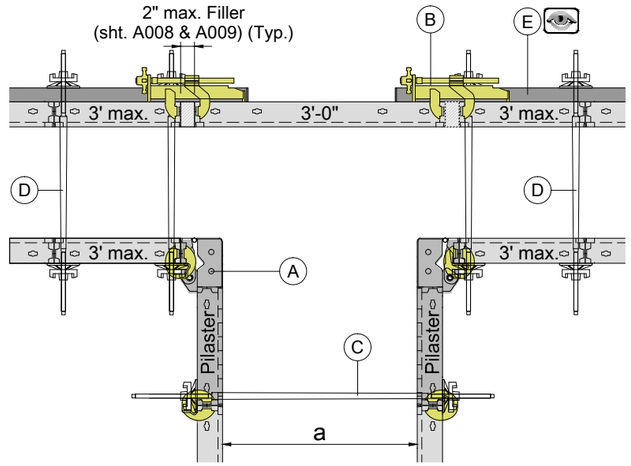
B FORM-TIE MUST BE ON INSIDE CORNER LOCATION

C Frami S Xlife panel x 1'-6" wide

D FORM-TIE LOCATION CLOSEST TO CORNER

E WS10 WALING x 6'-0" (Ref. Det. 22D)

22A T-Wall w/ Inside Corners: Up to 30" (76.2cm)
Ref. Det. 22D



a ... 28" max. (71.1cm) - 26" min. (66.0cm)

A Frami S Xlife PILASTER Panel

B FORM-TIE MUST BE ON PILASTER LOCATION

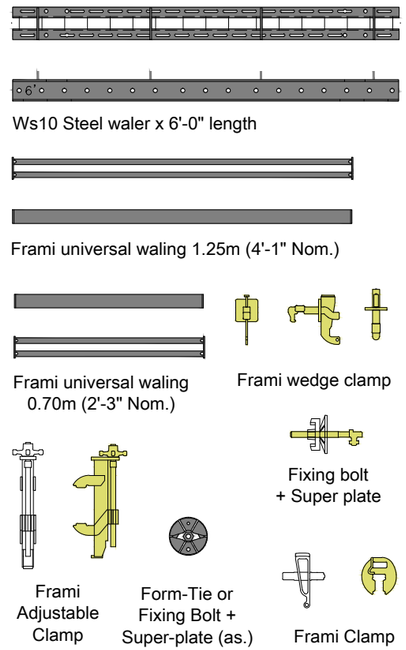
C Frami Steel Filler (2" each side of 3'-0")

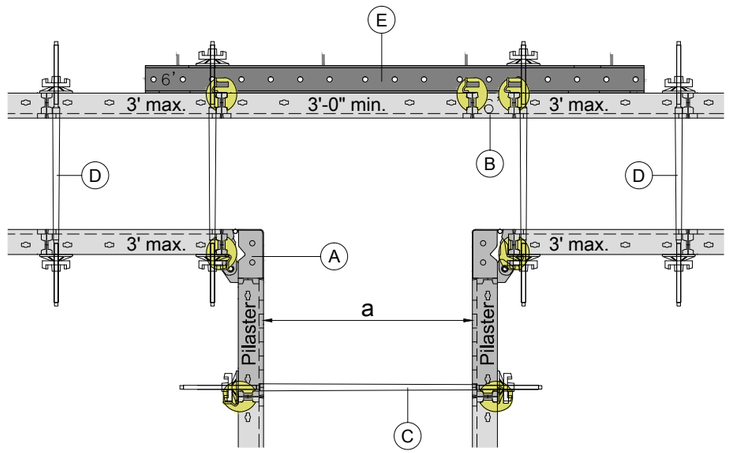
D Form-Tie MUST BE on waling 1.25m

E Frami Universal Waling 1.25m

22B T-Wall w/ Pilaster Forms: 26" to 28" (66cm to 71cm)
Ref. Detail 20F sht. A012

LEGEND





a ... 30" (76.2cm) max.

A Frami S Xlife Pilaster Panel

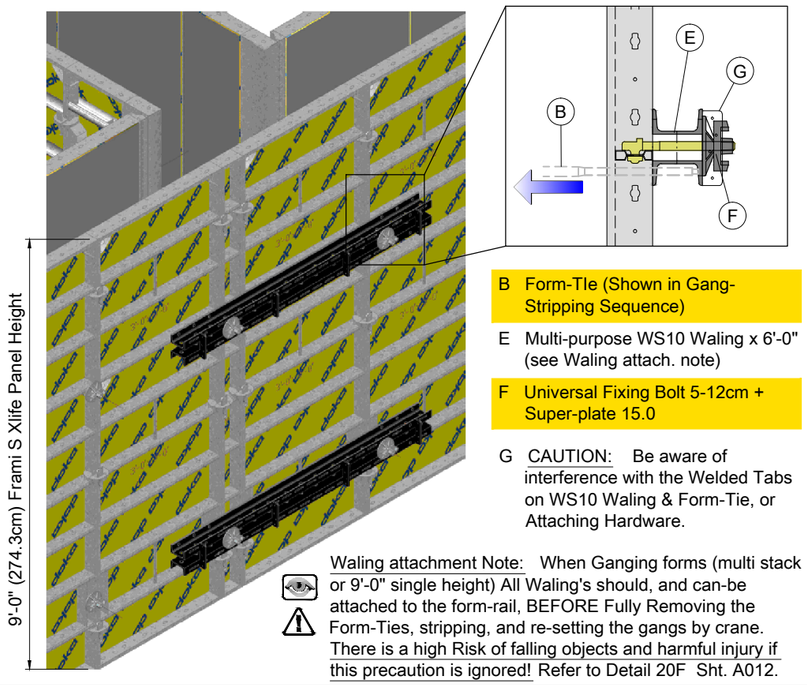
B Frami S Xlife Panel 0'-6" wide max.

C FORM-TIE MUST BE ON PILASTER LOCATION

D FORM-TIE LOCATION CLOSEST TO CORNER

E Multi-purpose WS10 Waling x 6'-0" (Ref. Det. 22D)

22C T-Wall w/ Pilaster Forms: Up to 30" (76.2cm)
Ref. Detail 22D



B Form-TIe (Shown in Gang-Stripping Sequence)

E Multi-purpose WS10 Waling x 6'-0" (see Waling attach. note)

F Universal Fixing Bolt 5-12cm + Super-plate 15.0

G CAUTION: Be aware of interference with the Welded Tabs on WS10 Waling & Form-Tie, or Attaching Hardware.

Waling attachment Note: When Ganging forms (multi stack or 9'-0" single height) All Waling's should, and can-be attached to the form-rail, BEFORE Fully Removing the Form-Ties, stripping, and re-setting the gangs by crane. There is a high Risk of falling objects and harmful injury if this precaution is ignored! Refer to Detail 20F Sht. A012.

22D T-Wall: Partial Elevation @ Back Face of Wall Form
WS10 x 6'-0" waling Detail (Ref. Det. 22A & 22C)

Frami S Xlife Panel & Job Built Filler Width Chart:	
IMPERIAL	METRIC
3'-0" Panel	(91.4cm)
2'-6" Panel	(76.2cm)
2'-0" Panel	(61.0cm)
1'-6" Panel	(45.7cm)
1'-0" Panel	(30.5cm)
6" Panel / JBF	(15.2cm)
5 1/2" JBF	(14.0cm)
5" JBF	(12.70cm)
4 1/2" JBF	(11.4cm)
4" JBF	(10.2cm)
3 1/2" JBF	(8.9cm)
3" JBF	(7.6cm)
2 1/2" JBF	(6.4cm)
2" JBF	(5.1cm)
1 1/2" JBF	(3.8cm)
1" JBF	(2.5cm)
1/2" JBF	(1.3cm)

For general safety notes, and standard details, please refer to sheet(s): A002

Please refer to the Frami S Xlife "User Information" and "Operating Instructions" for additional info to that given in the drawings. Download @ www. Doka.com

This seal applies only to the application design of equipment provided by Doka USA Ltd. for the loading conditions as indicated herein.

Date:

No.	Description	Date	Drawn	Checked By
1	Released for FIELD USE	5/12/2017	AAS	RJM

Revisions

Maximum Design Concrete Pressure = 1000 (48 kN/m²) P.S.F.(U.O.N.)

Doka USA Regional Office
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Little Ferry, New Jersey 07643
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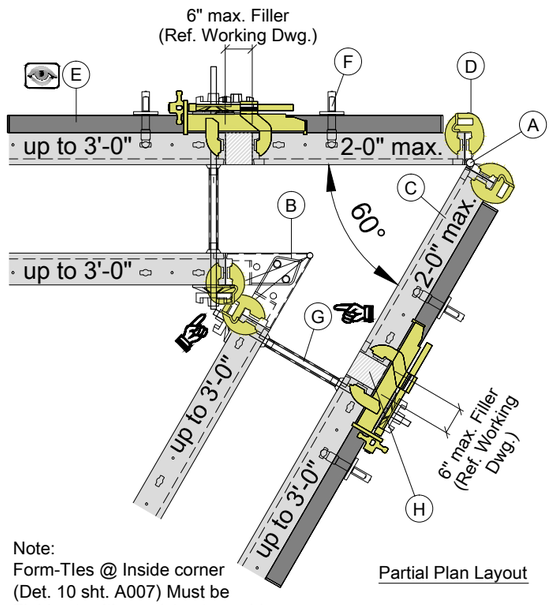
Fax: (201) 329-6406

A014 - T-Wall Details

Frami S Xlife Formwork System Standards

Scale:	NTS	Approved:	
Drawn By:	AAS	Date Drawn:	5/12/2017
Checked By:	RJM	Date Checked:	5/12/2017
Sheet No.	A014	Revision: 1	Date Issued: 5/12/2017



Note:
Form-TIes @ Inside corner (Det. 10 sht. A007) Must be Field cut with precision to avoid adjacent form-tie interference.

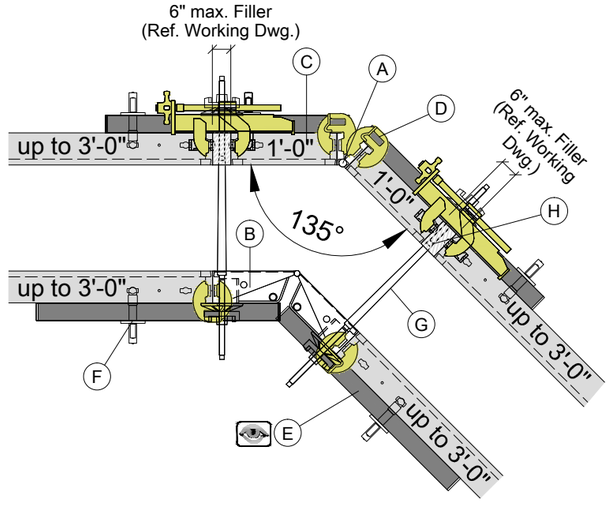
D Frami Clamp (STAGGERED @ I.S.)

G Form-Tie (Det. 10 sht. A007)

Partial Plan Layout

23 Hinged Corner: 60° - 90°: CHARTS 23C

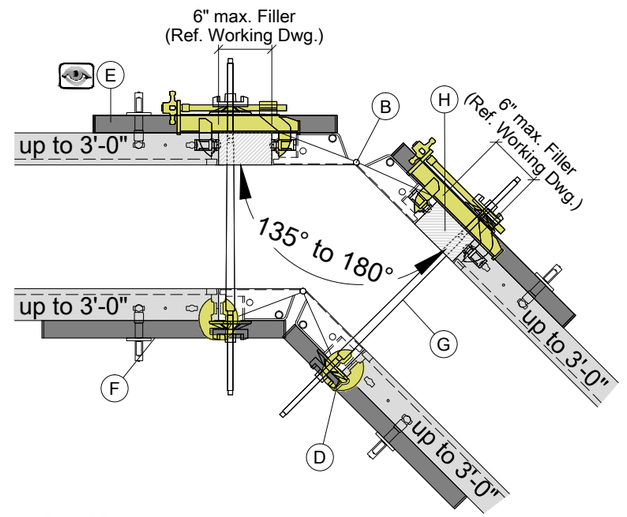
See Details 17 to 17B on sht. A010



Partial Plan Layout

23A Hinged Corner: 90° - 135°: CHART 23C

See Details 17 to 17B on sht. A010



Partial Plan Layout

(Inside Hinged Corners @ Both SIdes)

23B Hinged Corner: 135° - 180° : CHART 23C

See Details 17 to 17B on sht. A010

Frami S Xlife Panel & Job Built Filler Width Chart:

IMPERIAL	METRIC	IMPERIAL	METRIC
3'-0" Panel	(91.4cm)	5 1/2" JBF	(14.0cm)
2'-6" Panel	(76.2cm)	5" JBF	(12.70cm)
2'-0" Panel	(61.0cm)	4 1/2" JBF	(11.4cm)
1'-6" Panel	(45.7cm)	4" JBF	(10.2cm)
1'-0" Panel	(30.5cm)	3 1/2" JBF	(8.9cm)
6" Panel / JBF	(15.2cm)	3" JBF	(7.6cm)
		2 1/2" JBF	(6.4cm)
		2" JBF	(5.1cm)
		1 1/2" JBF	(3.8cm)
		1" JBF	(2.5cm)
		1/2" JBF	(1.3cm)

A Frami S Hinged Outside Corner

B Frami S Hinged INSIDE Corner

C Frami S Xlife Panel (Detail & working dwgs.)

D Frami Clamp (sht. A007)

E Frami Universal Waling 0.70

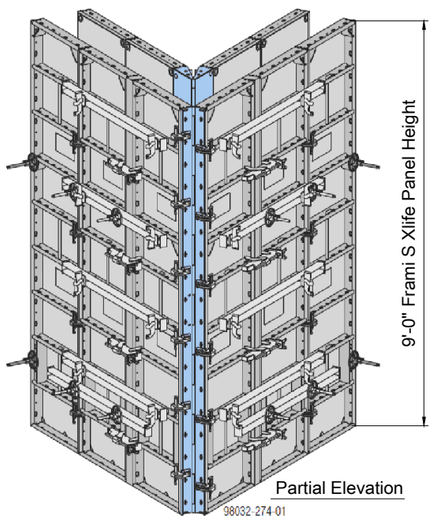
F Frami Wedge Clamp

G FORM-TIE THRU HINGED INSIDE CORNER

H Steel or J.B.F. Filler (See Sht. A008 & A009)

Component

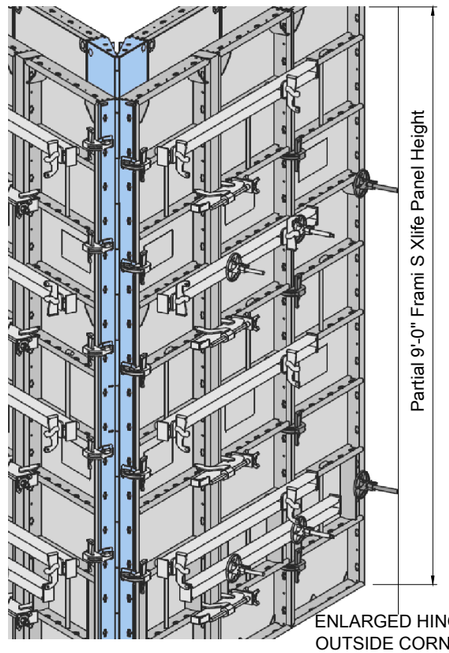
LEGEND



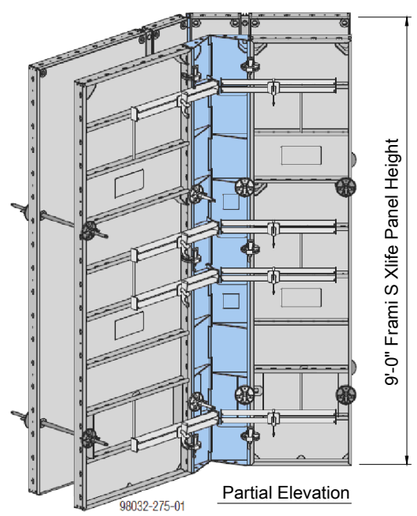
Partial Elevation

@ Hinged Outside Corners

Ref. Enlarged Detail & Chart



ENLARGED HINGED OUTSIDE CORNER



Partial Elevation

@ Hinged Inside Corners

Ref. Chart

UPRIGHT (Vertical) Panel Height: Imperial (Metric)	No. of Universal walings (Ref. Det. 23, 23A, & 23B)
3'-0" (91.4cm)	4 + (!) if Filler at O.S. Corner
4'-0" (121.9cm)	4 + (!) if Filler at O.S. Corner
6'-0" (182.9cm)	4 + (!) if Filler at O.S. Corner
9'-0" (274.3cm)	8 + (!) if Filler at O.S. Corner

Chart: Qty. of Walings at O.S. or I.S. hinged corner SET, (2) Vertical Joints, (above) (!) sht. A008 & A009

Upright (Vertical) Panel Height	Panel width up to 2'-0" (61.0cm)	Panel width up to 3'-0" (91.4cm)
3'-0" (91.4cm)	8*	4*
4'-0" (121.9cm)	8*	6*
6'-0" (182.9cm)	6*	8*
9'-0" (274.3cm)	8*	12*

Chart: Qty. of Frami Clamps at Inside or Outside Hinged corner SET (2) Vertical Joints, (above) *sht. A010

23C At Angled Corners (Ref. Harware Charts this detail)

See Details 17 to 17B on sht. A010

This seal applies only to the application design of equipment provided by Doka USA Ltd. for the loading conditions as indicated herein.

For general safety notes, and standard details, please refer to sheet(s): A002

Please refer to the Frami S Xlife "User Information" and "Operating Instructions" for additional info to that given in the drawings. Download @ www. Doka.com

Date:

No.	Description	Date	Drawn	Checked By
2	Released for FIELD USE	5/12/2017	AAS	RJM
1				
0				

Revisions

Maximum Design Concrete Pressure = 1000 (48 kN/m²) P.S.F.(U.O.N.)

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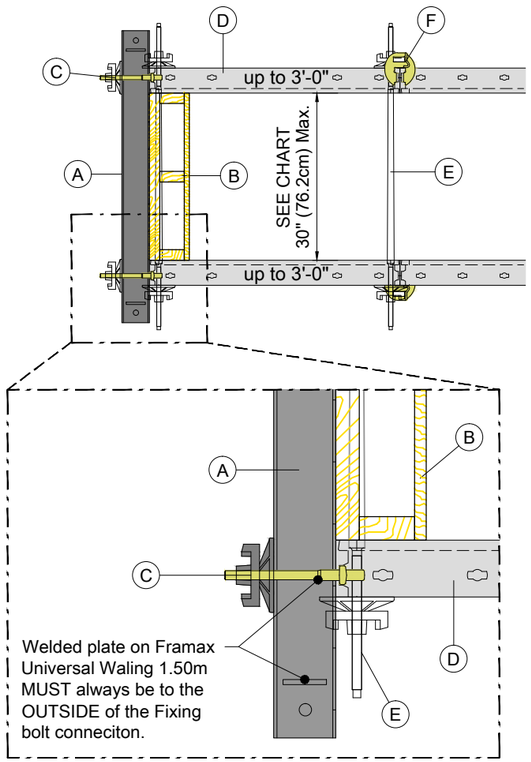
A015 - Hinged (Angled) Corner Details

Frami S Xlife Formwork System Standards

Scale:	NTS	Approved:	
Drawn By:	AAS	Date Drawn:	5/12/2017
Checked By:	RJM	Date Checked:	5/12/2017
Sheet No.	A015	Revision: 2	Date Issued: 5/12/2017



Typ. Universal Waling Connection Detail

Enlarged Plan View

A Universal Waling: See Chart below

B Lumber Bulkhead by others: min. 6"

C Univ. Fixing Bolt 5 -12cm + Super-plate 15.0

D Frami S Xlife panel: 12" min.- 3'-0" max.

E Form-Tie Location Closest to Bulkhead: sht. A007

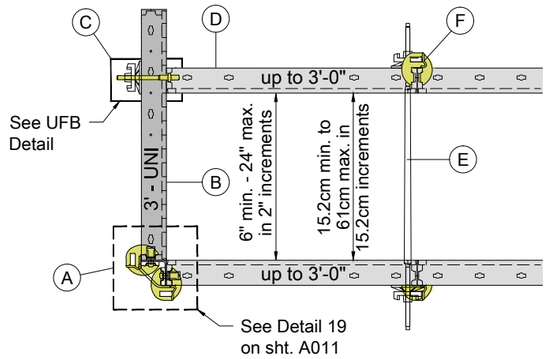
F Frami Clamp (sht. A007)

Up to 40.6cm wall thickness	Up to 61cm Wall thickness	Up to 71.1cm Wall thickness	Up to 76.2cm Wall thickness
Up to 16" Wall thickness	Up to 24" Wall thickness	Up to 28" Wall thickness	Up to 30" Wall thickness
3 Frami Universal Walings 0.70m	5 Frami Universal Walings 1.25m	4 FRAMAX Universal Walings 1.50m	5 FRAMAX Universal Walings 1.50m
6 Universal Fixing Bolts + Super-plate 15.0	10 Universal Fixing Bolts + Super-plate 15.0	8 Universal Fixing Bolts + Super-plate 15.0	10 Universal Fixing Bolts + Super-plate 15.0

Universal Waling Chart: Frami & FRAMAX

25 Universal Waling: Up to 30" wall thickness

See Detail 18 & 18A on sht. A010



A Frami Outside Corner: See Chart below

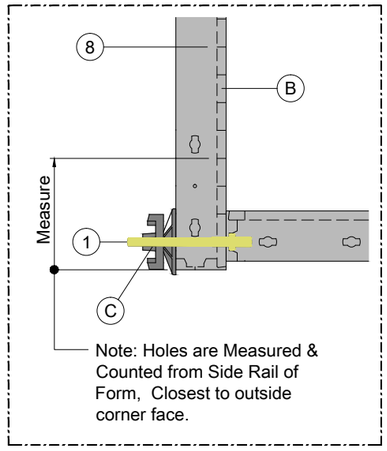
B Frami S Xlife Universal Panel 3'-0" wide

C Univ. Fixing Bolt 5 -12cm + Super-plate 15.0 (ref. UFB det.)

D Frami S Xlife panel: 12" min.- 3'-0" max.

E Form-Tie Location Closest to Bulkhead: sht. A007

F Frami Clamp (sht. A007)



UFB Univ. Fixing Bolt Connection

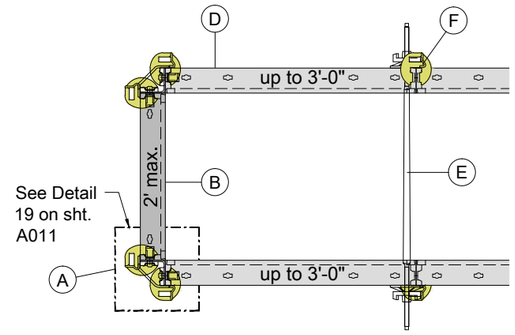
@ Universal Panel : Detail 25A

Panel Height: Imperial (Metric)	Univ. Fixing Bolt 5-12cm + Super-plate 15.0	Frami Clamp
3'-0" (91.4cm)	2	4
4'-0" (121.9cm)	3	4
6'-0" (182.9cm)	4	6
9'-0" (274.3cm)	6	8

Connections @ Universal Panel & Outside Corner

25A Universal Panel + Outside Corner: Up to 24"

See Detail 18 & 18A on sht. A010



A Frami Outside Corner: See Chart below

B Frami S Xlife Panel: 6" min. - 24" max.

D Frami S Xlife panel: 12" min.- 3'-0" max.

E Form-Tie Location Closest to Bulkhead:sht. A007

F Frami Clamp (sht. A007)

No. of Clamps needed at 90° Outside Corner w/ wall thickness of up to:			
Panel Height: Imperial (Metric)	16"	24"	30"
3'-0" (91.4cm)	4	4	4
4'-0" (121.9cm)	6	6	6
6'-0" (182.9cm)	6	8	8 + 4[1)]
9'-0" (274.3cm)	10	12	12 + 4[1)]

1) No. of Frami Clips needed at 90° Outside Corner

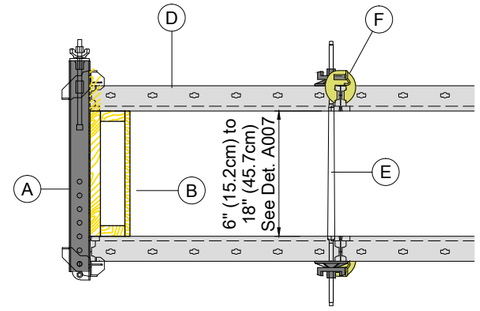
Clamps & Clips Chart @ Outside Conrners: Ref. Det. 19 on A011

25B Outside Corners: Up to 24" wall thickness

See Detail 18 & 18A on sht. A010

Form-Hole Position (inches)	b ... wall thickness inches (metric +/-)
Hole (1) = 2"	20" (50.80cm) wall
Hole (2) = 4"	18" (45.7cm) wall
Hole (3) = 6"	16" (40.64cm) wall
Hole (4) = 8"	14" (35.6cm) wall
Hole (5) = 10"	12" (30.5cm) wall
Hole (6) = 12"	10" (25.4cm) wall
Hole (7) = 14"	8" (20.32cm) wall
Hole (8) = 16"	6" (15.2cm) wall

Connection Position / Wall thickness: Universal Panel



A Stop-End Waler Tie: See Chart below

B Lumber Bulkhead by others: min. 6 3/4"

D Frami S Xlife panel: 12" min.- 3'-0" max.

E Form-Tie Location Closest to Bulkhead: sht. A007

F Frami Clamp (sht. A007)

Panel Ht. (upright pos.)	Stop-End Waler tie 15-45cm
3'-0" (91.4cm)	1 *)
4'-0" (121.9cm)	2
6'-0" (182.9cm)	2
9'-0" (274.3cm)	3

Panel Width (horiz. pos.)	Stop-End Waler tie 15-45cm
6" to 2'-6" (15.2cm) to (76.2cm)	1 *)
3'-0"	2

*) Footings or grade-beam formwork (single panels 3'-0" or 4'-0"), at least (2) stop-end Waler-ties must be used.

Stop-end Waler tie 15-45 cm.

25C Stop-End Waler Tie: 6" to 18" wall thkns.

See Detail 18 & 18A on sht. A010

For general safety notes, and standard details, please refer to sheet(s): A002

Please refer to the Corresponding "User Information" & "Operating Instructions" for additional information: @ www.Doka.com

No.	Description	Date	Drawn	Checked By
0	Released for FIELD USE	5/12/2017	AAS	RJM

Revisions

Maximum Design Concrete Pressure = 1000 (48 kN/m²) P.S.F.(U.O.N.)

This seal applies only to the application design of equipment provided by Doka USA Ltd. for the loading conditions as indicated herein.

Date:

Doka USA Regional Office
Eastern Support Group
214 Gates Road
Little Ferry, New Jersey 07643
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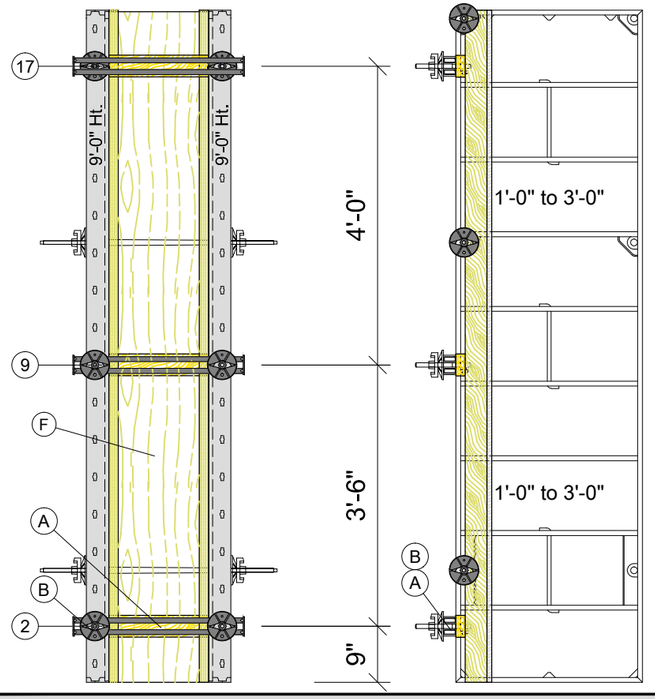
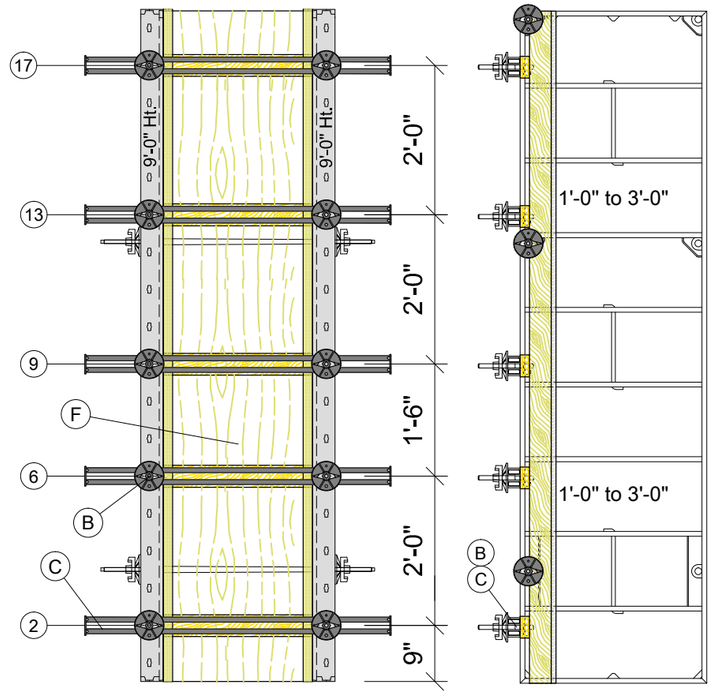
A016 - Bulkhead Details

Frami S Xlife Formwork System Standards

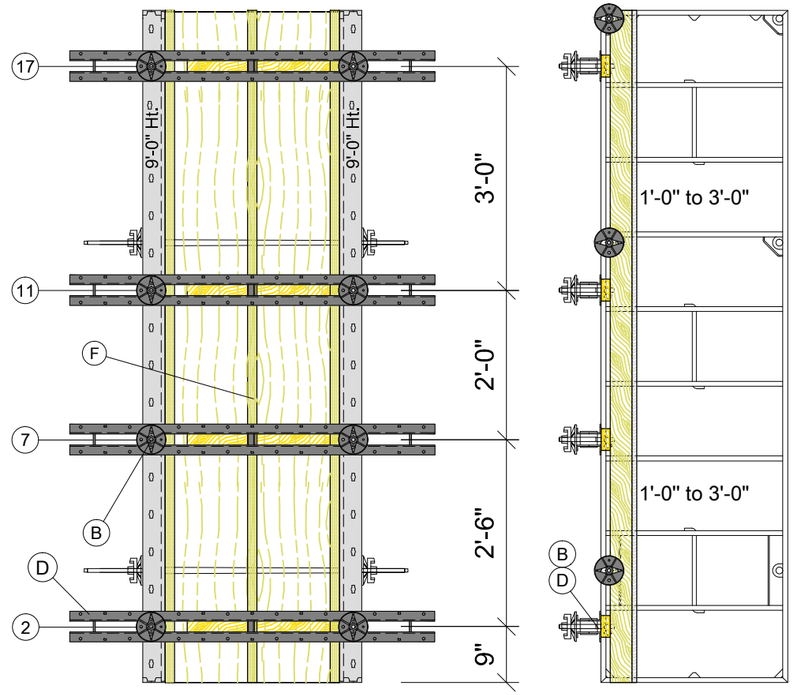
Scale:	NTS	Approved:	
Drawn By:	AAS	Date Drawn:	5/12/2017
Checked By:	RJM	Date Checked:	5/12/2017
Sheet No.	A016	Revision: 0	Date Issued: 5/12/2017



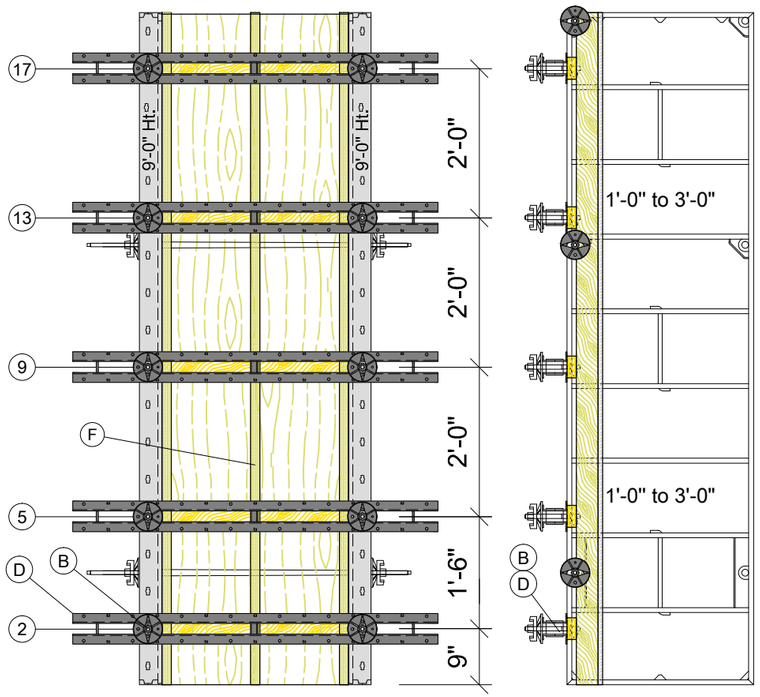
26 Bulkhead: 9'-0" Form Height - Up to 16" wall thkns.
See Detail 25 & 25D on sht. A016 for Partail Plan Assembly



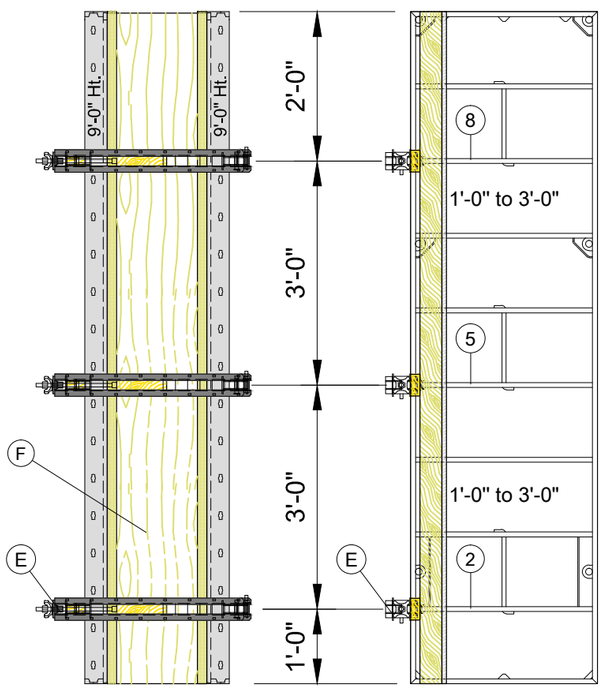
26A Bulkhead: 9'-0" Form Height - Up to 24" wall thickness
See Detail 25 & 25D on sht. A016 for Partail Plan Assembly



26B Bulkhead: 9'-0" Form Height - Up to 28" wall thickness
See Detail 25 & 25D on sht. A016 for Partail Plan Assembly



26C Bulkhead: 9'-0" Form Height - Up to 30" wall thickness
See Detail 25 & 25D on sht. A016 for Partail Plan Assembly



26D Bulkhead: 9'-0" Form Height - Up to 18" wall thkns.
See Detail 25 & 25D on sht. A016 for Partail Plan Assembly

Frami S Xlife Panel & Job Built Filler Width Chart:	
IMPERIAL	METRIC
3'-0" Panel	(91.4cm)
2'-6" Panel	(76.2cm)
2'-0" Panel	(61.0cm)
1'-6" Panel	(45.7cm)
1'-0" Panel	(30.5cm)
0'-6" Panel or JBF	(15.2cm)
Panel Height: Imperial	Panel Height: Metric
3'-0"	(91.4cm)
4'-0"	(121.9cm)
6'-0"	(182.9cm)
9'-0"	(274.3cm)

⚠ For general safety notes, and standard details, please refer to sheet(s): A002

⚠ Please refer to the Frami S Xlife "User Information" and "Operating Instructions" for additional info to that given in the drawings. Download @ www. Doka.com

This seal applies only to the application design of equipment provided by Doka USA Ltd. for the loading conditions as indicated herein.

Date:

A	Frami S Universal Waling 0.70m
B	Univ. Fixing Bolt 5-12cm + Super-plate 15.0mm∅
C	Frami S Universal Waling 1.25m
D	FRAMAX UNIV. WALING 1.50m
E	Stop-End Waler Tie
F	Lumber Bulkhead by others, min. 6"

LEGEND

No.	Description	Date	Drawn	Checked By
8	Released for FIELD USE	5/12/2017	AAS	RJM

Revisions

Maximum Design Concrete Pressure = 1000 (48 kN/m²) P.S.F.(U.O.N.)

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Doka USA Regional Office
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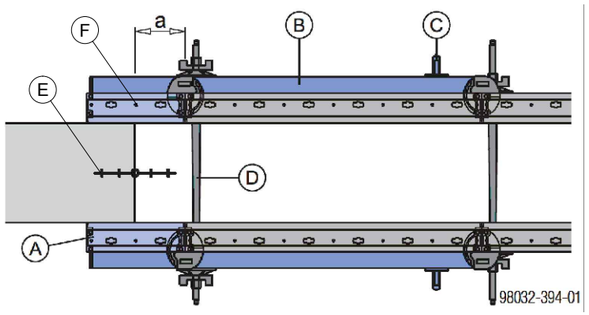
A017 - Bulkhead Elevation Details

Frami S Xlife Formwork System Standards

Scale:	NTS	Approved:	
Drawn By:	AAS	Date Drawn:	5/12/2017
Checked By:	RJM	Date Checked:	5/12/2017
Sheet No.	A017	Revision: 8	Date Issued: 5/12/2017



a ... 8" (20.3 cm) max.

A Frami S Xlife Panel: 1'-0" (30.5cm) max width

B Frami Universal Waling 1.25m

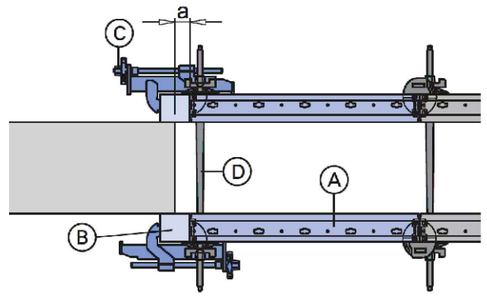
C Frami Wedge Clamp

D Frami Form-Tie: See sheet A007

E Horizontal Water Seal: by others

F Frami S Xlife Panel 1'-0" (30.5cm) min.

27 Overlap using Frami S Xlife Panel



a ... 2" (5cm) max.

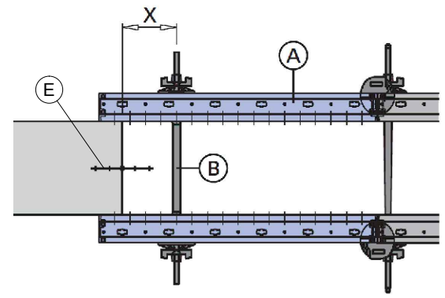
A Frami S Xlife Panel: 3'-0" (91.4cm) max width

B min. 3x4 (Nom.) Dimensional Lumber: by others

C Frami Adjustable Clamp

D Frami Form-Tie: See sheet A007

27A Overlap using Lumber: by others



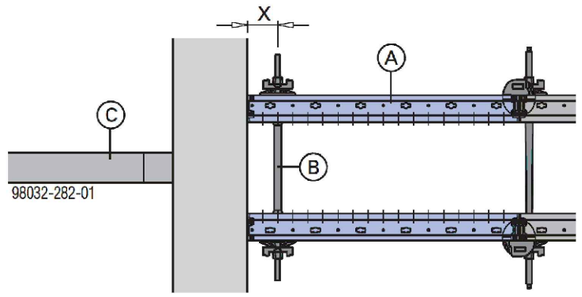
A Frami S Xlife Universal Panel: 3'-0" (91.4cm) width

B Frami Form-Tie: See Det. 10 on sheet A007

E Horizontal Water Seal: by others

Form-Tie position "X"	Number of 15mm∅ Form-TIe Req'd per Ht: 3'-0" (91.4cm) Ht.	4'-0" (121.9cm) Ht.	6'-0" (182.9cm) Ht.	9'-0" (274.3cm) Ht.
up to 6" (15.2 cm)	2	2	3	4
up to 10" (25.4cm) max.	2	2	4	6

27B Overlap using Frami Universal Panels



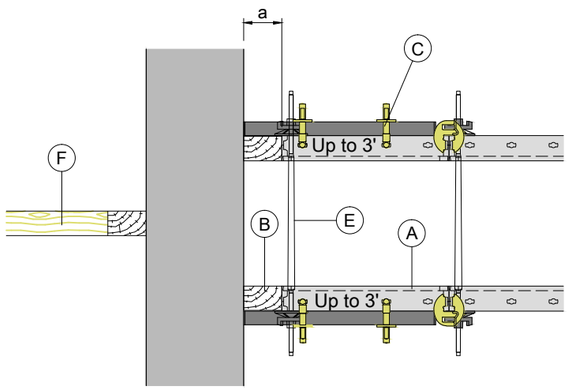
A Frami S Xlife Universal Panel: 3'-0" (91.4cm) width

B Frami Form-Tie: See Det. 10 on sheet A007

C Wall bracing for existing wall by others. - Min. Required SWL Design: 1,200 psf. (57.5 kN/m²)

Form-Tie position "X"	Number of 15mm∅ Form-TIe Req'd per Ht: 3'-0" (91.4cm) Ht.	4'-0" (121.9cm) Ht.	6'-0" (182.9cm) Ht.	9'-0" (274.3cm) Ht.
up to 6" (15.2 cm)	2	2	3	4
up to 10" (25.4cm) max.	2	2	4	6

27C T-Wall using Frami Universal Panels



a ... 2" (5cm) min. - 4" (10.2cm) max.

A Frami S Xlife Panel: 3'-0" (30.5cm) max width

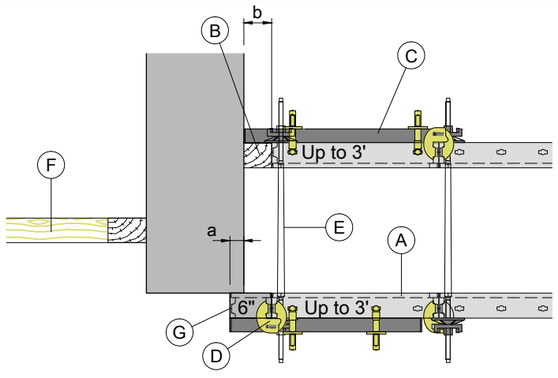
B min. 3x4 (Nom.) Dimensional Lumber: by others

C Frami Universal Waling 0.75m + (2) Wedge Clamp (Qty. of waling per 9'-0": Ref. Working Dwgs.)

E Frami Form-Tie: See sheet A007

F Wall bracing for existing wall by others.

27D T-Wall using Lumber: by others



a ... 2" (5cm) min. b ... 2" (5cm) min. - 4" (10.2cm) max.

A Frami S Xlife Panel: 3'-0" (30.5cm) max width

B 4" max. Dimensional Lumber: by others

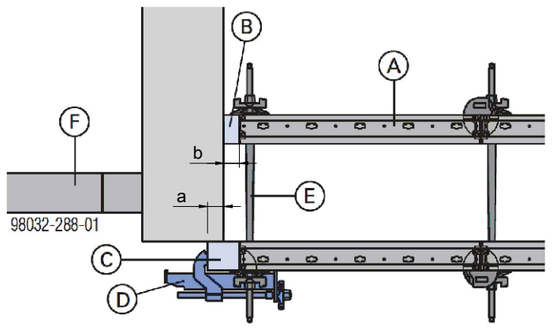
C Frami Universal Waling 0.75m + (2) Wedge Clamp (Qty. of waling per 9'-0": Ref. Working Dwgs.)

E Frami Form-Tie: See sheet A007

F Wall bracing for existing wall by others.

G Frami S Xlife Panel: 0'-6" (15.2cm) wide

27E Corners using Frami Panel + Lumber



a ... 2" (5cm) min. b ... 2" (5cm) min

A Frami S Xlife Panel: 3'-0" (30.5cm) max width

B 2" (5cm) max. Dimensional Lumber: by others

C 4" min. Dimensional Lumber overlap: by others

D Frami Adjustable Clamp

E Frami Form-Tie: See sheet A007

F Wall bracing for existing wall by others.

27F Corners using Lumber: by others

This seal applies only to the application design of equipment provided by Doka USA Ltd. for the loading conditions as indicated herein.

For general safety notes, and standard details, please refer to sheet(s): A002

Please refer to the Frami S Xlife "User Information" and "Operating Instructions" for additional info to that given in the drawings. Download @ www. Doka.com

Date:

No.	Description	Date	Drawn	Checked By
2	Released for FIELD USE	5/12/2017	AAS	RJM
1				
0				

Revisions

Maximum Design Concrete Pressure = 1000 (48 kN/m²) P.S.F.(U.O.N.)

Doka USA Regional Office
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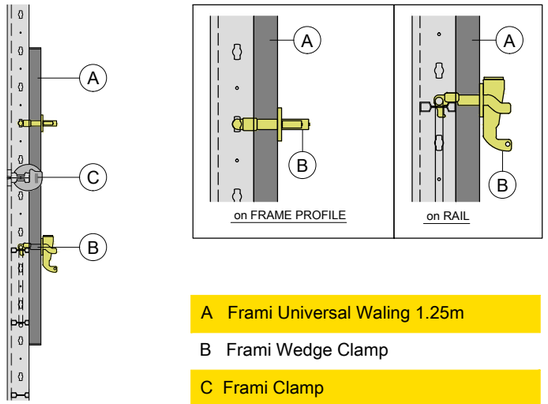
A018 - Overlap Details

Frami S Xlife Formwork System Standards

Scale:	NTS	Approved:	
Drawn By:	AAS	Date Drawn:	5/12/2017
Checked By:	RJM	Date Checked:	5/12/2017
Sheet No.	A018	Revision: 2	Date Issued: 5/12/2017



A Frami Universal Waling 1.25m

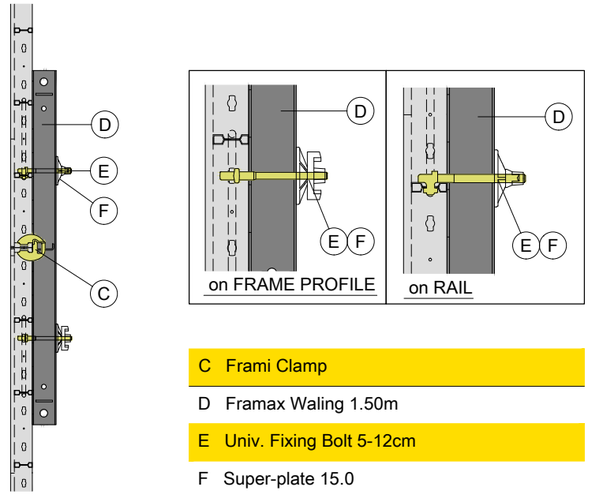
B Frami Wedge Clamp

C Frami Clamp

Partial Side View at Stacking Form Joint (Horiz.)

28 Panel Stacking Detail: Frami

Standard FRAMI Components



C Frami Clamp

D Framax Waling 1.50m

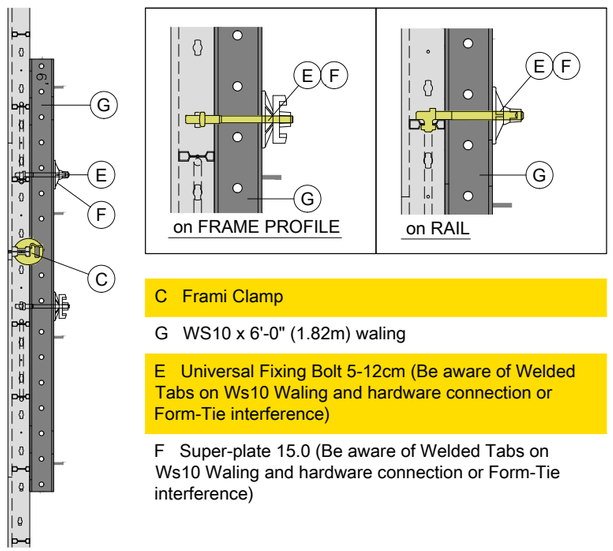
E Univ. Fixing Bolt 5-12cm

F Super-plate 15.0

Partial Side View at Stacking Form Joint (Horiz.)

28A Panel Stacking Detail: Framax

Universal Waling 1.50m (4'-11")



C Frami Clamp

G WS10 x 6'-0" (1.82m) waling

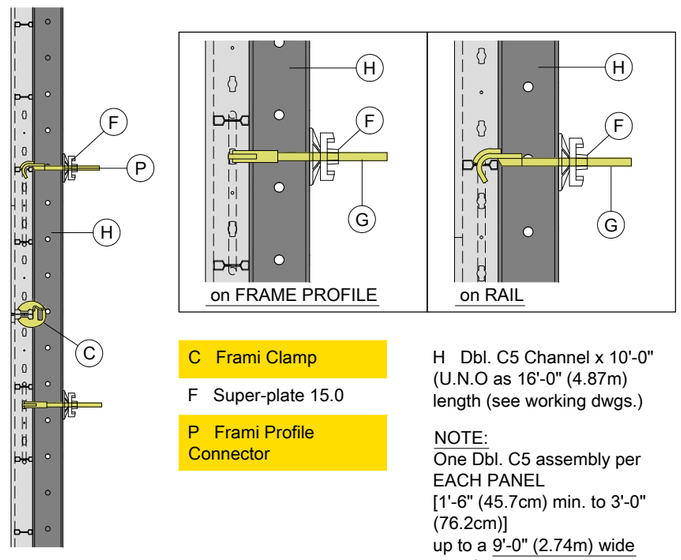
E Universal Fixing Bolt 5-12cm (Be aware of Welded Tabs on Ws10 Waling and hardware connection or Form-Tie interference)

F Super-plate 15.0 (Be aware of Welded Tabs on Ws10 Waling and hardware connection or Form-Tie interference)

Partial Side View at Stacking Form Joint (Horiz.)

28B Panel Stacking Detail: WS10

Doka WS10 Waling x 6'-0"



C Frami Clamp

F Super-plate 15.0

P Frami Profile Connector

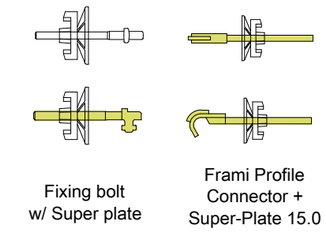
H Dbl. C5 Channel x 10'-0" (U.N.O as 16'-0" (4.87m) length (see working dwgs.)

NOTE:
One Dbl. C5 assembly per EACH PANEL
[1'-6" (45.7cm) min. to 3'-0" (76.2cm)]
up to a 9'-0" (2.74m) wide gang!

Partial Side View at Stacking Form Joint (Horiz.)

28C Panel Stacking Detail: DBL. C5 Channel Assembly (OPTIONAL)

Stacking Detail w/ Double C5 Channel assembly is OPTIONAL



LEGEND

This seal applies only to the application design of equipment provided by Doka USA Ltd. for the loading conditions as indicated herein.

Date:

For general safety notes, and standard details, please refer to sheet(s): A002

Please refer to the Corresponding "User Information" & "Operating Instructions" for additional information: @ www.Doka.com

No.	Description	Date	Drawn	Checked By
2	Released for FIELD USE	5/12/2017	AAS	RJM
1				
0				

Revisions

Maximum Design Concrete Pressure = 1000 (48 kN/m²) P.S.F.(U.O.N.)

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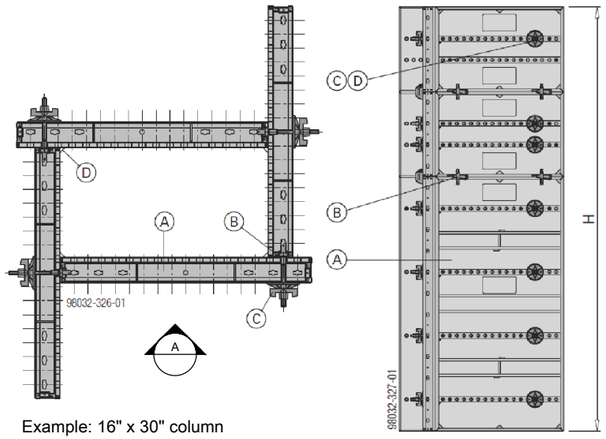
A019 - Form-Gang Elevation & Stacking Details

Frami S Xlife Formwork System Standards

Scale:	NTS	Approved:	
Drawn By:	AAS	Date Drawn:	5/12/2017
Checked By:	RJM	Date Checked:	5/12/2017
Sheet No.	A019	Revision: 2	Date Issued: 5/12/2017



Example: 16" x 30" column

- A Frami S Xlife Universal panel
- B Frami universal fixing bolt 5-12cm
- C Super-plate 15.0
- D Chamfer by others

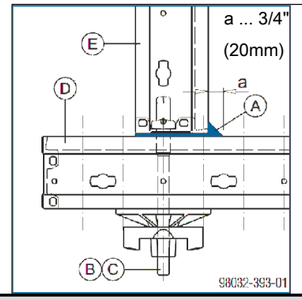
Plan View (up to 32" x 32")

Elevation "A - A"

Form Height (H): Imperial (Metric)	Xlife Universal panels (A)					Frami Clamp (B)	Univ. Fix. Bolt (C)	Super-plate 15.0 (D)
	9'-0"	6'-0"	4'-0"	3'-0"	2'-0"			
9'-0" (2.74 m)	4						24	24
10'-0" (3.05 m)		4	4			8	28	28
11'-0" (3.35m)	4				4	8	28	28
12'-0" (3.65 m)	4			4		8	32	32
13'-0" (3.96 m)	4		4			8	36	36
14'-0" (4.26 m)	4			4	4	16	36	36
15'-0" (4.57 m)	4	4				8	40	40
16'-0" (4.8 m)	4		4	4		16	44	44
17'-0" (5.18 m)	4	4			4	16	44	44
18'-0" (5.48 m)	8					8	48	48

Table for Columns w/ Universal Panels: See Conn. Detail

Permitted pressure of fresh concrete:
1650 psf (80 kN/m²)

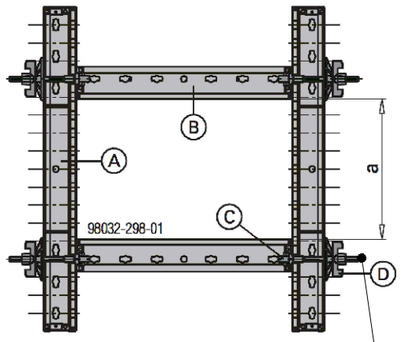


a ... 3/4" (20mm)

- A Frami S frontal triangular ledge 3/4" (or triangular chamfer)
- B Frami universal fixing bolt 5-12cm
- C Super-plate 15.0
- D Frami S Xlife Universal panel
- E Frami S Xlife Universal panel

UFB Fixing Bolt Connection
SPECIFIC TO THIS COLUMN DESIGN

29 Column Using Xlife Universal Panels



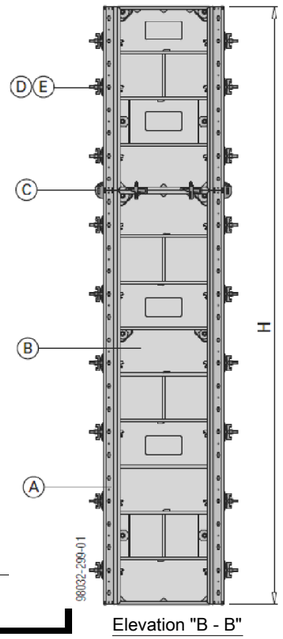
Detail 20G Sht. A012: Fixing Bolt Conn. (Det. 29 Sim.)

Example: 16" x 24" column: 28" (71.1cm) Max.

- A Frami S Xlife Universal panel
- B Frami S Xlife Panel (max. 2'-0")
- C Frami universal fixing bolt 5-12cm
- D Super-plate 15.0

Plan View (up to 28" (71.1cm)

Permitted pressure of fresh concrete:
1650 psf (80 kN/m²)

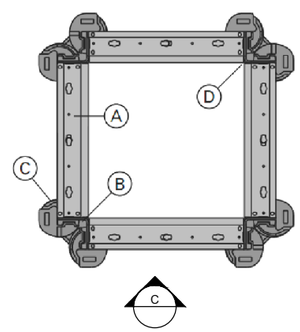


Elevation "B - B"

Form Height (H)	Xlife Universal panels (A)				Xlife panels (B)				Frami Clamp (C)	Univ. Fix. Bolt (D)	Super-plate 15.0 (E)
	9'-0"	6'-0"	4'-0"	3'-0"	9'-0"	6'-0"	4'-0"	3'-0"			
3'-0" (0.91 m)				2				2		8	8
4'-0" (1.22 m)			2				2			12	12
6'-0" (1.83 m)		2				2				16	16
7'-0" (2.13 m)			2	2			2	2	8	20	20
8'-0" (2.44 cm)			4				4		8	24	24
9'-0" (2.74 m)	2				2					24	24
10'-0" (3.05 m)		2	2			2	2		8	28	28
11'-0" (3.35m)			4	2			4	2	16	32	32
12'-0" (3.65 m)	2			2	2			2	8	32	32
13'-0" (3.96 m)	2		2				2		8	36	36
14'-0" (4.26 m)		2	4			2	4		16	40	40
15'-0" (4.57 m)	2	2			2	2			8	40	40
16'-0" (4.8 m)	2		2	2	2		2	2	16	44	44
17'-0" (5.18 m)	2		4		2		4		16	48	48
18'-0" (5.48 m)	4				4				8	48	48

Table for Columns w/ Universal Panels & Standard Panels

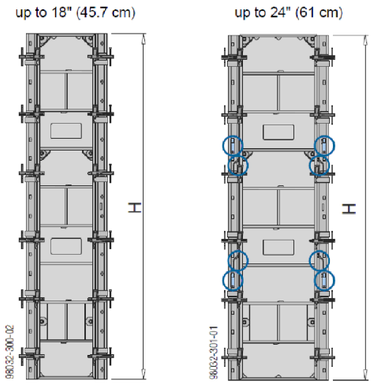
29B Column Using Xlife Universal Panels and Xlife Standard Panels



Example: 18" x 18" column

- A Frami S Xlife Panel (max. 3-0")
- B Frami S outside corner
- C Frami clamp
- D Frami Clip

Plan View (up to 36" x 36")



Example: Outside corners 9'-0" with Xlife panels 1'-6"x9'-0"

Example: Outside corners 9'-0" with Xlife panels 2'-0"x9'-0" and extra Frami clips

Elevation "C - C"

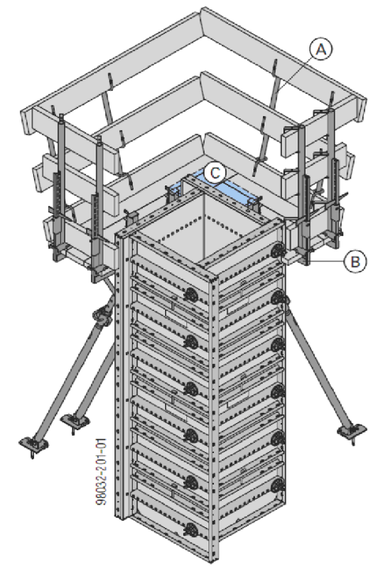
Permitted pressure of fresh concrete:
1650 psf (80 kN/m²)

Form Height (H): Imperial (Metric)	Xlife panels (A)				Frami Clamp (C)
	9'-0"	6'-0"	4'-0"	3'-0"	
3'-0" (91.4cm)				4	16
4'-0" (121.9cm)			4		24
6'-0" (182.9cm)		4			32
9'-0" (274.3cm)	4				48

Form Height (H): Imperial (Metric)	Outside Corners (B)				Frami Clamp (C)	Frami Clip (D)
	9'-0"	6'-0"	4'-0"	3'-0"		
3'-0" (91.4cm)				4	16	16
4'-0" (121.9cm)			4		24	16
6'-0" (182.9cm)		4			32	24
9'-0" (274.3cm)	4				48	32

Table for Columns w/ Standard Panels and Outside Corners

29A Column Using Outside Corners and Xlife Standard Panels



- A Frami bracket 60 (floor and railing planking provided at site)
- B Handrail clamp S (railing provided at site)
- C Board for screwing the floor planking (by Contractor)

Note:
Where the two floor planking units meet, a board must be screwed onto the underside.

☞ To achieve EXACT plumbing & alignment of the COLUMN formwork, the ideal arrangement of the panel struts is as illustrated here.

☞ To obtain the highest possible DIMENSIONAL ACCURACY, the panels must be pushed apart (i.e. towards the outside face of column) while being assembled.

29C Column Overview Information

This seal applies only to the application design of equipment provided by Doka USA Ltd. for the loading conditions as indicated herein.

Date:

For general safety notes, and standard details, please refer to sheet(s): A002

Please refer to the Corresponding "User Information" & "Operating Instructions" for additional information: @ www.Doka.com

No.	Description	Date	Drawn	Checked By
B	Released for FIELD USE	5/12/2017	AAS	RJM
A				

Revisions

Maximum Design Concrete Pressure = NOTED P.S.F.(U.O.N.)

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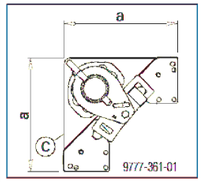
A020 - Column Details

Frami S Xlife Formwork System Standards

Scale:	NTS	Approved:	
Drawn By:	AAS	Date Drawn:	5/12/2017
Checked By:	RJM	Date Checked:	5/12/2017
Sheet No.	A020	Revision: B	Date Issued: 5/12/2017



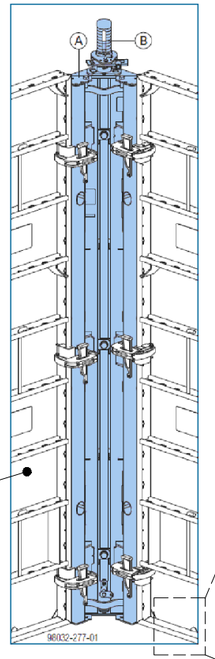
a ... 12" (30 cm)

Plan View

A Framax S Bias-Cut Corner I (B.C.C.)

B Framax Stripping Spindle I w/ Ratchet

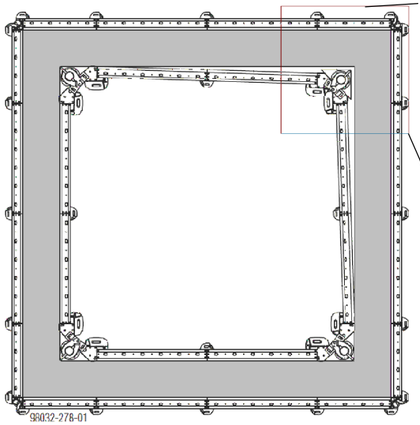
C Steel Form-facing



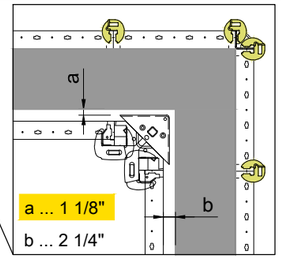
FRAMI S XLIFE PANEL (TYP.)

Bias-Cut Corner I (galvanized)	lbs.
1.35m	388
2.70m	207

Partial Elevation

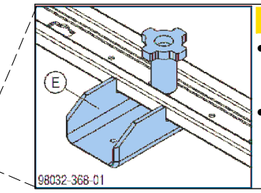


Working Drawing Example - Plane View



Enlarged Corner Detail (Ref. Details 32A & 32B)

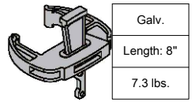
With the Bias-Cut Corner I, the entire Shaft Formwork unit is detached from the wall, in one piece, before being lifted and reset by crane for next floor lift.



E Frami Panel Shoe

- Maximum influence width 6' or at least 2 pieces per side.
- The Frami panel shoe provides increased stability on shaft platforms.

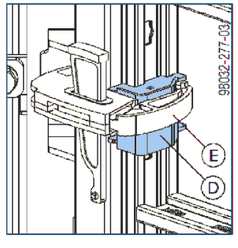
Detail @ Bott. of Form w/ Frami Panel Shoe (shaft only)



Galv.
Length: 8"
7.3 lbs.

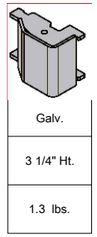
Framax Quick Acting Clamp RU

32 Frami S Xlife Bias-cut (Stripping) Corner & Shaft Formwork Overview (Ref. Details 32A to 32F this sht.)



Ht. of Bias-Cut Corner I	Frami Panel Ht.	No. of Clamps (Framax)
1.35m	3'-0"	4
1.35m	4'-0"	4
2.70m	6'-0"	6
2.70m	9'-0"	6

Framax Clamp Qty. Chart



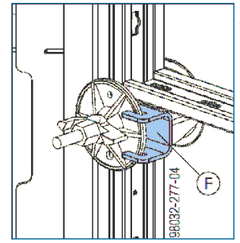
Galv.
3 1/4" Ht.
1.3 lbs.

Profile Adapter

D Frami Profile Adapter

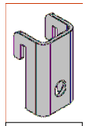
E Framax Quick-Acting Clamp RU

32A Frami Clamping Adapter Detail for Bias-cut Corner



Filler Note:
When possible, do not place Fillers (steel or lumber J.B.F.) directly next to the Bias-Cut Corners (B.C.C.).

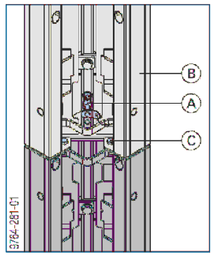
F Frami Tie-Adapter for Bias-Cut Corner I



Galv.
4 1/2" Ht.
1 lbs.

Frami Tie Adapter

32B Frami Tying Adapter ⚠ (Tie thru Frami Only) Detail for Bias-cut Corner



A Coupling Bolt

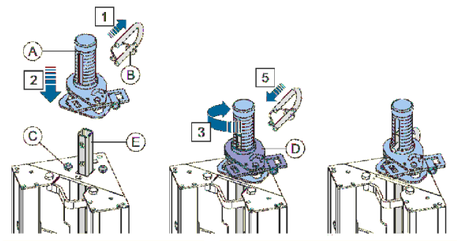
B Bias-Cut Corner I (B.C.C.)

C Hex. Bolt M 15x45 (or 5/8"∅ x 1 3/4")

OPERATING ORDER:

1) Pull out the Coupling Bolt (A).
2) Maneuver the B.C.C. into place so that it is flush with the one below it.
3) Push the Coupling Bolt (A) back into position.
4) Bolt the B.C.C. together w/(2) Hex. Bolts (C).

32C Stacking Bias-Cut Corner Details



A Framax Stripping Spindle I w/ Ratchet

B U-Bolt

C Centering Stud of B.C.C.

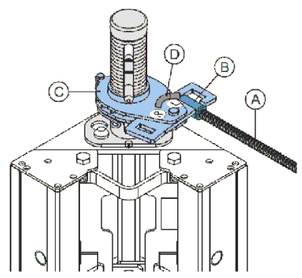
D Ratchet

E Push-Rod

OPERATING ORDER:

1) Pull out the U-Bolt (B) from the stripping Spindle (A).
2) Place the Stripping Spindle on the center stud of the Bias-Cut Corner
3) Twist the Stripping Spindle clockwise until fully engaged.
4) Position the Ratchet between the holes in the Push-Rod (E).
5) Fix the Stripping Spindle (A) with the U-Bolt (B).

32D Mounting Framax Stripping Spindle I



A Tie-Rod 15.0mm∅

B Weldable Coupler 15.0∅

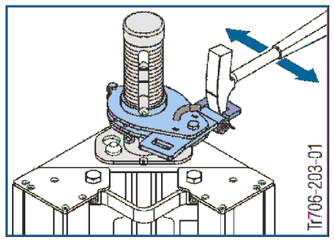
C Change-Over Lever

Using a Ratchet

Galvanized
Height: 10"

12.1 lbs.

Framax Stripping Spindle w/ Ratchet



Using a Formwork Hammer

OPERATING ORDER:

1) Screw a Tie-Rod (A) into the Weldable Coupler 15 (B) of the Ratchet.

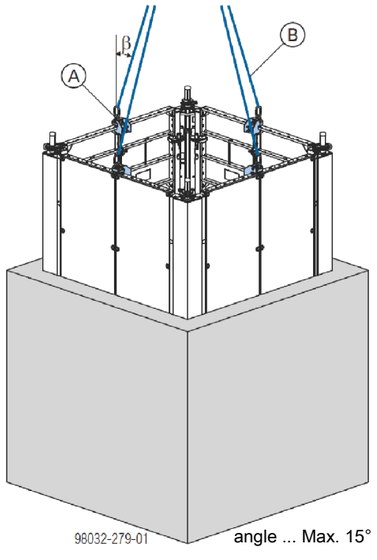
SETTING POSITION:

2) Shift the Change-Over Lever (C) into the "L" position.
3) Turn the Ratchet CLOCKWISE.

STRIPPING:

4) Shift the Change-Over lever into the "R" position.
5) Turn the Ratchet ANTI-CLOCKWISE.

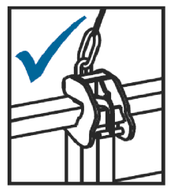
32E Operating the Bias-Cut Corner



angle ... Max. 15°

A Frami Lifting Hook

B Four-part Lifting chain or Equal by others.



Warning!

- The Crane Hook on the Bias-Cut Corner I is NOT allowed to be used for LIFTING the SHAFTFORM-WORK.
- The Shaft Formwork may ONLY be RESET using LIFTING HOOKS.

MAX. PERMITTED WEIGHT OF THE SHAFT FORMWORK (SINGLE LIFTING UNIT):

4,400 lbs with (4) Frami Lifting hooks.

- For achieving a better Center of Gravity of Picking (eg. Large Gangs), a Lifting Beam, or Bracket may be used.

32F Resetting by Crane

This seal applies only to the application design of equipment provided by Doka USA Ltd. for the loading conditions as indicated herein.

For general safety notes, and standard details, please refer to sheet(s): A002

Please refer to the Frami S Xlife "User Information" and "Operating Instructions" for additional info to that given in the drawings. Download @ www. Doka.com

Date:

No.	Description	Date	Drawn	Checked By
2	Released for FIELD USE	5/12/2017	AAS	RJM
1				

Revisions

Maximum Design Concrete Pressure = 1000 (48 kN/m²) P.S.F.(U.O.N.)

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A021 - Bias-Cut Corner I & Shaft Formwork Details

Frami S Xlife Formwork System Standards

Scale:	NTS	Approved:	
Drawn By:	AAS	Date Drawn:	5/12/2017
Checked By:	RJM	Date Checked:	5/12/2017
Sheet No.	A021	Revision: 2	Date Issued: 5/12/2017

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