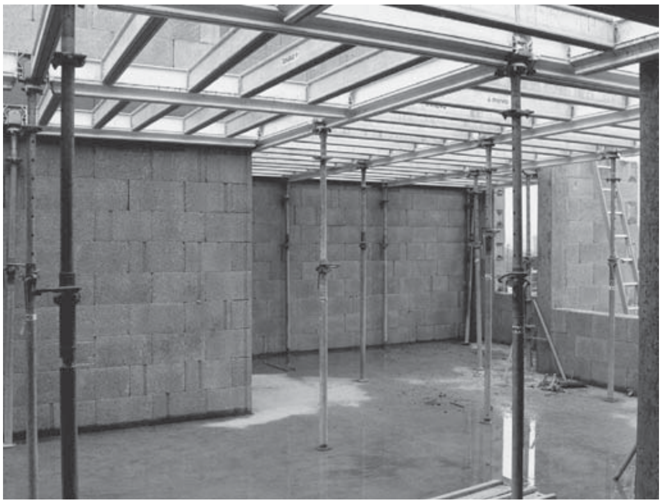
meva



MevaDec

Technical Instruction Manual

Fig. 2.1

Fig. 2.2

Product Characteristics

The requirements for slab formwork vary from one construction project to the other depending on

- ground plan
- dimensions
- floor height
- slab thickness
- concrete finish
- number of reuses

and therefore, require various solutions. For that reason the MEVA engineers conceived **MevaDec**, a slab formwork system made up of aluminum sections with integrated plastic forming face.
The conception for MevaDec is to cover the most important slab forming methods with just one system, i.e. always the same components are used for different applications.

One method is applied with a **separate forming face**:

- the primary-and-secondary-beam method (HN-method, Fig. 2.1. and 2.2).

The other two forming methods are applied with **ready-made panels** with an **integrated forming face**:

- the drop-head-beam-panel method (FTE-method, Fig. 3.1 and 3.2)
- and the panel method.

No matter which forming method is the most economical for your construction project, the same components of the MevaDec system are always employed.

The system also permits the combination of several methods and thus reduces filler areas to a minimum. The number and position of post shores is governed by the system. Therefore, no superfluous post shores are used.

The 5 main components of the MevaDec system are:

- drop head
- primary beam
- secondary beam
- panel
- prop head.

MevaDec permits “early stripping“ by means of drop heads, which allows an earlier reuse of the material and a considerable reduction in cleaning effort.
The post shores are delivered to the site with drop heads or prop heads already mounted which, of course, fit all currently available post shores.
Alternatively, we also offer pluggable drop heads and prop heads.

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Fig. 3.1

Fig. 3.2

Please note:

This technical manual contains instructions and details illustrating the proper assembly of the MevaDec Slab Formwork System to insure safety and productivity.

The examples shown are typical applications occuring on most jobsites. Deviations from standard details require engineering analysis and calculations to provide safe solutions. For applications not illustrated please contact the MEVA Engineering Department for assistance.

When using our products, all federal, state and local codes must be observed in their entirety.

Many of the details shown do not illustrate the forming system in the “ready to pour” condition as to the fore mentioned safety regulations.

Only pieces in good serviceable condition shall be used and damaged parts should be replaced with only original MEVA spare parts.

Contents

Forming method with separate facing

Primary-and-secondary-beam method (HN)

Fig. 4.1
Primary and secondary beams are situated at the same level and support the separate facing. MevaDec permits “early stripping“ by means of drop heads.
By mounting the primary beams to the drop heads the spacing between the post shores as well as their number are determined. The safety latch of the drop head secures the primary beam against inadvertent disengagement. The spacing between the primary beams is determined by the length of the secondary beams. The adaptation to any layout is achieved by changing the assembly direction of primary beams, i.e. a primary beam is hooked into another primary beam instead of a secondary beam (see pages 16-25).

The primary-and-secondary-beam method is ideal for any type of floor plan, even for odd shaped layouts.

Areas of application
- Housing construction
- Parking garages
- Commercial and industrial construction
- Fair-faced slabs
- Support of pre-fabricated slabs.

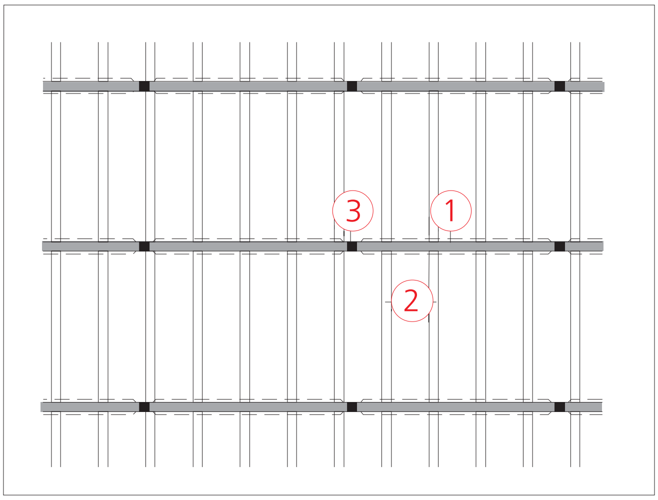
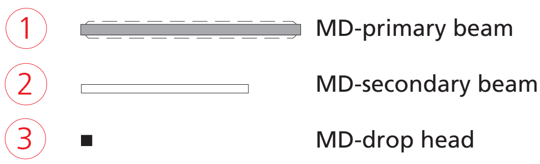


Fig. 4.1 Primary-and-secondary-beam method (HN)



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Forming methods with integrated facing

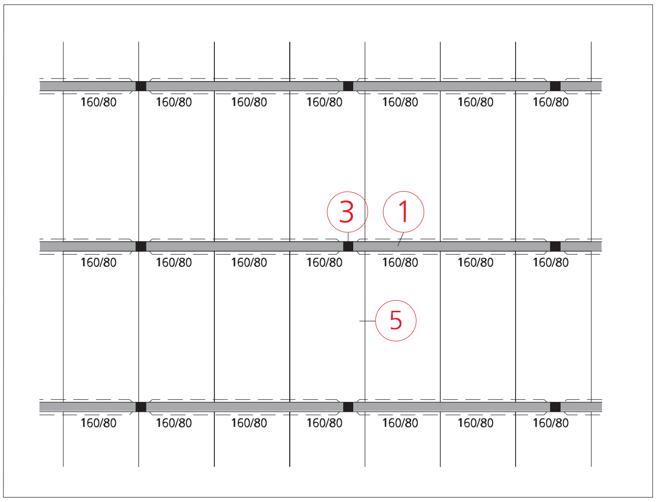


Fig. 5.1 Drop-head-beam-panel method (FTE)

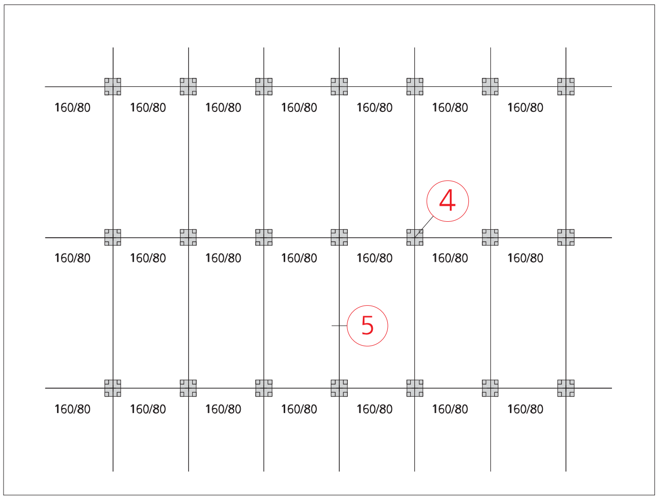
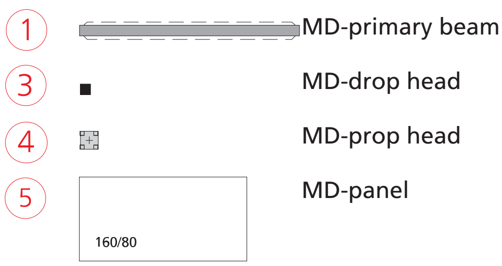


Fig. 5.2 Panel method (E)



Drop-head-beam-panel method (FTE)

Fig. 5.1
The ready-made panels are placed between the rows of primary beams. They can be slid over and beyond the drop head. The drop head permits “early stripping“ of the primary beams and panels.
At slab edges the panels can be directly supported by using prop heads.
The adaptation to any layout is achieved by changing the assembly direction of primary beams (see pages 26-34).

The FTE-method is suitable above all for ground plans with great dimensions.

Areas of application
- Parking garages
- Commercial and industrial construction.

Panel method (E)

Fig. 5.2
The panels can be directly supported at their cross joints by using the prop head. The same prop head is applied at slab edges and in corners.
The panels are assembled from underneath. They are automatically secured against inadvertent disengagement thanks to the special prop head design.
With the panel method only two components are sufficient to form any slab:
The panel and the post shore with mounted prop head (see pages 35-38).
The panel method is especially suitable for relatively small ground plans as they occur in housing construction, and it is also a perfect addition to the drop-head-beam-panel-method (FTE-method).

Areas of application
- Housing construction
- Commercial and industrial construction
- Parking garages.

Survey of different post shores

ME post shore as single post shore

The maximum load capacity of ME post shores is 7.9 kips (35.0 KN). For detailed information see load chart on page 7. Inner and outer tube are made of steel (Fig. 6.2).

ME 250
Range of adjustment:
4.9’ to 8.2’
(1.50 to 2.50 m).
ME 350
Range of adjustment:
6.6’ to 11.5’
(2.00 to 3.50 m).

MEP post shore as single post shore

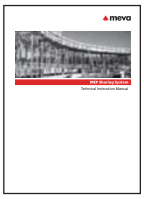
Independent from the assembly position the MEP 450 post shore has a maximum load capacity of 10.1 kips (45.0 KN). For detailed information see load chart on page 7. The inner tube is made of steel, the outer tube is an aluminum section (Fig. 6.3). The MEP post shores are provided with the SAS quick-lowering system (Fig. 6.1)

MEP 300 with SAS
Range of adjustment:
6.07’ to 9.8’
(1.85 to 3.00 m).
MEP 450 with SAS
Range of adjustment:
9.8’ to 14.8’
(3.00 to 4.50 m).

Description	Ref.-No.
ME 250/30	29-907-50
ME 350/30	29-907-60
MEP 300 w/ SAS	29-907-65
MEP 450 w/ SAS	29-907-70
MD 300/20	29-907-35
MD 400/20	29-907-40

MEP post shores in shoring towers

When reinforced with frames the maximum load capacity is 10.1kips (45.0 KN/leg). For detailed information see load chart on page 8. Two types of post shores are sufficient for all slab heights. For slabs higher than 16.08’ (4.90 m) the post shores are supplemented with frames and extensions. The SAS quick lowering system allows the stress in the post shore to be released with one strike of a hammer (Fig. 6.1). After stripping, the post shore automatically resets and locks in the original position. Please refer also to the Technical Manual on the MEP Shoring System.



MD post shore as single post shore

The maximum load capacity of MD post shores is 7.9 kips (35.0 KN). For detailed information see load chart on page 7. Inner and outer tube are made of steel (Fig. 6.4).

MD 300
Range of adjustment:
5.8’ to 9.8’
(1.75 to 3.00 m).
MD 400
Range of adjustment:
7.4’ to 13.1’
(2.25 to 4.00 m).

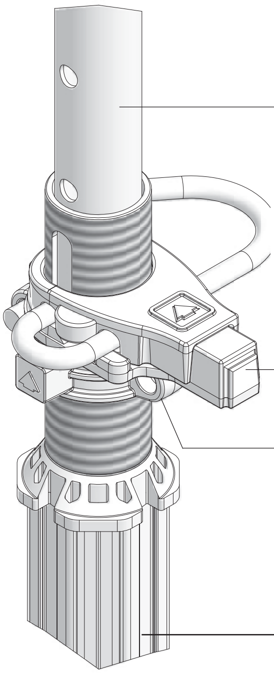


Fig. 6.1 SAS quick-lowering system

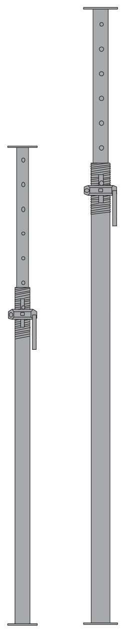


Fig. 6.2
ME post shore

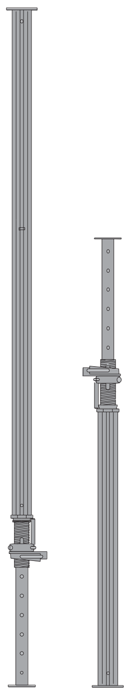


Fig. 6.3
MEP post shore

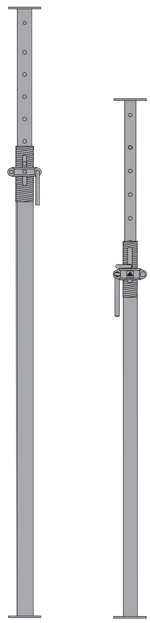


Fig. 6.4
MD post shore

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Load charts - Single post shores

LOAD CAPACITY OF ME AND MD POST SHORES (FULL SIZE TESTED ACCORDING TO ANSI A10.9-95, ACI 347R1999, SSFI STANDARDS)

	OVERALL HEIGHT	MD 300	MD 400	ME 250	ME 350	
	ft [m]	**kips** [KN]	**kips** [KN]	**kips** [KN]	**kips** [KN]	
	4.9 [1.50]			**7.9** [35.0]*		
	5.8 [1.75]	**7.9** [35.0]*		**7.9** [35.0]*		
	6.6 [2.00]	**7.9** [35.0]*		**7.9** [35.0]*	**7.1** [31.5]*	
	7.4 [2.25]	**7.9** [35.0]*	**6.8** [30.0]*	**7.9** [35.0]	**7.1** [31.5]*	
	8.2 [2.50]	**7.9** [35.0]	**6.8** [30.0]*	**7.9** [35.0]	**7.1** [31.5]*	
	9.0 [2.75]	**6.8** [30.0]	**6.8** [30.0]*		**7.1** [31.5]*	
	9.8 [3.00]	**5.6** [25.0]	**6.8** [30.0]		**7.1** [31.5]	
	10.7 [3.25]		**6.8** [30.0]*		**7.05** [31.25]*	
	11.5 [3.50]		**6.8** [30.0]		**7.0** [31.0]	
	12.5 [3.80]		**6.2** [27.5]*			
	13.1 [4.00]		**5.6** [25.0]			
	13.9 [4.25]					
	14.8 [4.50]					

* INTERPOLATED

Safety factor: 3:1; Values in chart are per leg

LOAD CAPACITY OF MEP POST SHORES (FULL SIZE TESTED ACCORDING TO ANSI A10.9-95, ACI 347R1999, SSFI STANDARDS)

	OVERALL HEIGHT	MEP 300	MEP 450	
	ft [m]	**kips** [KN]	**kips** [KN]	
	6.6 [2.00]	**9.0** [40.0]*		
	7.4 [2.25]	**9.0** [40.0]*		
	8.2 [2.50]	**9.0** [40.0]*		
	9.0 [2.75]	**9.0** [40.0]		
	9.8 [3.00]	**9.0** [40.0]	**10.1** [45.0]*	
	10.7 [3.25]		**10.1** [45.0]	
	12.5 [3.80]		**10.1** [45.0]	
	13.9 [4.25]		**7.9** [35.0]	
	14.8 [4.50]		**6.8** [30.0]	

* INTERPOLATED

Safety factor: 3:1; Values in chart are per leg

Load chart - MEP shoring towers

LOAD CAPACITY OF MEP SHORING-TOWERS (FULL SIZE TESTED ACCORDING TO ANSI A10.9-95, ACI 347R1999, SSFI STANDARDS)							
FRAME SIZE	OVERALL HEIGHT	MEP 300	MEP 450	MEP 450 + MEP EXT. 120	MEP 450 + MEP 300	MEP 450 + MEP 450	MEP 300 + MEP EXT. 360 + MEP 300
	ft [m]	**kips** [KN]	**kips** [KN]	**kips** [KN]	**kips** [KN]	**kips** [KN]	**kips** [KN]
WIDTH:	**6.6** [2.00]	**10.1** [45.0]*					
3.61' [1.10 m]	**8.2** [2.50]	**10.1** [45.0]					
LENGTH:	**9.8** [3.00]	**7.9** [35.0]	**10.1** [45.0]*				
7.22' [2.20 m]	**11.5** [3.50]		**10.1** [45.0]				
	13.1 [4.00]		**9.5** [42.5]				
	14.0 [4.27]		**9.0** [40.0]	**10.1** [45.0]			
	14.8 [4.50]		**6.8** [30.0]	**10.1** [45.0]*			
	16.4 [5.00]			**10.1** [45.0]	**10.1** [45.0]		
	18.0 [5.50]			**9.0** [40.0]	**10.1** [45.0]*		
	19.7 [6.00]				**10.1** [45.0]*	**10.1** [45.0]*	
	21.3 [6.50]				**10.1** [45.0]	**10.1** [45.0]	
	23.0 [7.00]				**7.9** [35.0]*	**10.1** [45.0]*	
	24.6 [7.50]				**5.6** [25.0]	**10.1** [45.0]	**10.1** [45.0]*
	26.2 [8.00]					**9.0** [40.0]*	**9.5** [42.5]*
	27.9 [8.50]					**7.9** [35.0]	**9.0** [40.0]*
	29.5 [9.00]					**5.6** [25.0]	**8.4** [37.5]*
	31.5 [9.60]						**7.9** [35.0]

Safety factor: 2.5:1; Values in chart are per leg

Attention:
When the MEVA post shores are used together with MD-drop heads or MD-prop heads it is the extension length of the post shores and not their total length which has to be considered to determine the load capacity of the post shores.
When using the MD-drop head the accurate extension length of the post shore equals clearance minus 15.75“ (40.0 cm).

Important:
With a spacing of 5‘-7“ (170.0 cm) between the primary beams and a slab thickness of 20“ (51.0 cm), the max. load capacity of a MevaDec panel (160/80) is achieved.
With a spacing of 2‘-11“ (90.0 cm) between the primary beams and a slab thickness of 52“ (132.0 cm), the max. load capacity of a MevaDec panel (160/80) is achieved.
When the primary beam is supported by an intermediate post shore, the post shore must be attached to the beam by means of a MD-prop connector.

If a MD-panel 160/80 is supported with post shores and prop heads (i.e. one post shore in each corner, Fig. 37.2) and the slab thickness is 20” (50.0 cm) the maximum load capacity of the MD-panel is achieved.
If the panel 160/80 is supported with two additional intermediate post shores the maximum slab thickness is 52” (132.0 cm).

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LOAD PER POST SHORE WHEN SPACING OF PRIMARY BEAM IS 5'-7" (170.0 CM) O.C.

	CONCRETE LOAD								PRIMARY BEAM 160		PRIMARY BEAM 160 WITH INTERMEDIATE POST SHORE	
	Slab Thickness		Dead Load		Live Load		Total load					
	inches	cm	lbs/sqft	KN/m²	lbs/sqft	KN/m²	lbs/sqft	KN/m²	KIPS	KN	KIPS	KN
All MevaDec methods	6	15.24	75.00	3.59	50	2.39	125.00	5.99	3.89	17.30	2.29	10.17
	7	17.78	87.50	4.19	50	2.39	137.50	6.58	4.28	19.03	2.52	11.19
	8	20.32	100.00	4.79	50	2.39	150.00	7.18	4.67	20.76	2.74	12.21
	9	22.86	112.50	5.39	50	2.39	162.50	7.78	5.06	22.49	2.97	13.23
	10	25.40	125.00	5.99	50	2.39	175.00	8.38	5.44	24.22	3.20	14.24
	11	27.94	137.50	6.58	50	2.39	187.50	8.98	5.83	25.95	3.43	15.26
	12	30.48	150.00	7.18	50	2.39	200.00	9.58	6.22	27.67	3.66	16.28
	13	33.02	162.50	7.78	50	2.39	212.50	10.17	6.61	29.40	3.89	17.30
	14	35.56	175.00	8.38	50	2.39	225.00	10.77	7.00	31.13	4.12	18.31
	16	40.64	200.00	9.58	50	2.39	250.00	11.97	7.78	34.59	4.57	20.35
	18	45.72	225.00	10.77	50	2.39	275.00	13.17	8.55	38.05	5.03	22.38
	20	50.80	250.00	11.97	50	2.39	300.00	14.36	9.33	41.51	5.49	24.42
Primary-and-secondary-beam method only	22	55.88	275.00	13.17	50	2.39	325.00	15.56	10.11	44.97	5.95	26.45
	24	60.96	300.00	14.36	50	2.39	350.00	16.76			6.40	28.49
	26	66.04	325.00	15.56	50	2.39	375.00	17.96			6.86	30.52
	28	71.12	350.00	16.76	50	2.39	400.00	19.15			7.32	32.56
	30	76.20	375.00	17.96	50	2.39	425.00	20.35			7.78	34.59
	32	81.28	400.00	19.15	50	2.39	450.00	21.55			8.23	36.63
	34	86.36	425.00	20.35	50	2.39	475.00	22.74			8.69	38.66
	36	91.44	450.00	21.55	50	2.39	500.00	23.94			9.15	40.70
	38	96.52	475.00	22.74	50	2.39	525.00	25.14			9.61	42.73
	40	101.60	500.00	23.94	50	2.39	550.00	26.33			10.06	44.77

LOAD PER POST SHORE WHEN SPACING OF PRIMARY BEAM IS 2'-11" (90.0 CM) O.C.

CONCRETE LOAD								PRIMARY BEAM 160		PRIMARY BEAM 160 WITH INTERMEDIATE POST SHORE	
Slab Thickness		Dead Load		Live Load		Total load					
inches	cm	lbs/sqft	KN/m²	lbs/sqft	KN/m²	lbs/sqft	KN/m²	KIPS	KN	KIPS	KN
6	15.24	75.00	3.59	50	2.39	125.00	5.99	2.06	9.16	1.21	5.39
7	17.78	87.50	4.19	50	2.39	137.50	6.58	2.26	10.07	1.33	5.93
8	20.32	100.00	4.79	50	2.39	150.00	7.18	2.47	10.99	1.45	6.46
9	22.86	112.50	5.39	50	2.39	162.50	7.78	2.68	11.90	1.57	7.00
10	25.40	125.00	5.99	50	2.39	175.00	8.38	2.88	12.82	1.70	7.54
11	27.94	137.50	6.58	50	2.39	187.50	8.98	3.09	13.74	1.82	8.08
12	30.48	150.00	7.18	50	2.39	200.00	9.58	3.29	14.65	1.94	8.62
13	33.02	162.50	7.78	50	2.39	212.50	10.17	3.50	15.57	2.06	9.16
14	35.56	175.00	8.38	50	2.39	225.00	10.77	3.71	16.48	2.18	9.70
16	40.64	200.00	9.58	50	2.39	250.00	11.97	4.12	18.31	2.42	10.77
18	45.72	225.00	10.77	50	2.39	275.00	13.17	4.53	20.15	2.66	11.85
20	50.80	250.00	11.97	50	2.39	300.00	14.36	4.94	21.98	2.91	12.93
22	55.88	275.00	13.17	50	2.39	325.00	15.56	5.35	23.81	3.15	14.00
24	60.96	300.00	14.36	50	2.39	350.00	16.76	5.76	25.64	3.39	15.08
26	66.04	325.00	15.56	50	2.39	375.00	17.96	6.18	27.47	3.63	16.16
28	71.12	350.00	16.76	50	2.39	400.00	19.15	6.59	29.30	3.88	17.24
30	76.20	375.00	17.96	50	2.39	425.00	20.35	7.00	31.13	4.12	18.31
32	81.28	400.00	19.15	50	2.39	450.00	21.55	7.41	32.97	4.36	19.39
34	86.36	425.00	20.35	50	2.39	475.00	22.74	7.82	34.80	4.60	20.47
36	91.44	450.00	21.55	50	2.39	500.00	23.94	8.23	36.63	4.84	21.55
38	96.52	475.00	22.74	50	2.39	525.00	25.14	8.65	38.46	5.09	22.62
40	101.60	500.00	23.94	50	2.39	550.00	26.33	9.06	40.29	5.33	23.70
42	106.68	525.00	25.14	50	2.39	575.00	27.53	9.47	42.12	5.57	24.78
44	111.76	550.00	26.33	50	2.39	600.00	28.73	9.88	43.95	5.81	25.86
46	116.84	575.00	27.53	50	2.39	625.00	29.93			6.05	26.93
48	121.92	600.00	28.73	50	2.39	650.00	31.12			6.30	28.01
50	127.00	625.00	29.93	50	2.39	675.00	32.32			6.54	29.09
52	132.08	650.00	31.12	50	2.39	700.00	33.52			6.78	30.16

meva

Load chart - Primary beam 210

LOAD PER POST SHORE WHEN SPACING OF PRIMARY BEAM IS 5'-7" (170.0 CM) O.C.

All MevaDec methods (6–20 inches); Primary-and-secondary-beam method only (22–40 inches)

CONCRETE LOAD								PRIMARY BEAM 210		PRIMARY BEAM 210 WITH INTERMEDIATE POST SHORE	
Slab Thickness		Dead Load		Live Load		Total load					
inches	cm	lbs/sqft	KN/m²	lbs/sqft	KN/m²	lbs/sqft	KN/m²	KIPS	KN	KIPS	KN
6	15.24	**75.00**	3.59	**50**	2.39	**125.00**	5.99	**5.03**	22.38	**3.00**	13.35
7	17.78	**87.50**	4.19	**50**	2.39	**137.50**	6.58	**5.54**	24.62	**3.30**	14.68
8	20.32	**100.00**	4.79	**50**	2.39	**150.00**	7.18	**6.04**	26.86	**3.60**	16.02
9	22.86	**112.50**	5.39	**50**	2.39	**162.50**	7.78	**6.54**	29.10	**3.90**	17.35
10	25.40	**125.00**	5.99	**50**	2.39	**175.00**	8.38	**7.04**	31.34	**4.20**	18.69
11	27.94	**137.50**	6.58	**50**	2.39	**187.50**	8.98	**7.55**	33.58	**4.50**	20.02
12	30.48	**150.00**	7.18	**50**	2.39	**200.00**	9.58	**8.05**	35.81	**4.80**	21.35
13	33.02	**162.50**	7.78	**50**	2.39	**212.50**	10.17	**8.55**	38.05	**5.10**	22.69
14	35.56	**175.00**	8.38	**50**	2.39	**225.00**	10.77	**9.06**	40.29	**5.40**	24.02
16	40.64	**200.00**	9.58	**50**	2.39	**250.00**	11.97	**10.06**	44.77	**6.00**	26.69
18	45.72	**225.00**	10.77	**50**	2.39	**275.00**	13.17			**6.60**	29.36
20	50.80	**250.00**	11.97	**50**	2.39	**300.00**	14.36			**7.20**	32.03
22	55.88	**275.00**	13.17	**50**	2.39	**325.00**	15.56			**7.80**	34.70
24	60.96	**300.00**	14.36	**50**	2.39	**350.00**	16.76			**8.40**	37.37
26	66.04	**325.00**	15.56	**50**	2.39	**375.00**	17.96			**9.00**	40.04
28	71.12	**350.00**	16.76	**50**	2.39	**400.00**	19.15			**9.60**	42.71
30	76.20	**375.00**	17.96	**50**	2.39	**425.00**	20.35			**10.20**	45.38
32	81.28	**400.00**	19.15	**50**	2.39	**450.00**	21.55				
34	86.36	**425.00**	20.35	**50**	2.39	**475.00**	22.74				
36	91.44	**450.00**	21.55	**50**	2.39	**500.00**	23.94				
38	96.52	**475.00**	22.74	**50**	2.39	**525.00**	25.14				
40	101.60	**500.00**	23.94	**50**	2.39	**550.00**	26.33				

LOAD PER POST SHORE WHEN SPACING OF PRIMARY BEAM IS 2'-11" (90.0 CM) O.C.

CONCRETE LOAD								PRIMARY BEAM 210		PRIMARY BEAM 210 WITH INTERMEDIATE POST SHORE	
Slab Thickness		Dead Load		Live Load		Total load					
inches	cm	lbs/sqft	KN/m²	lbs/sqft	KN/m²	lbs/sqft	KN/m²	KIPS	KN	KIPS	KN
6	15.24	**75.00**	3.59	**50**	2.39	**125.00**	5.99	**2.66**	11.85	**1.59**	7.06
7	17.78	**87.50**	4.19	**50**	2.39	**137.50**	6.58	**2.93**	13.04	**1.75**	7.77
8	20.32	**100.00**	4.79	**50**	2.39	**150.00**	7.18	**3.20**	14.22	**1.91**	8.47
9	22.86	**112.50**	5.39	**50**	2.39	**162.50**	7.78	**3.46**	15.41	**2.06**	9.18
10	25.40	**125.00**	5.99	**50**	2.39	**175.00**	8.38	**3.73**	16.59	**2.22**	9.89
11	27.94	**137.50**	6.58	**50**	2.39	**187.50**	8.98	**4.00**	17.78	**2.38**	10.59
12	30.48	**150.00**	7.18	**50**	2.39	**200.00**	9.58	**4.26**	18.96	**2.54**	11.30
13	33.02	**162.50**	7.78	**50**	2.39	**212.50**	10.17	**4.53**	20.15	**2.70**	12.01
14	35.56	**175.00**	8.38	**50**	2.39	**225.00**	10.77	**4.80**	21.33	**2.86**	12.71
16	40.64	**200.00**	9.58	**50**	2.39	**250.00**	11.97	**5.33**	23.70	**3.18**	14.12
18	45.72	**225.00**	10.77	**50**	2.39	**275.00**	13.17	**5.86**	26.07	**3.49**	15.54
20	50.80	**250.00**	11.97	**50**	2.39	**300.00**	14.36	**6.39**	28.44	**3.81**	16.95
22	55.88	**275.00**	13.17	**50**	2.39	**325.00**	15.56	**6.93**	30.81	**4.13**	18.36
24	60.96	**300.00**	14.36	**50**	2.39	**350.00**	16.76	**7.46**	33.18	**4.45**	19.77
26	66.04	**325.00**	15.56	**50**	2.39	**375.00**	17.96	**7.99**	35.55	**4.76**	21.19
28	71.12	**350.00**	16.76	**50**	2.39	**400.00**	19.15	**8.53**	37.92	**5.08**	22.60
30	76.20	**375.00**	17.96	**50**	2.39	**425.00**	20.35	**9.06**	40.29	**5.40**	24.01
32	81.28	**400.00**	19.15	**50**	2.39	**450.00**	21.55	**9.59**	42.66	**5.72**	25.42
34	86.36	**425.00**	20.35	**50**	2.39	**475.00**	22.74	**10.12**	45.03	**6.03**	26.84
36	91.44	**450.00**	21.55	**50**	2.39	**500.00**	23.94			**6.35**	28.25
38	96.52	**475.00**	22.74	**50**	2.39	**525.00**	25.14			**6.67**	29.66
40	101.60	**500.00**	23.94	**50**	2.39	**550.00**	26.33			**6.99**	31.07
42	106.68	**525.00**	25.14	**50**	2.39	**575.00**	27.53			**7.30**	32.49
44	111.76	**550.00**	26.33	**50**	2.39	**600.00**	28.73			**7.62**	33.90
46	116.84	**575.00**	27.53	**50**	2.39	**625.00**	29.93			**7.94**	35.31
48	121.92	**600.00**	28.73	**50**	2.39	**650.00**	31.12			**8.26**	36.72
50	127.00	**625.00**	29.93	**50**	2.39	**675.00**	32.32			**8.57**	38.14
52	132.08	**650.00**	31.12	**50**	2.39	**700.00**	33.52			**8.89**	39.55

md-tim-us.pdf 06/2010

LOAD PER POST SHORE WHEN SPACING OF PRIMARY BEAM IS 5'-7" (170.0 CM) O.C.

Method	CONCRETE LOAD								PRIMARY BEAM 270		PRIMARY BEAM 270 WITH INTERMEDIATE POST SHORE	
	Slab Thickness		Dead Load		Live Load		Total load					
	inches	cm	lbs/sqft	KN/m²	lbs/sqft	KN/m²	lbs/sqft	KN/m²	KIPS	KN	KIPS	KN
All MevaDec methods	6	15.24	75.00	3.59	50	2.39	125.00	5.99	6.40	28.49	3.86	17.18
	7	17.78	87.50	4.19	50	2.39	137.50	6.58	7.04	31.34	4.25	18.89
	8	20.32	100.00	4.79	50	2.39	150.00	7.18	7.69	34.19	4.63	20.61
	9	22.86	112.50	5.39	50	2.39	162.50	7.78	8.33	37.04	5.02	22.33
	10	25.40	125.00	5.99	50	2.39	175.00	8.38	8.97	39.88	5.41	24.05
	11	27.94	137.50	6.58	50	2.39	187.50	8.98	9.61	42.73	5.79	25.77
	12	30.48	150.00	7.18	50	2.39	200.00	9.58	10.25	45.58	6.18	27.48
	13	33.02	162.50	7.78	50	2.39	212.50	10.17			6.56	29.20
	14	35.56	175.00	8.38	50	2.39	225.00	10.77			6.95	30.92
	16	40.64	200.00	9.58	50	2.39	250.00	11.97			7.72	34.35
	18	45.72	225.00	10.77	50	2.39	275.00	13.17			8.50	37.79
	20	50.80	250.00	11.97	50	2.39	300.00	14.36			9.27	41.22
Primary-and-secondary-beam method only	22	55.88	275.00	13.17	50	2.39	325.00	15.56			10.04	44.66
	24	60.96	300.00	14.36	50	2.39	350.00	16.76				
	26	66.04	325.00	15.56	50	2.39	375.00	17.96				
	28	71.12	350.00	16.76	50	2.39	400.00	19.15				
	30	76.20	375.00	17.96	50	2.39	425.00	20.35				
	32	81.28	400.00	19.15	50	2.39	450.00	21.55				
	34	86.36	425.00	20.35	50	2.39	475.00	22.74				
	36	91.44	450.00	21.55	50	2.39	500.00	23.94				
	38	96.52	475.00	22.74	50	2.39	525.00	25.14				
	40	101.60	500.00	23.94	50	2.39	550.00	26.33				

LOAD PER POST SHORE WHEN SPACING OF PRIMARY BEAM IS 2'-11" (90.0 CM) O.C.

CONCRETE LOAD								PRIMARY BEAM 270		PRIMARY BEAM 270 WITH INTERMEDIATE POST SHORE	
Slab Thickness		Dead Load		Live Load		Total load					
inches	cm	lbs/sqft	KN/m²	lbs/sqft	KN/m²	lbs/sqft	KN/m²	KIPS	KN	KIPS	KN
6	15.24	75.00	3.59	50	2.39	125.00	5.99	3.39	15.08	2.05	9.10
7	17.78	87.50	4.19	50	2.39	137.50	6.58	3.73	16.59	2.25	10.01
8	20.32	100.00	4.79	50	2.39	150.00	7.18	4.07	18.10	2.45	10.92
9	22.86	112.50	5.39	50	2.39	162.50	7.78	4.41	19.61	2.66	11.83
10	25.40	125.00	5.99	50	2.39	175.00	8.38	4.75	21.12	2.86	12.74
11	27.94	137.50	6.58	50	2.39	187.50	8.98	5.09	22.62	3.07	13.65
12	30.48	150.00	7.18	50	2.39	200.00	9.58	5.43	24.13	3.27	14.56
13	33.02	162.50	7.78	50	2.39	212.50	10.17	5.76	25.64	3.48	15.47
14	35.56	175.00	8.38	50	2.39	225.00	10.77	6.10	27.15	3.68	16.38
16	40.64	200.00	9.58	50	2.39	250.00	11.97	6.78	30.16	4.09	18.19
18	45.72	225.00	10.77	50	2.39	275.00	13.17	7.46	33.18	4.50	20.01
20	50.80	250.00	11.97	50	2.39	300.00	14.36	8.14	36.20	4.91	21.83
22	55.88	275.00	13.17	50	2.39	325.00	15.56	8.82	39.21	5.32	23.65
24	60.96	300.00	14.36	50	2.39	350.00	16.76	9.49	42.23	5.73	25.47
26	66.04	325.00	15.56	50	2.39	375.00	17.96	10.17	45.25	6.14	27.29
28	71.12	350.00	16.76	50	2.39	400.00	19.15			6.54	29.11
30	76.20	375.00	17.96	50	2.39	425.00	20.35			6.95	30.93
32	81.28	400.00	19.15	50	2.39	450.00	21.55			7.36	32.75
34	86.36	425.00	20.35	50	2.39	475.00	22.74			7.77	34.57
36	91.44	450.00	21.55	50	2.39	500.00	23.94			8.18	36.39
38	96.52	475.00	22.74	50	2.39	525.00	25.14			8.59	38.21
40	101.60	500.00	23.94	50	2.39	550.00	26.33			9.00	40.03
42	106.68	525.00	25.14	50	2.39	575.00	27.53			9.41	41.85
44	111.76	550.00	26.33	50	2.39	600.00	28.73			9.82	43.67
46	116.84	575.00	27.53	50	2.39	625.00	29.93			10.23	45.49
48	121.92	600.00	28.73	50	2.39	650.00	31.12				
50	127.00	625.00	29.93	50	2.39	675.00	32.32				
52	132.08	650.00	31.12	50	2.39	700.00	33.52				

MD-drop head

The drop head (Fig. 12.1) is galvanized and partly powder-coated. It permits a lowering of the slab formwork by approx. 7.5" (19.0 cm) (Fig. 12.3 and 12.4) so that panels and beams can be removed and reused to form the next cycle. Only the post shores with drop heads remain in position to support the slab until the final setting of the concrete ("early stripping"). Upon request, static calculations for "early stripping" can be provided by the MEVA technical department. When delivered to the site the drop head is already mounted to the post shore. The pluggable drop head will be delivered unmounted. It will be secured with a pin 14/90 (for MEP-post shores use the pin 14/135). For loads exceeding 7.5 kips (33.3 KN) the pluggable drop head must be secured with two bolts M 12x35.

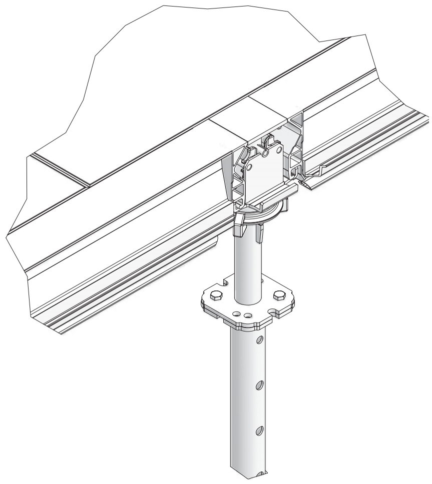


Fig. 12.1

Tab. 12.2 Recommended stripping times

Average day temperature °F (°C)	68 (20)	50 (10)	41 (5)	32 (0)
Recommended stripping time for primary and secondary beams and panels in relation to minimum concrete strength in days	2	3	4	5
These values applicable to concrete are based on a required minimum concrete strength of 1160 psi (8 N/mm²).				
Deviations from these values are allowed upon presentation of a separate static approval.				

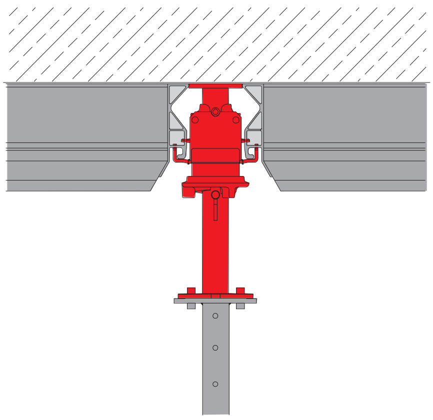


Fig. 12.3

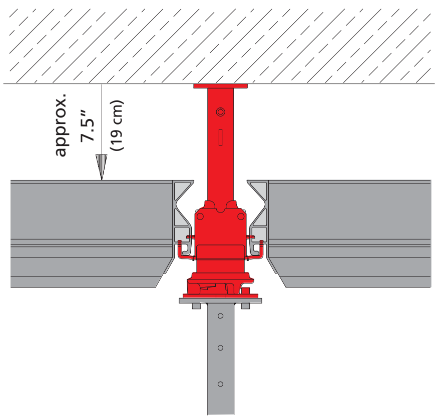


Fig. 12.4

MD-drop head

MD-drop head (plug-in version)

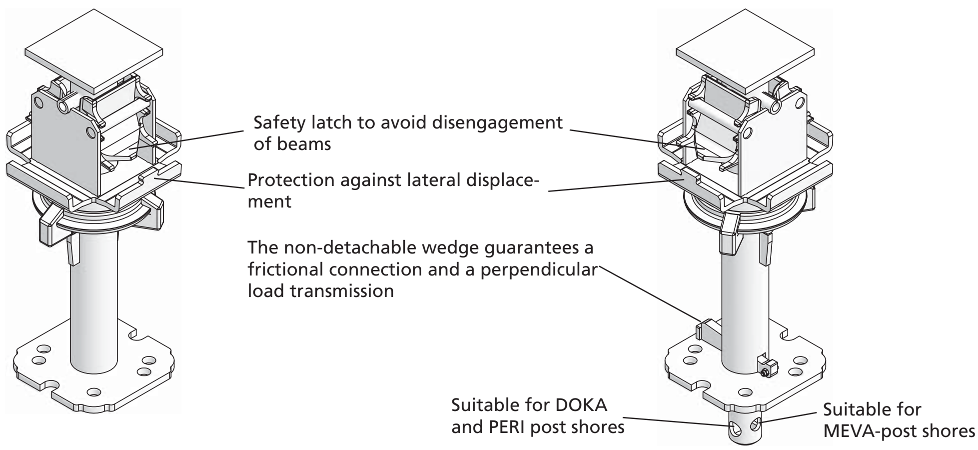


Fig. 12.5

Fig. 12.6

Description	Ref.-No.
MD-drop head	**29-301-50**
MD-drop head (plug-in version)	**29-301-45**
MEP 300 with MD-drop head	**29-908-40**
MEP 450 with MD-drop head	**29-908-30**
ME 250/30 with MD-drop head	**29-908-10**
ME 350/30 with MD-drop head	**29-908-20**

MD-primary and secondary beams

Primary beam

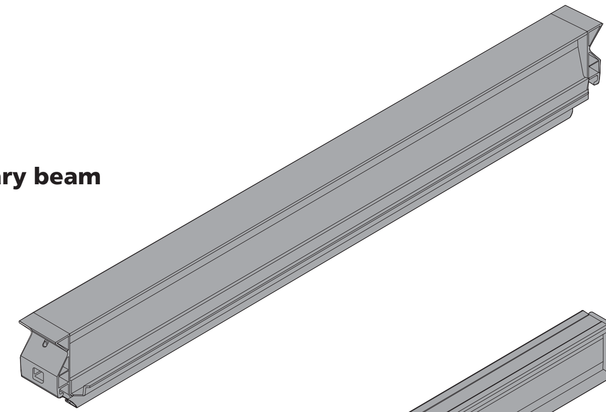


Fig. 13.1

Secondary beam

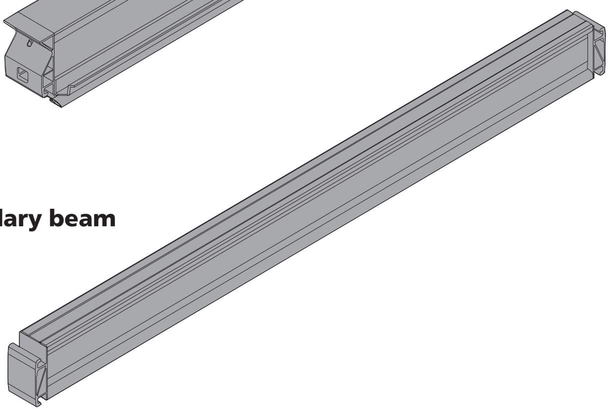
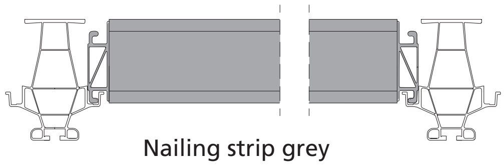


Fig. 13.2

Application of secondary beams within the HN-method

Nailing strip brown



Nailing strip grey

Fig. 13.3

Nailing strip grey

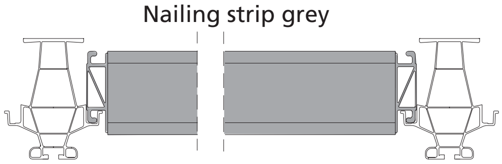


Fig. 13.4

Nailing strip brown

Application of secondary beams turned by 180° (compensation within the FTE-method)

MD-primary beam (Fig. 13.1)

MD-PB 270:
8′-10″ (270.0 cm)

MD-PB 210:
6′-11″ (210.0 cm)

MD-PB 160:
5′-3″ (160.0 cm)

MD-PB 80:
2′-7 1/2″ (80.0 cm)

The primary beams are made of powder-coated aluminum profiles. Together with the drop heads they build the supporting structure of MevaDec. Secondary beams and panels can be hooked into the primary beams without taking care of any grid. By hooking one primary beam into another a change of the assembly direction can be easily effected. Thus, a smooth adaptation to any layout is possible. The primary beam is equipped with a punched groove to ease cleaning.

MD-secondary beam (Fig. 13.2)

MD-SB 160:
5′-3″ (160.0 cm)

MD-SB 80:
2′-7 1/2″ (80.0 cm)

The secondary beams are made of uncoated aluminum profiles with plastic nailing strips on top and at the bottom.
The secondary beams are hooked into the primary beams so that both are situated at the same level (see Fig. 13.3), and then the forming face is just put on top. The spacing between the secondary beams depends on the slab thickness and the forming face used. When using the secondary beams in combination with panels, they are used for length adjustment. In this case, the secondary beam is turned by 180° before hooking it into the primary beam. Therefore, the secondary beam is 3/4″ (19.0 mm) below the primary beams and panels (Fig. 13.4).

Description	Ref.-No.
MD-primary beam 270	22-300-98
MD-primary beam 210	22-301-00
MD-primary beam 160	22-301-10
MD-primary beam 80	22-301-20
MD-secondary beam 160	22-301-50
MD-secondary beam 80	22-301-60

MD-panel

Sizes:

MD-panel 160/80:
5.-3" / 2'-7 1/2"
(160.0cm / 80.0cm)

MD-panel160/60:
5.-3" / 2'
(160.0cm / 60.0cm)

MD-panel 160/40:
5.-3" / 1'-3 3/4"
(160.0cm / 40.0cm)

MD-panel 80/80:
2'-7 1/2" / 2'-7 1/2"
(80.0cm / 80.0cm)

MD-panel 80/60:
2'-7 1/2" / 2'
(80.0cm / 60.0cm)

MD-panel 80/40:
2'-7 1/2" / 1'-3 3/4"
(80.0cm / 40.0cm)

The MD-panels (Fig. 14.1) are made of closed, powder-coated aluminum profiles. The cross stiffeners of the panels allow for an easy and convenient handling. The panels can be hooked into the primary beams without taking care of any grid (Fig. 14.2). Thanks to their integral design the panels can be supported by the prop heads at any position of the frame or the cross stiffeners.

Please note:
Vibrators should be equipped with a rubber cap to protect the forming face.

alkus forming face

The new polypropylene face with fiber reinforcement has all the positive properties of plywood plus important advantages: longer life span, greater load-bearing capacity, better nail-holding ability, fewer and easier repairs, 100% recyclability. Besides the obvious advantages, such as considerably reduced cleaning effort, minimum consumption of release agent and an excellent concrete finish, alkus offers substantial ecological benefits. Substituting plastic for wood saves valuable timber resources. Also, further releasing of highly toxic dioxin is avoided, which is released in the process of burning plywood (that is bonded with phenolic resin). Used or damaged alkus plastic sheets can be recycled into the same product. It is 100% recyclable, and the manufacturer guarantees reacceptance.

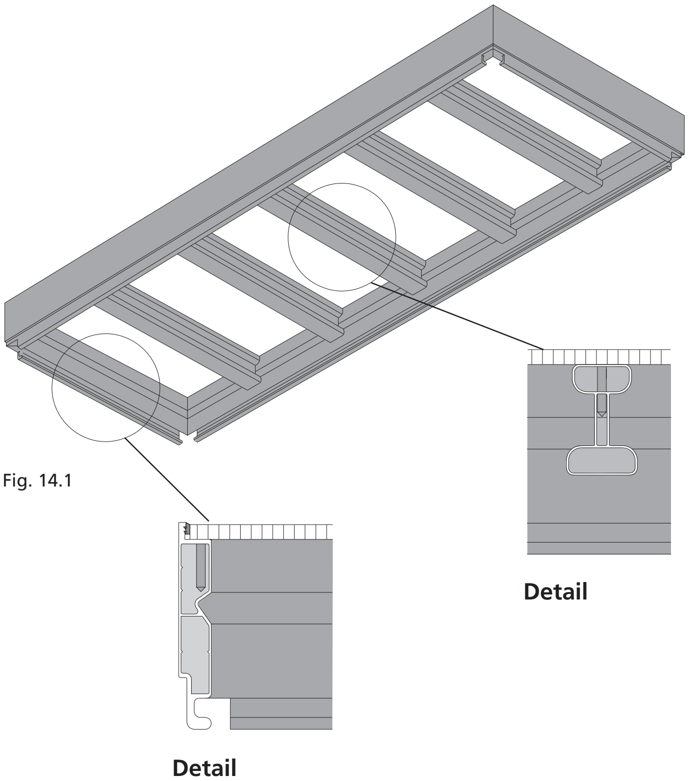


Fig. 14.1

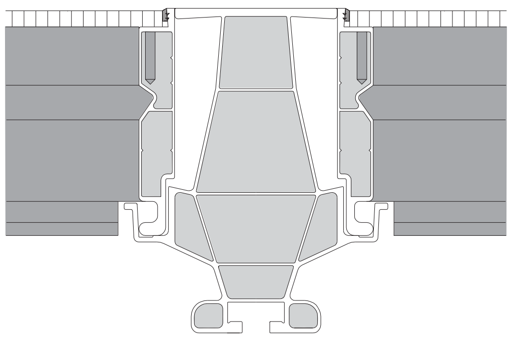


Fig. 14.2

MD-prop head

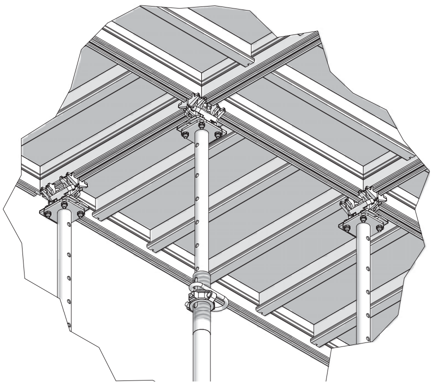


Fig. 15.1

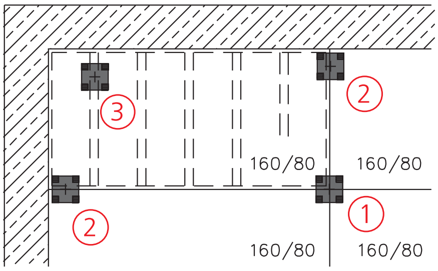


Fig. 15.2

The MD-prop head is a powder-coated cast iron piece. With the prop head the panel can be supported in three different ways:
① at the cross joints of four MD-panels (Fig. 15.1 and 15.2)
② at the joint of two panels located at the slab edge (Fig. 15.1 and 15.2)
③ at a cross stiffener in corner configurations (Fig. 15.2 and 15.4).

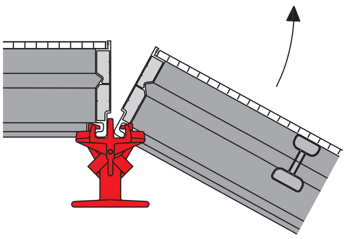


Fig. 15.3

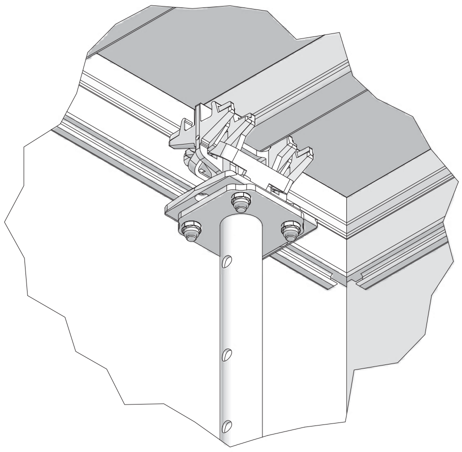


Fig. 15.4

The prop head is provided with an integrated automatic safety device (Fig. 15.5 and 15.6). The panels are asssembled from below. They are hooked into the prop head and pushed up to horizontal position (Fig. 15.3) by using the MD-assembly stick. The panels are supported by the assembly stick until the next prop is positioned (see Fig. 38.2).
When delivered to the site the prop head is already mounted to the post shore, the pluggable MD-prop head will be delivered unmounted (Fig. 15.5 and 15.6).

MD-prop head

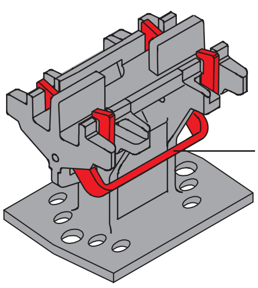


Fig. 15.5

MD-prop head (plug-in-version)

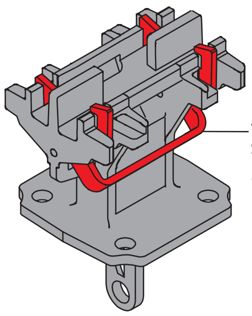


Fig. 15.6

Description	Ref.-No.
MD-assembly stick 340	**29-302-35**
MD-prop head	**29-301-80**
MD-prop head (plug-in version)	**29-301-85**
MD 300/20 with MD-prop head	**29-908-17**
MD 400/20 with MD-prop head	**29-908-27**

Primary-and-secondary-beam method

Primary-and-secondary-beam method (HN-method)

It is recommended to begin the assembly in that corner, which is the most suitable for a trouble-free assembly in both directions. In general, the rows of primary beams are assembled parallel to the longer wall. This is especially true for formwork jobs being done without any previous detailing. In the case, however, a detailing is available the assembly direction can be optimized according to the layout (Fig. 16.1 -16.2). The forming face should not overlap more than 4" (10.0 cm) (Fig. 16.3 -16.4).

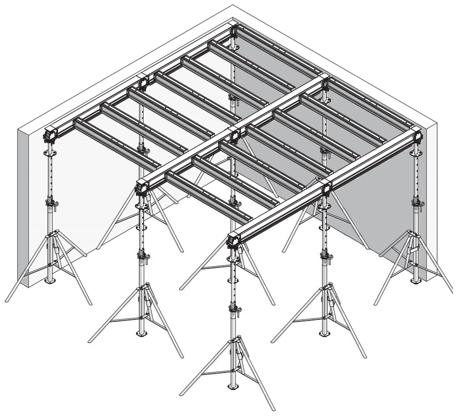


Fig. 16.1

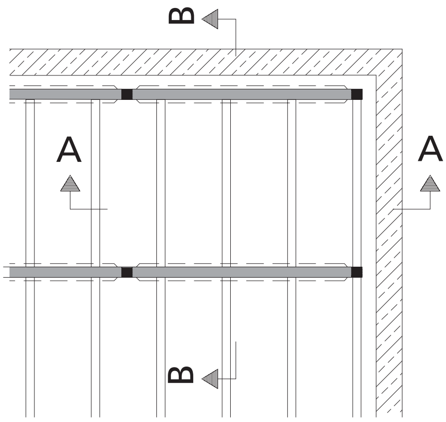


Fig. 16.2

Section A – A

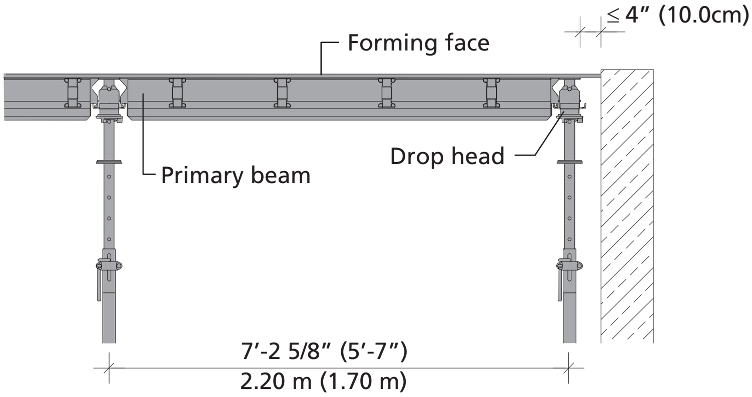


Fig. 16.3

Section B – B

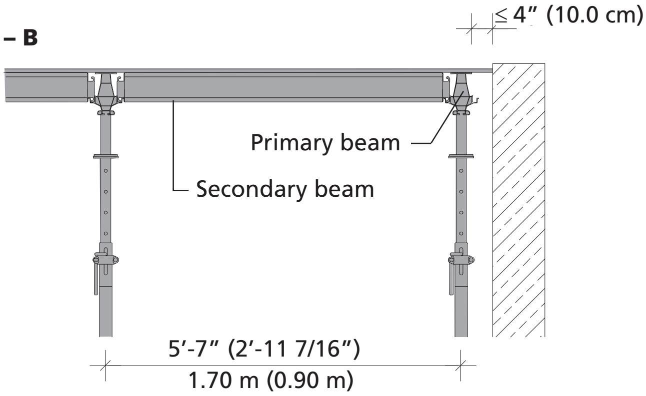


Fig. 16.4

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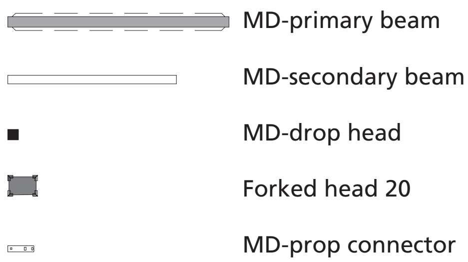
Primary-and-secondary-beam method



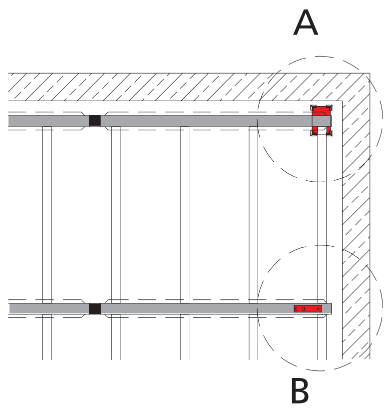


Fig. 17.1

The primary beam (Fig. 17.1) can either be mounted on a drop head or directly supported by a forked head (Fig. 17.2) or prop connector (Fig. 17.3).

The spacing between the secondary beams is determined by the forming face thickness and the slab thickness.

Detail A

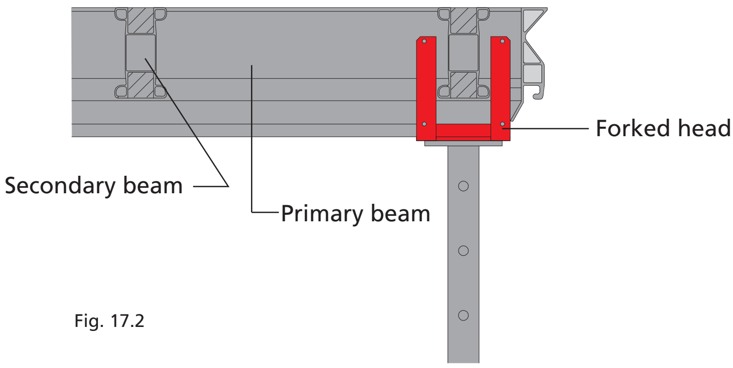


Fig. 17.2

Detail B

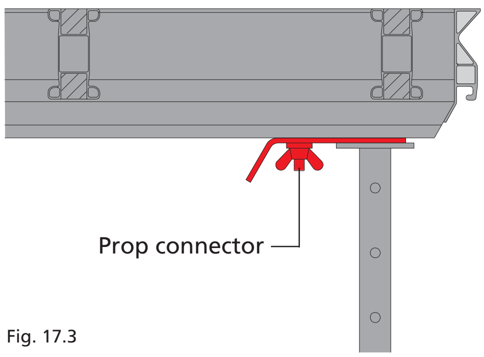


Fig. 17.3

Description	Ref.-No.
Forked head 20	**29-206-40**
Forked head 16	**29-206-35**
MD-prop connector	**29-302-30**

Length adjustment in primary beam direction

If the residual gap between drop head and wall is ≤ 5′-3″ (1.60 m), a stepless adaptation to the ground plan can be achieved by a change of the assembly direction. For that, instead of a secondary beam a primary beam of length 5′-3″ (1.60 m) is hooked into another primary beam (“drawer principle”, Fig. 18.1 and 18.2).

When placing the forming face, the change of the assembly direction should be taken into consideration. Therefore, it is recommended to start in this area.
If the residual gap is smaller than the chosen spacing between the secondary beams (usually 20″ (50.0 cm)), a change of the assembly direction is not required. In this case, it is sufficient to place a row of primary beams (MD-beams or H20-beams as alternative, Fig. 18.3).

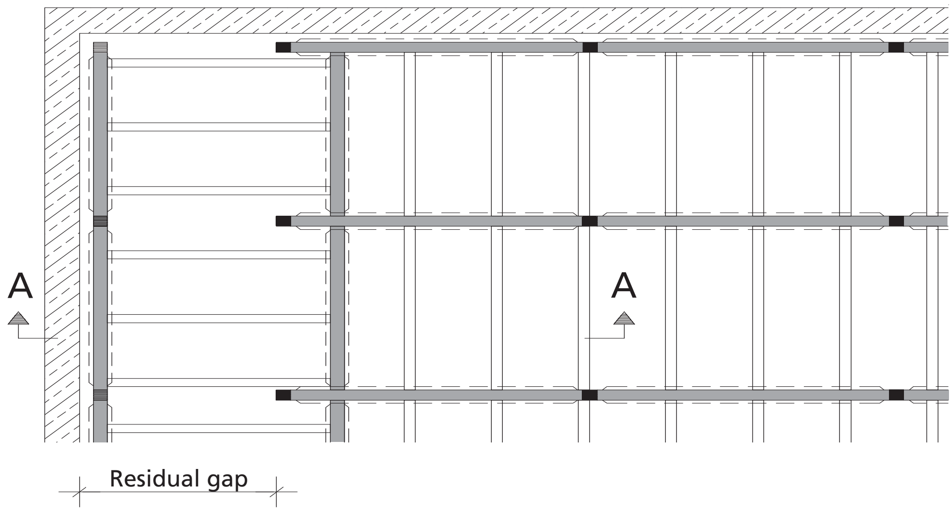


Fig. 18.1

Section A - A

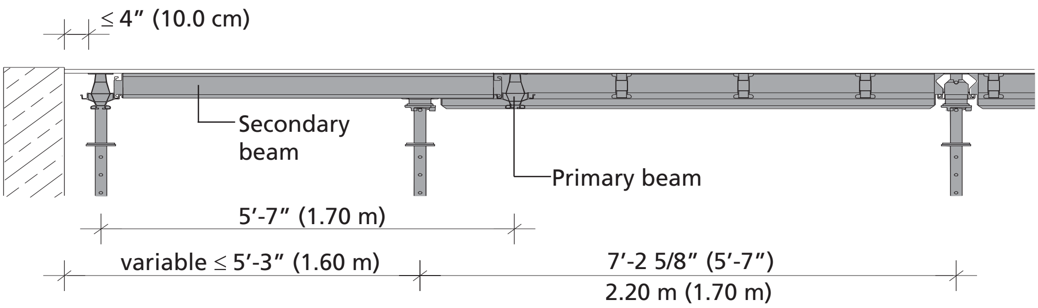


Fig. 18.2

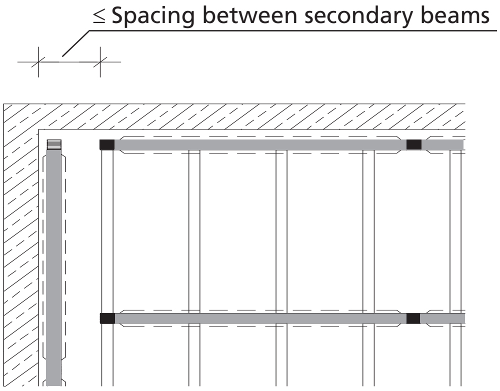


Fig. 18.3

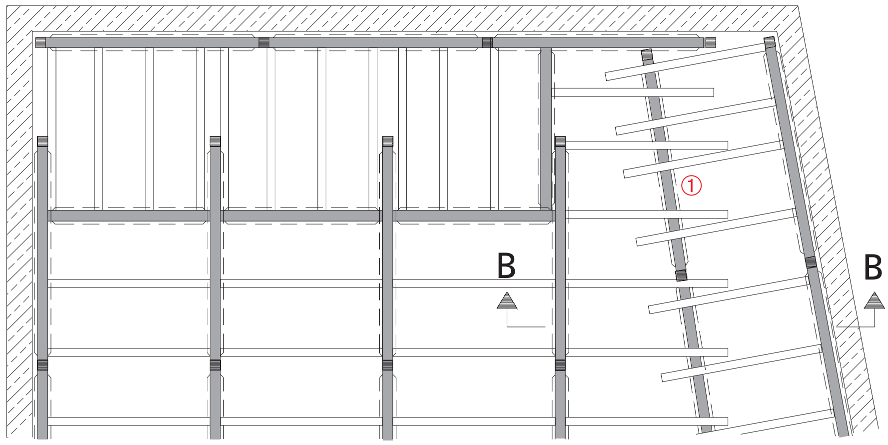


Fig. 19.1

Section B – B

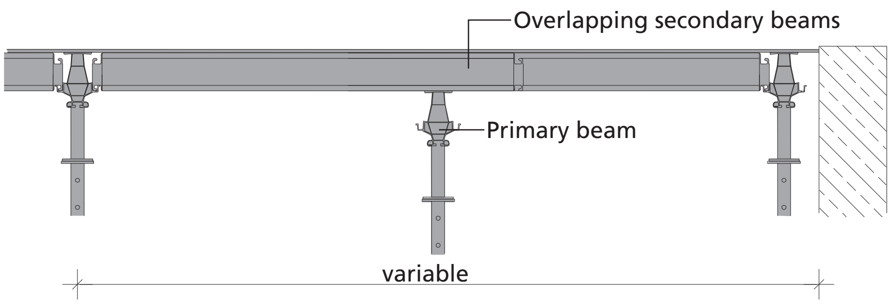


Fig. 19.2

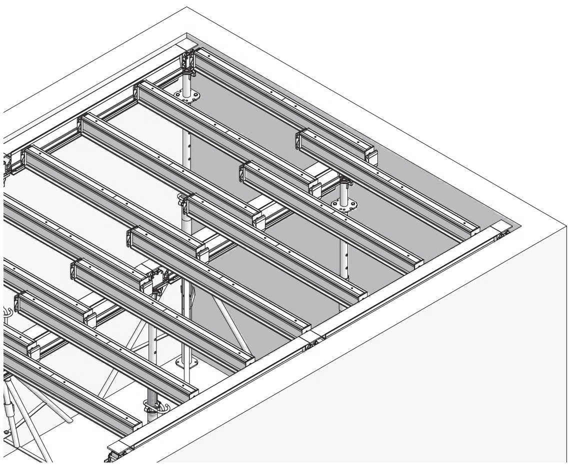


Fig. 19.3

Length adjustment perpendicular to primary beam direction

A stepless adaptation in perpendicular direction to the primary beam is easily achieved by placing another row of primary beams to support overlapping secondary beams. With this configuration, compensations in not right-angled corners can be formed (Fig. 19.1 - 19.3).
In case of a residual gap smaller than 18” (45.0 cm) ① it is sufficient to place a row of primary beams parallel to the wall (MD-beams or H20-beams as alternative).

Primary-and-secondary-beam method

Problem areas

With MevaDec it is no problem to form around columns. If the dimensions of the columns are smaller than the chosen secondary beam spacing, the formwork is assembled as usual (①, ②). If the dimensions of the columns are larger, a change of the assembly direction is required (③,④) (Fig. 20.1). Usually, additional post shores are not required around the columns. The primary beam rows should always be arranged in a way that the columns are in between them. If this is not possible, proceed as shown in Fig. 20.2.

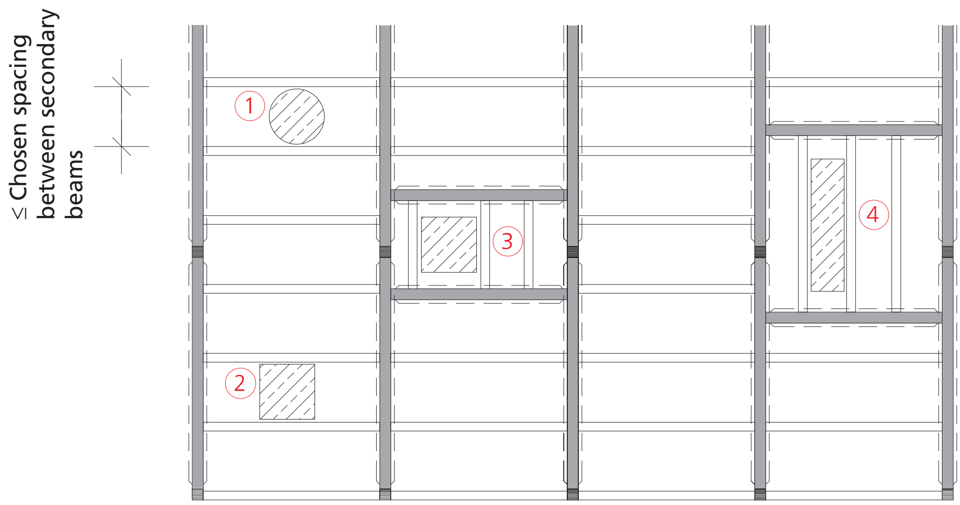


Fig. 20.1

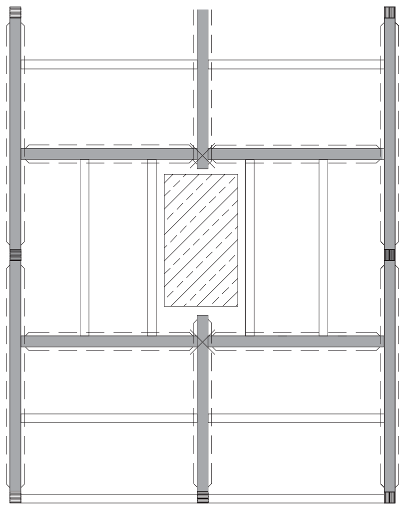


Fig. 20.2

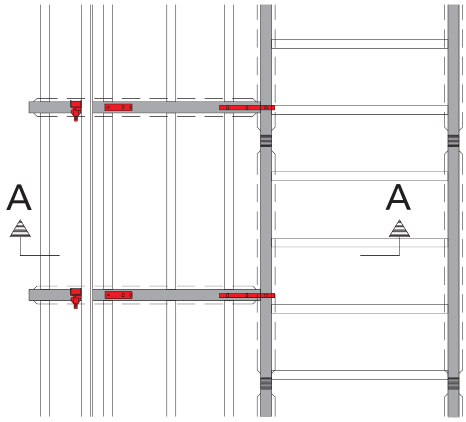
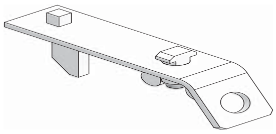
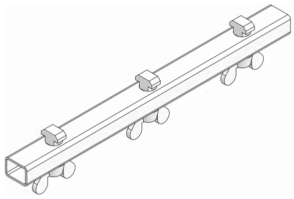


Fig. 21.1



MD-prop connector

Fig. 21.2



MD-beam stiffener

Fig. 21.3

Section A – A

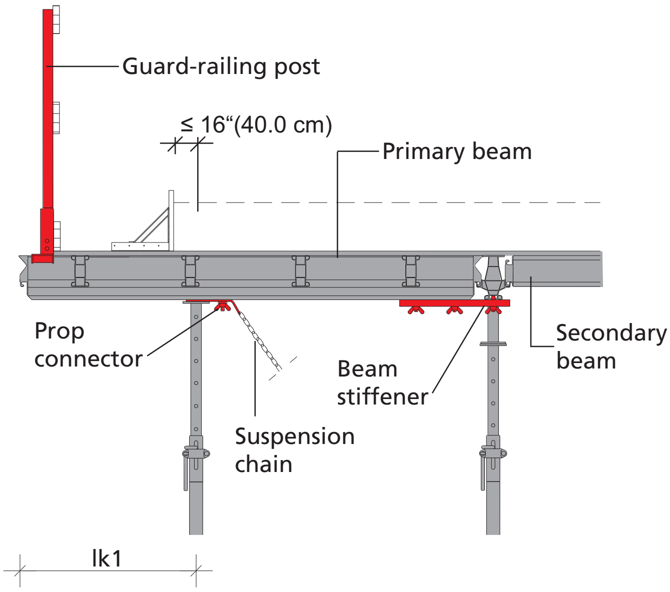
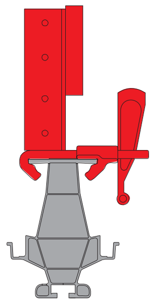


Fig. 21.4

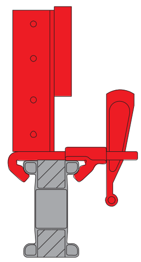


Primary beam

Fig. 21.5

Max. cantilever (lk1)	Max. cantilever of the concrete (slab)
PB 270 = 4‘-3“ (130.0 cm)	16“ (40.0 cm)
PB 210 = 2‘-3 1/2“ (70.0 cm)	16“ (40.0 cm)
PB 160 = 20“ (50.0 cm)	16“ (40.0 cm)

Tab. 21.6



Secondary beam

Fig. 21.7

Free slab edges

For concreting free slab edges (Fig. 21.1 and 21.4) the following accessories are needed:

MD-prop connector (Fig. 21.2)
This connector permits the direct support of cantilevering primary beams. The integrated eye allows to anchor the slab formwork to the ground by using a suspension chain. The prop connector is mounted to the groove of the primary beam by means of a hammer head screw.

MD-beam stiffener (Fig. 21.3)
This accessory allows to tightly connect primary beams with each other in order to secure the cantilevering beam.

MD-support for guard-railing post / beam (Fig. 21.4, 21.5 and 21.7).
The support permits the attachment of a guard-railing post at primary, secondary and MD-beams and is suited to form a bulkhead at the slab edge.
Maximum cantilever of the primary beam:
PB 270 = 4'-3"
PB 210 = 2'-3 1/2"
PB 160 = 20"
(Tab. 21.6)

Description	Ref.-No.
Guard-railing post 100	**29-106-75**
MD-support for guard-railing post / beam	**29-301-70**
MD-prop connector	**29-302-30**
MD-beam stiffener	**29-301-90**

Primary-and-secondary-beam method

Support of prefabricated slabs

When using only primary beams and drop heads the Meva-Dec is perfect for a systematic and post shore-saving support of prefabricated slabs. The secondary beam length of 5'-3" (1.60 m) assures an ideal spacing between post shores of 5'-7" (1.70 m). For stabilization just one secondary beam per each primary beam is required (Fig. 22.1).

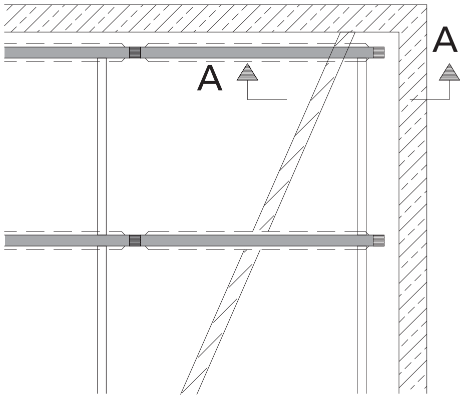


Fig. 22.1

Application of the MD-safety claw

For stabilization purposes a wood plank can be clamped underneath a primary beam by using the MD-safety claw (Fig. 22.2).

Section A - A

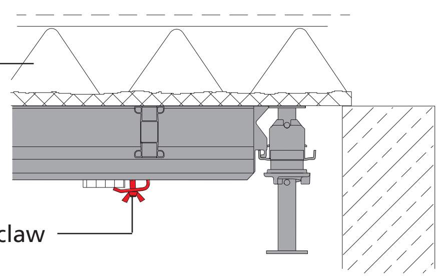


Fig. 22.2

Description	Ref.-No.
MD-safety claw	29-302-10

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Primary-and-secondary-beam method

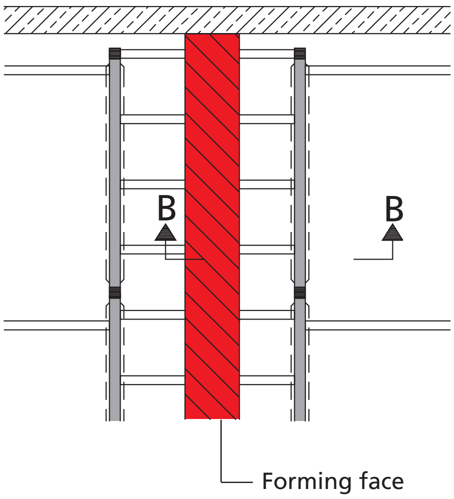

Fig. 23.1

Section B - B

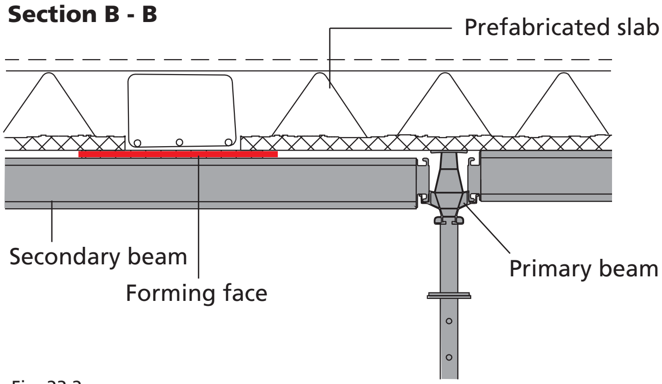

Fig. 23.2

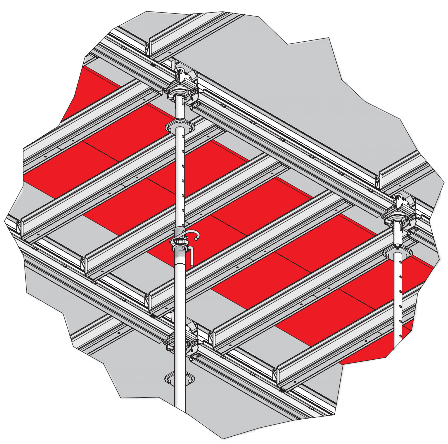

Fig. 23.3

Integrated beams

Integrated concrete beams can be formed without the need for any additional post shore by just turning the secondary beam by 180° around the longitudinal axis (page 13). Thanks to this, the forming face and the primary beams are at the same elevation (Fig. 23.1-23.3).
Free slab edges and bulkheads are formed as desribed on page 21.

Primary-and-secondary-beam method

Formwork assembly

Attention:
Always observe the federal, state and local codes and regulations when using our products.

Fig. 24.1
Erect an already extended post shore with drop head and tripod in one corner and adjust it vertically.

Fig. 24.2
Hook the primary beam into a drop head and swing it up by means of another post shore equipped with drop head. In case of higher slabs the primary beam can be mounted to the drop head from a working scaffold. Once attached, the primary beam is automatically secured against uplift and lateral displacement.

Fig. 24.3
Erect a row of primary beams along the wall, stabilize the post shores with tripods and adjust them vertically.

Fig. 24.4
Erect a second row of primary beams in parallel to the first one at a distance of the length of a secondary beam.

Fig. 24.5
Mount the secondary beams to the primary beams (spacing usually 20" (50.0 cm) depending on slab thickness).

Fig. 24.6
The secondary beams can also be attached directly to the drop head.

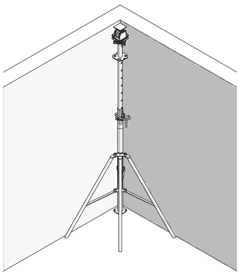
Fig. 24.1

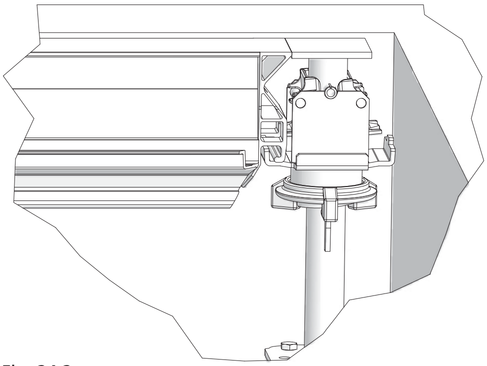
Fig. 24.2

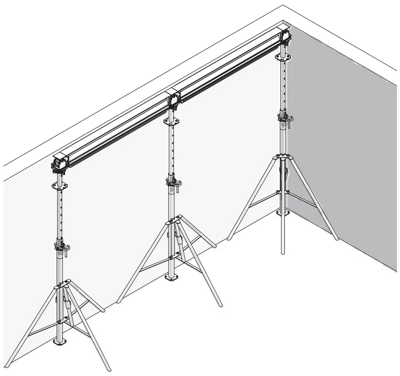
Fig. 24.3

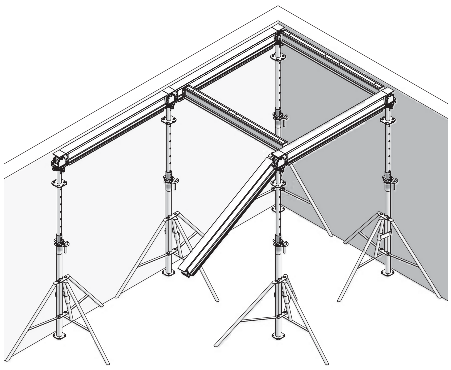
Fig. 24.4

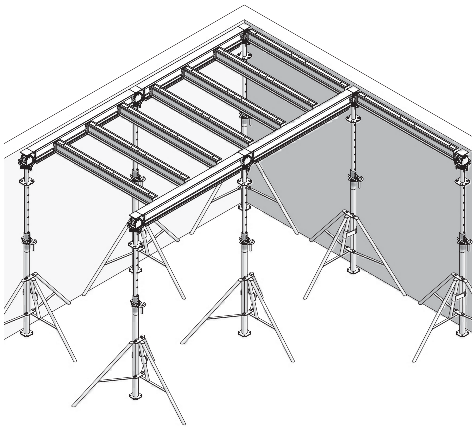
Fig. 24.5

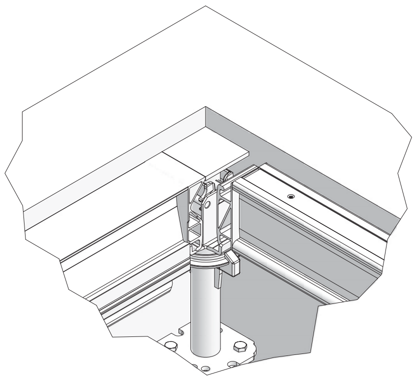
Fig. 24.6

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Primary-and-secondary-beam method

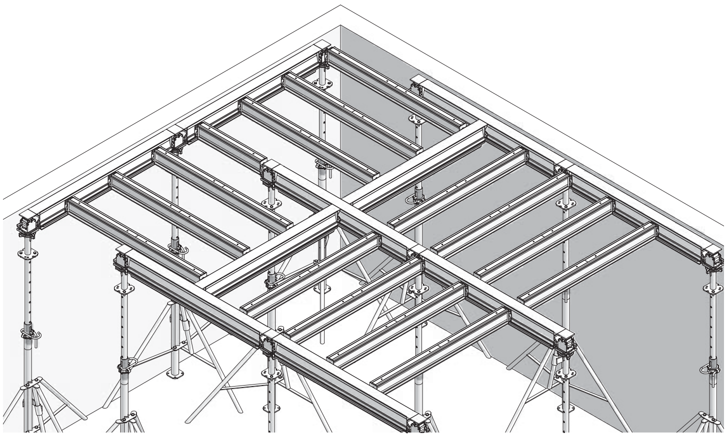


Fig. 25.1

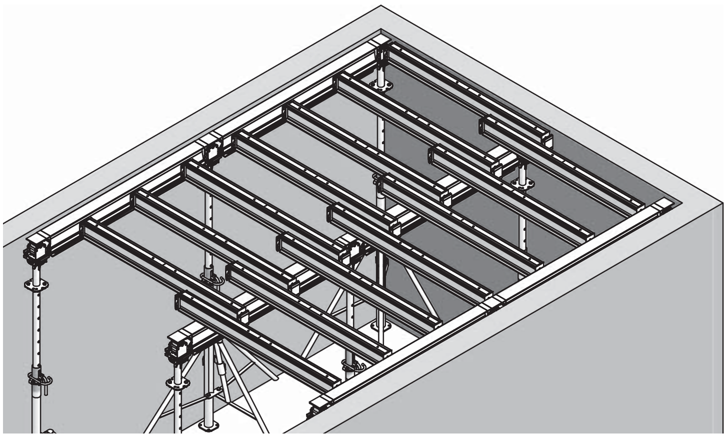


Fig. 25.2

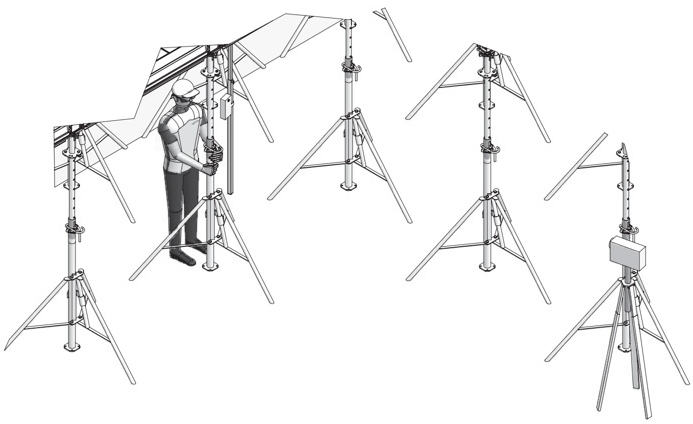


Fig. 25.3

Fig. 25.1
Length adjustment in primary beam direction:
If it is not possible to fit one more primary beam in the beam row, simply change the assembly direction by 90° by using the "drawer principle":
Erect a row of primary beams along the wall, then hook a primary beam into the other primary beam at the distance of a secondary beam.
Now the secondary beams can be installed perpendicular to the just erected primary beams.

Fig. 25.2
A stepless adaptation in perpendicular direction to the primary beam is easily achieved by placing another row of primary beams (lowered by 5 1/2" (14.0 cm)) to support overlapping secondary beams.
An additional secondary beam has to be installed at the joint of the forming face. The forming face can be installed from a working scaffold from below, or directly from the top of the slab, as long as the formwork is sufficiently stabilized (e.g. guys) and workers are secured with a lifeline.

Fig. 25.3
Levelling of the slab formwork with the MD-support for laser receiver.
The support is attached to the T-groove of the primary beam and allows to level the formwork with just one person.
Make sure that the wedge rings of the drop heads are screwed tight before concreting.

Stripping
Hit the wedge rings of the drop heads with a hammer. After a few hammer blows the drop head is loosened. As soon as several drop heads are loosened, the slab of this area drops by 7 1/2" (19.0 cm).
Proceed until the complete formwork is lowered. Then remove the forming face. Now strip the secondary and primary beams. In order to disengage the primary beam, lift it slightly and move it sidewards over the safety device. The post shores with drop heads remain in place as reshoring.

meva

Drop-head-beam-panel method

Drop-head-beam-panel-mehtod (FTE-method)

It is recommended to begin the assembly in that corner, which is the most suitable for a trouble-free assembly in both directions. The first panel can be placed lengthwise or crosswise along the wall. At the slab edge one side of the panel is supported by the prop head and on the other side by the primary beam. When forming against an existing wall the primary beam should be placed directly against this wall and should be supported by a prop connector or forked head (Fig. 26.2 and 26.3). If the FTE-method is applied to form a relatively small layout (≤ 325 ft² (30.0 m²)), make sure that at least three primary beams per row are assembled one behind the other. To assure a trouble-free stripping it is recommended to start with a drop head right at the wall. The residual gap is then closed with a MD-cover profile (Fig. 36.2).

Fig. 26.1

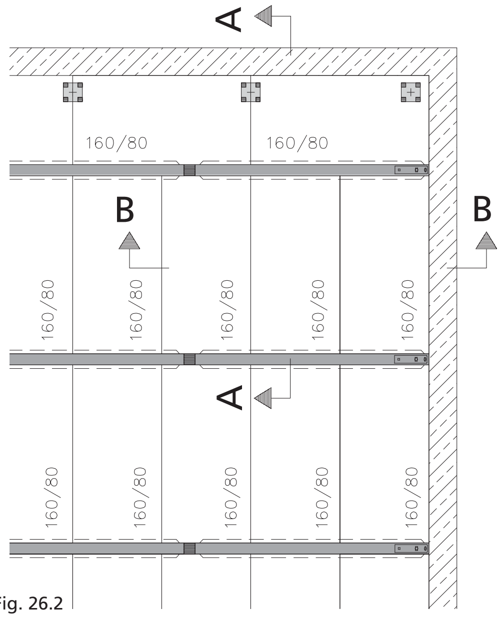
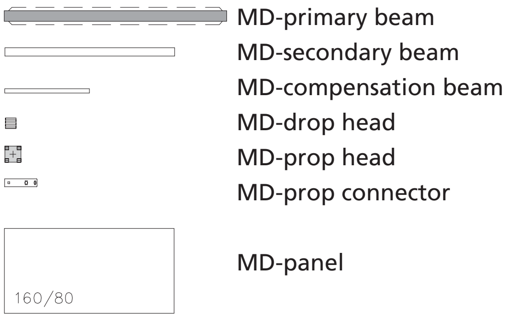


Fig. 26.2



Section A -A

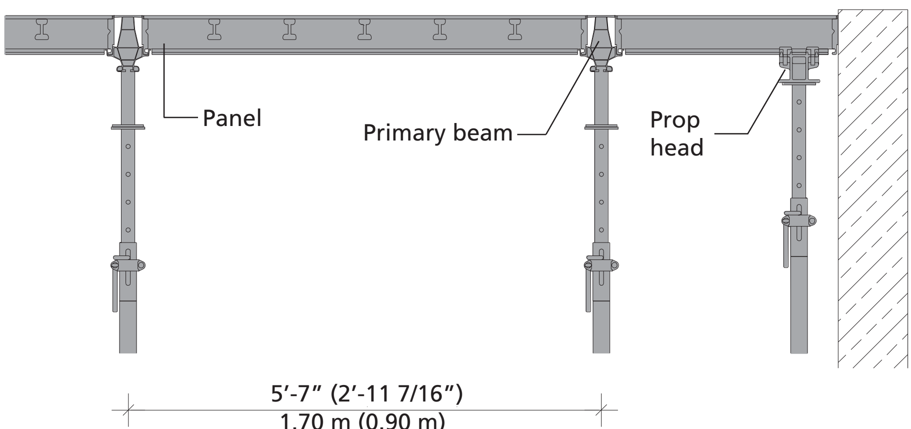


Fig. 26.3

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Drop-head-beam-panel method

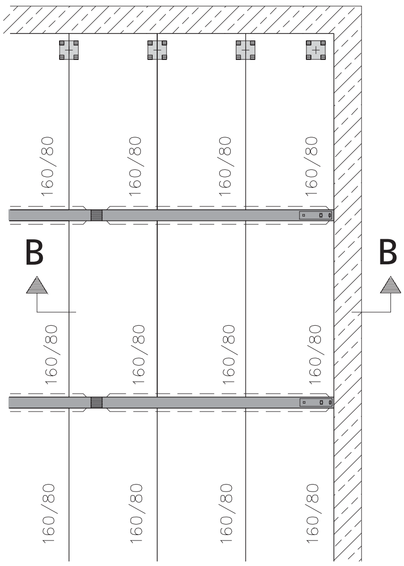

Fig. 27.1

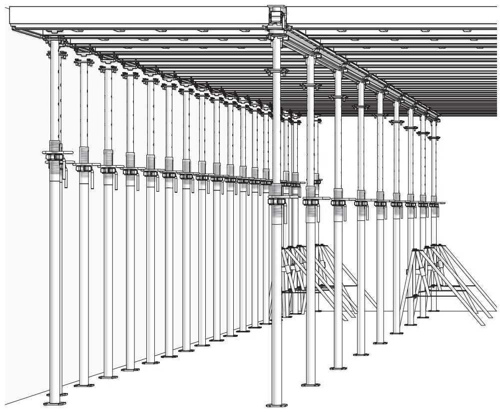

Fig. 27.2

In general, the rows of primary beams are assembled in parallel direction to the longer wall. This is especially true for formwork jobs being done without any previous detailing. In such a case, it is recommended to place the panels lengthwise along the wall (Fig. 27.1 - 27.3).
If, however, a detailing is available, the assembly direction can be optimized according to the layout. Alternatively, it is possible to support the panels by a row of timber beams (or MD-beams) located along the slab edge.

Section B –B

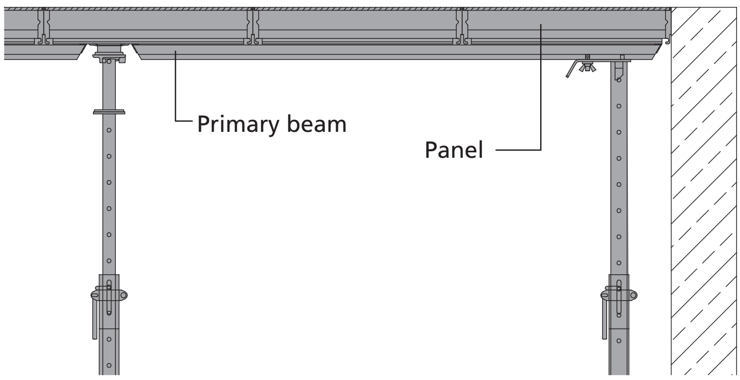

Fig. 27.3

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Length adjustment in primary beam direction

Residual gaps of ≤ 5’-3” (1.60 m) are compensated for by changing the assembly direction. Therefore, the panels are moved against the wall where they are supported by a row of primary beams. The filler area has now moved inwards the building and can be closed easily (Fig. 28.1).
If the residual gap is smaller than 2’ (60.0 cm) the last primary beam can be placed directly at the wall. For these applications we recommend to use the primary beam 160.
The panels are placed against the wall in such a way that the third panel is supported by the drop head on one side, whereas on the other it overlaps the drop head right up to the next primary beam (Fig. 28.3).
At the slab edge, where the panels are directly supported, the compensation is carried out with MD-compensation beams (Fig. 28.3 and 28.4). They are supported by prop heads and connected to the panels with MD-assembly locks.
The gap between primary beam and wall or primary beams is closed with the MD-cover profile 10 (Fig. 28.1 - 28.2).

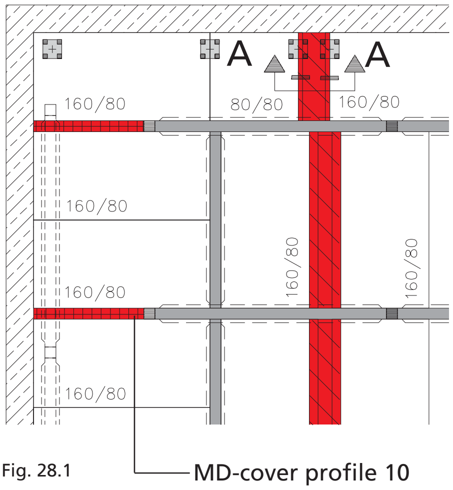

Fig. 28.1

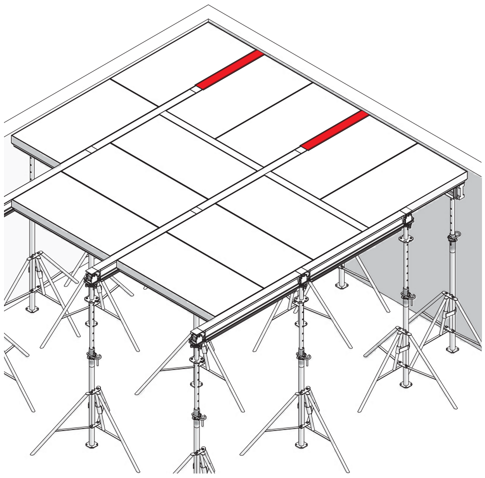
Fig. 28.2

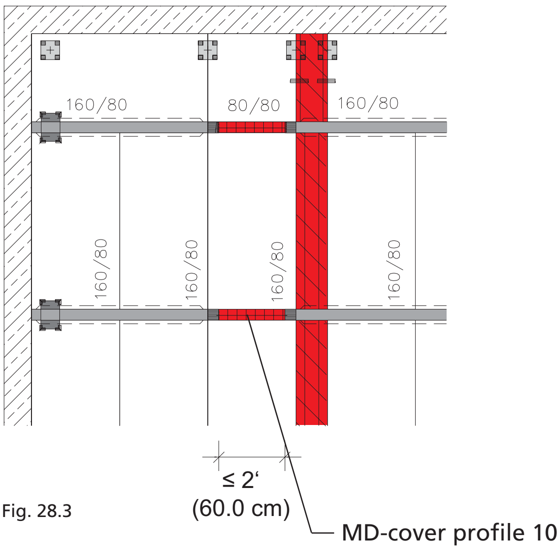

Fig. 28.3

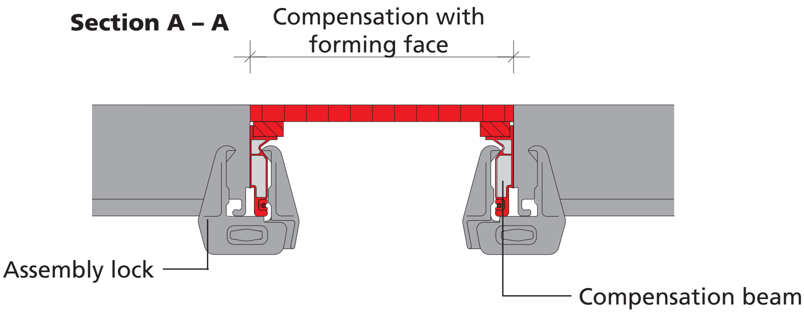

Fig. 28.4

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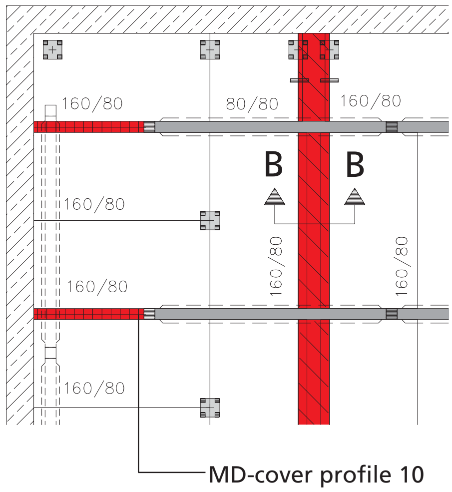

Fig. 29.1

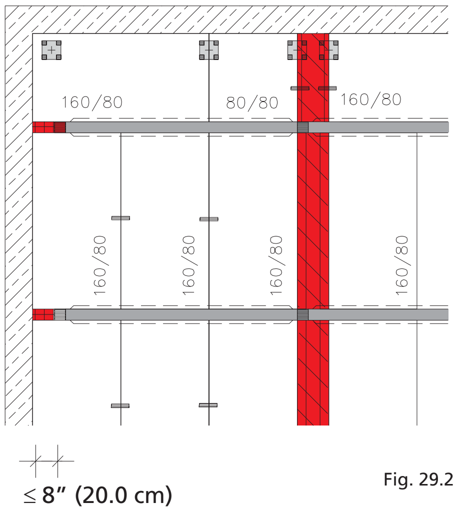

Fig. 29.2

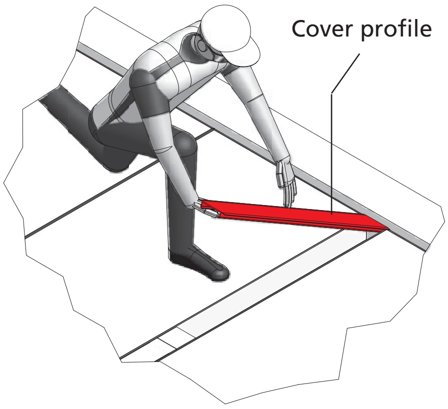

Fig. 29.3

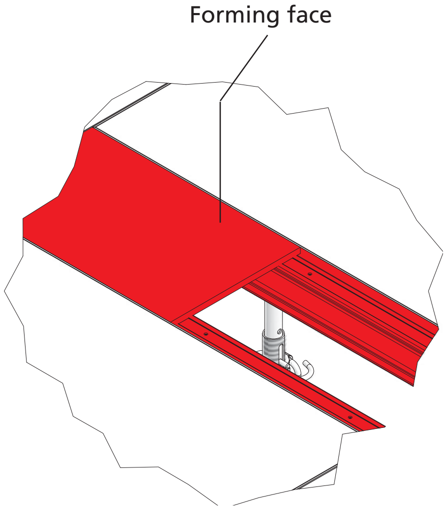

Fig. 29.4

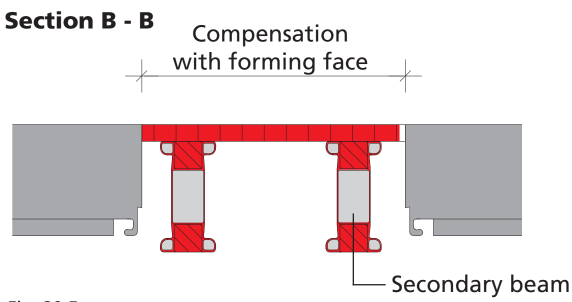

Fig. 29.5

Length adjustment in primary beam direction

The most economical way to achieve length compensations is to turn the panels and to support them directly with a prop head at their cross joints instead of hooking them into a primary beam. Fillers of up to 4′-11″ (1.50 m) can be closed this way (Fig. 29.1).
When the residual gap is ≤ 8″ (20.0 cm), the last three panels can be pushed against the wall. The connection of the panels by means of MD-assembly locks prevents a tilting of the cantilevering panel (Fig. 29.2).
The residual gaps between panels can be reduced to less than 8″ (20.0 cm) by using panels of different widths ((2′-7 1/2″ (80.0 cm), 2′ (60.0 cm), 1′-3 3/4″ (40.0 cm)).
For this purpose, the secondary beam is turned by 180° around the longitudinal axis to guarantee that the 3/4″ (19.0 mm) thick forming face is flush with the top of the primary beam and the panel. For gaps of up to 6″ (16.0 cm) one secondary beam is sufficient, for gaps between 6″ (16.0 cm) and 20″ (50.0 cm) two are required (Fig. 29.4 and 29.5).

Attention: Assembly from above (Fig. 29.3) might not be allowed in all countries (see page 33).

Drop-head-beam-panel method

Length adjustment perpendicular to primary beam direction

Length adjustment in this case is achieved by supporting the panels directly at their cross-joints (Fig. 30.1). A residual gap of up to 16" (40.0 cm) is closed with a piece of forming face, which on one side is supported by a MD-compensation beam and on the other by a row of timber girders (H20) or MD-beams located at the edge of the slab (Fig. 30.2). For length compensation up to 4" (10.0 cm) it is sufficient to use the MD-compensation beam. An additional support is not required. Alternatively, it is possible to put a squared timber just on the prop head.

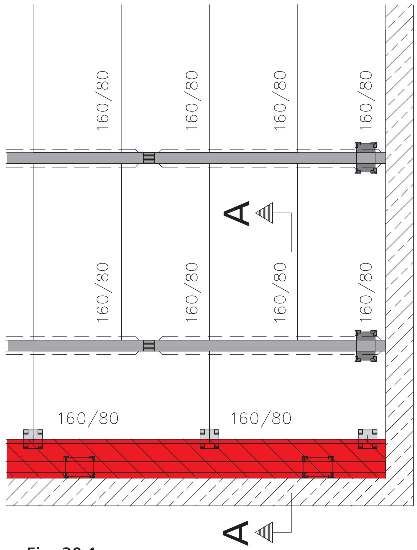

Fig. 30.1

Section A – A

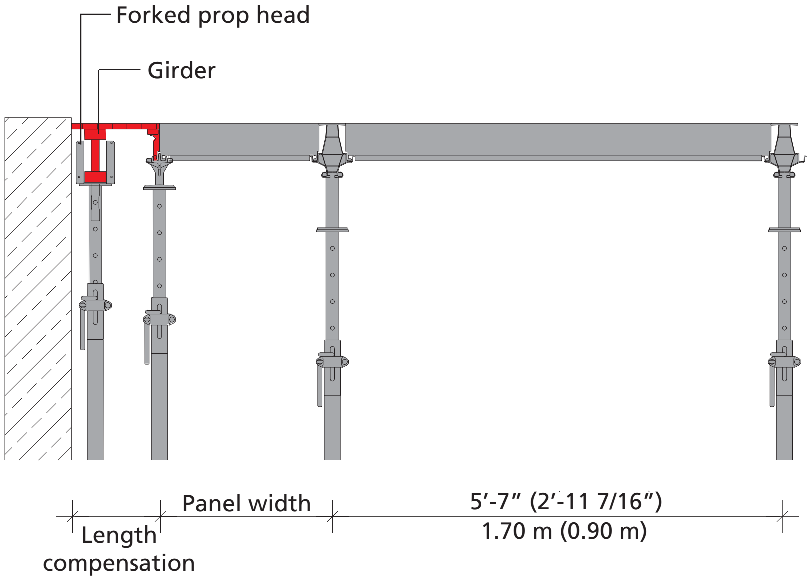

Fig. 30.2

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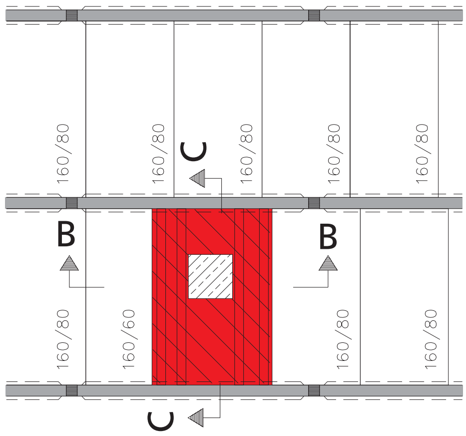

Fig. 31.1

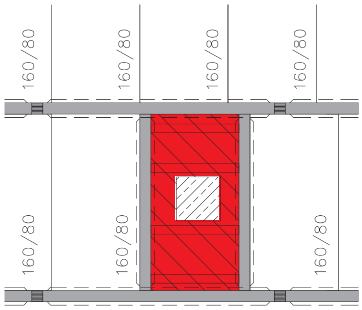

Fig. 31.2

Section B – B

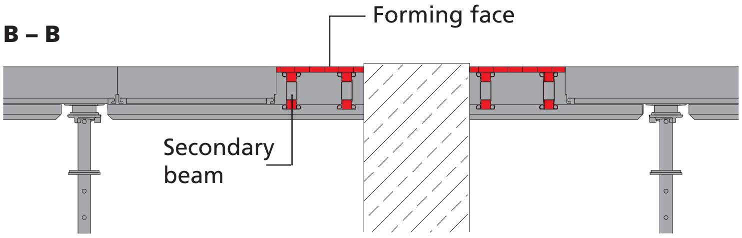

Fig. 31.3

Section C – C

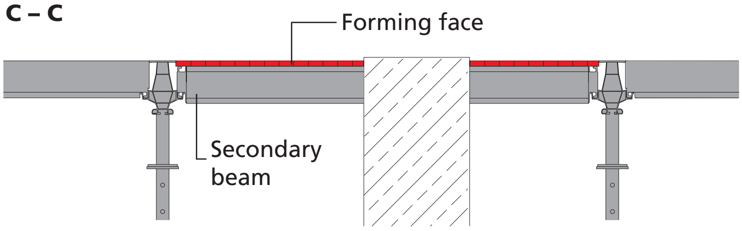

Fig. 31.4

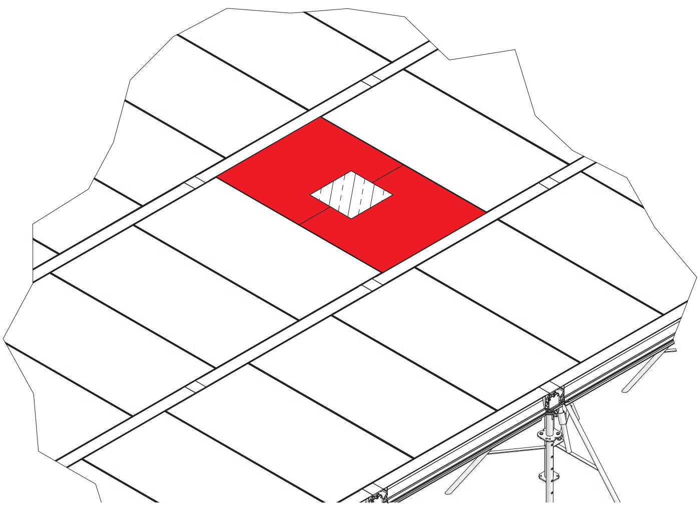

Fig. 31.5

Problem areas

With MevaDec it is not a problem to form around columns.
If the dimensions of the columns are smaller than 20“ (50.0 cm), the formwork is assembled as usual (Fig. 31.1).
If the dimensions of the columns are larger, a change of the assembly direction is required (Fig. 31.2).
Usually, additional post shores are not required around the columns (Fig. 31.1 - 31.5).
Because of the fact that the filler areas can be shifted, the number of adjustments can be reduced to a minimum.

Drop-head-beam-panel method

Free slab edges

When forming free slab edges or bulkheads the MD-primary beam 270 should be applied (Fig. 32.1 and 32.2). Due to its length it provides enough working space at the slab edge.
If primary and secondary beams are used the forming face has to be nailed to the secondary beams along the total length of the primary beam 270.
When primary beams and panels are used the panels must be connected with assembly locks along the total length of the primary beam.
For details about the load capacity of the primary beam 270 see page 11.
Maximum cantilever of the primary beam:
PB 270 = 4'-3" (130.0 cm)
PB 210 = 2'-3 1/2" (70.0 cm)
PB 160 = 20" (50.0 cm)
(Tab. 32.3)

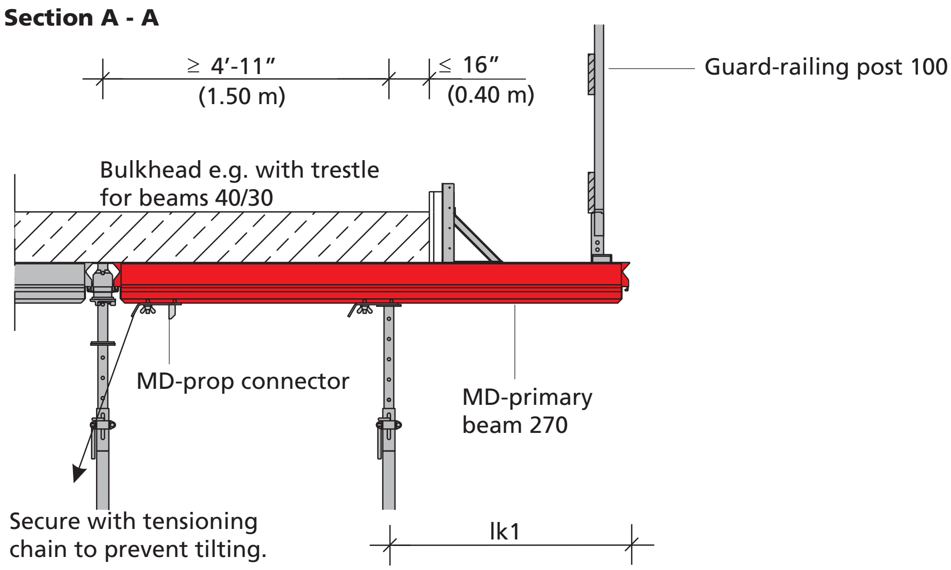

Fig. 32.1

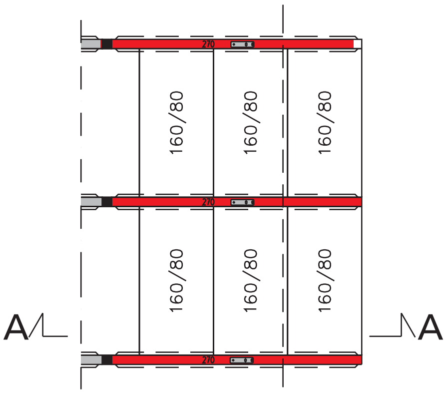

Fig. 32.2

Max. cantilever (lk1)	Max. cantilever of the concrete (slab)
PB 270 = 4'-3" (130.0 cm)	16" (40.0 cm)
PB 210 = 2'-3 1/2" (70. 0cm)	16" (40.0 cm)
PB 160 = 20" (50.0 cm)	16" (40.0 cm)

Tab. 32.3

Description	Ref.-No.
MD-primary beam 270	22-300-98
Trestle for beams 40/30	29-500-10

Drop-head-beam-panel method

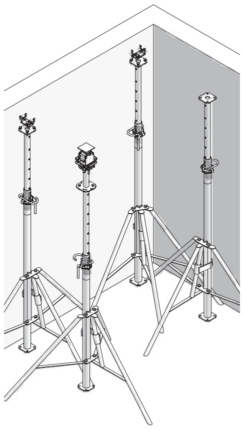

Fig. 33.1

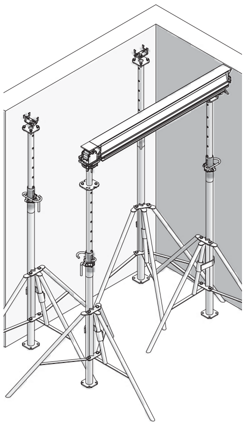

Fig. 33.2

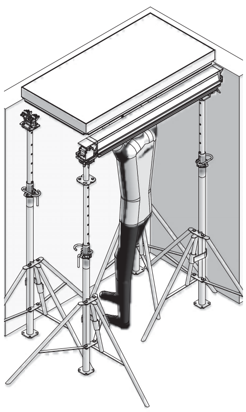

Fig. 33.3

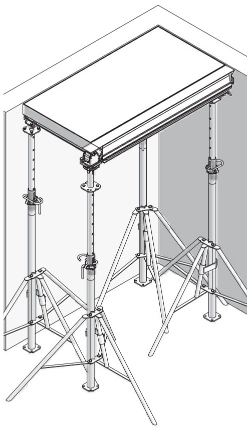

Fig. 33.4

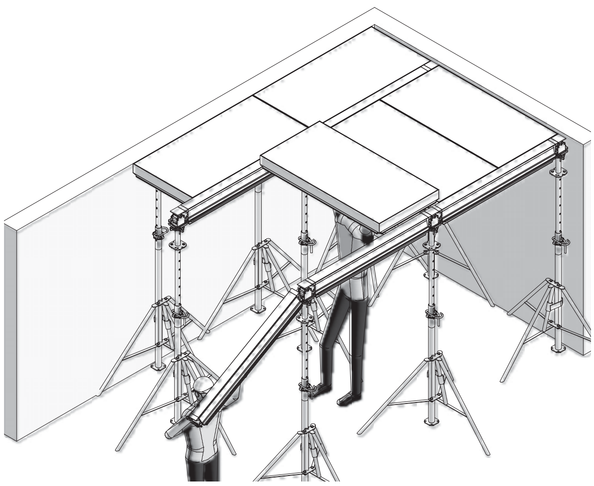

Fig. 33.5

Formwork assembly

Attention: Always observe the federal, state and local codes and regulations when using our products. In some countries it might not be allowed to assemble the panels from above. If it is allowed to assemble the panels from above, make sure that the formwork is sufficiently stabilized (e.g. guys) and that workers are secured with a lifeline.

Fig. 33.1
First, put two post shores with prop heads in one corner and place them along the wall. Erect another post shore with a prop connector or with a forked head and a post shore with MD-drop head in parallel to the already erected post shores at the second wall. All these four post shores are stabilized with a tripod and aligned vertically.

Fig. 33.2
A primary beam is hooked into a drop head on one side and supported by a post shore with forked head (or secured with a prop connector) on the other side.

Fig. 33.3 and 33.4
Install the panel. Now, the panel is supported by a primary beam on the one side and by two prop heads on the other side. The post shore located in the corner supports the panel at its first cross stiffener.

Fig. 33.5
Now put up further post shores with prop heads along the wall, hook in further primary beams on the drop heads and swing them up together with the post shore. Erect the next row of primary beams in parallel direction to the first at a distance of 5′-3″ (1.60 m = panel length) and install the panels between the beams in order to stabilize the formwork. Continue to erect primary beam rows and to install panels. The panels can either be assembled from below (e.g. from a working scaffold) or from above.

Drop-head-beam-panel method

Fig. 34.1
The easiest way to achieve length adjustment in primary beam direction is to change the assembly direction. Therefore, a primary beam 160 is hooked in between two other primary beams and the assembly direction of the panels is turned by 90° ("drawer principle"). The turned panels are pushed against the wall, where they are supported by a row of primary beams. Now the filler area moves inwards the building. (For further possibilities of compensation see pages 28 to 31).

Fig. 34.2
Fillers between primary beams and the wall are closed with the MD-cover profile.

Fig. 34.3
Filler areas between panels, however, are compensated by means of secondary beams (brown nailing strip upside) plus forming face.

Fig. 34.4
Levelling of the slab formwork with the MD-support for laser receiver.
The support is attached to the T-groove of the primary beam and allows to level the formwork with just one person. Make sure that the wedge rings of the drop heads are screwed tight before concreting.

Stripping
Hit the wedge rings of the drop heads with a hammer. After a few hammer blows the drop head is loosened. As soon as several drop heads are loosened, the slab of this area drops by 7 1/2" (19.0 cm). Proceed until the complete formwork is lowered. Then remove the panels and strip the primary beams. In order to disengage the primary beam, lift it slightly and move it sidewards over the safety device. The post shores with drop heads remain in place as reshoring.

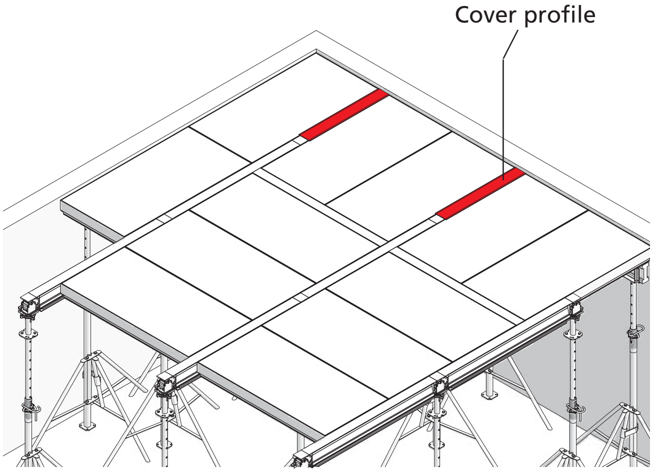

Fig. 34.1

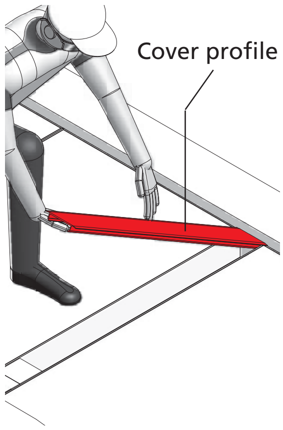

Fig. 34.2

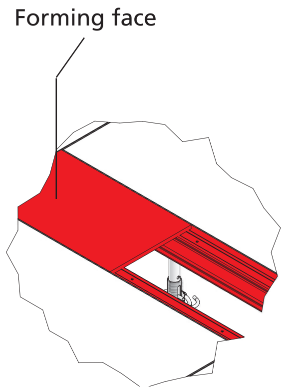

Fig. 34.3

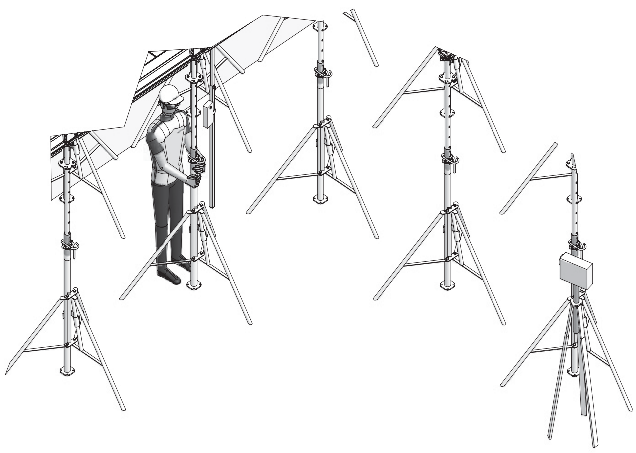
Fig. 34.4

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Panel method

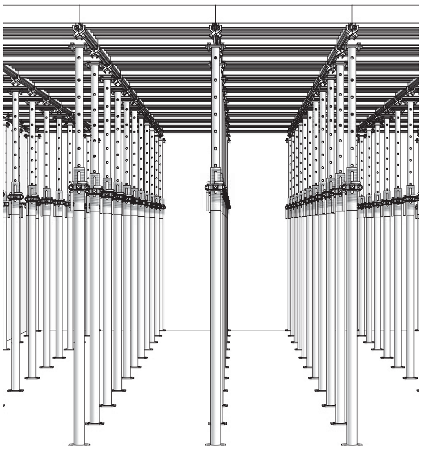


Fig. 35.1

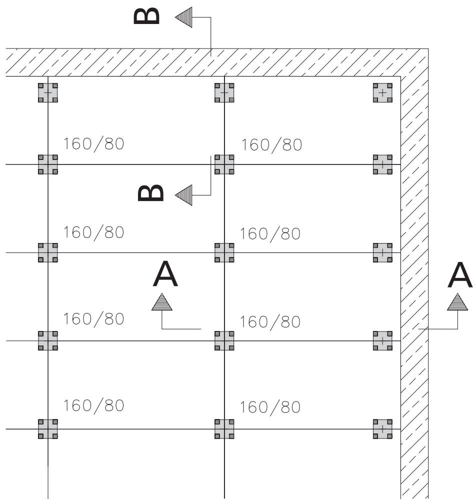
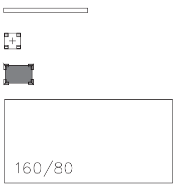


Fig. 35.2



MD-compensation beam
MD-post shore
Forked prop head H20
MD-panel

Section A – A

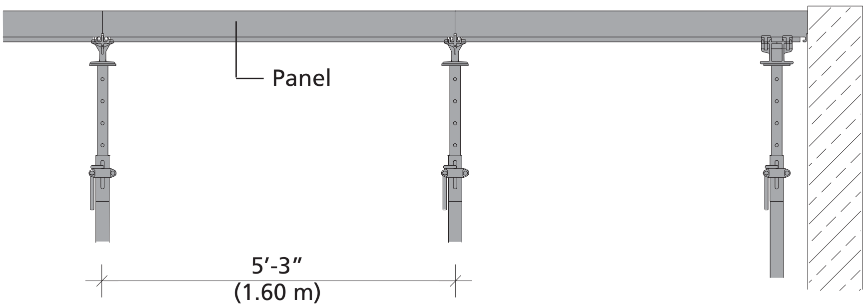


Fig. 35.3

Section B – B

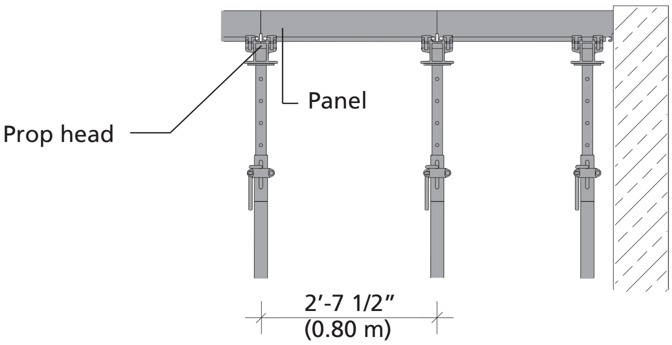


Fig. 35.4

It is recommended to begin the assembly in that corner, which is the most suitable for a trouble-free assembly in both directions (Fig. 35.1 - 35.4).

Important:
If a MD-panel 160/80 is normally supported (i.e. one post shore in each corner, Fig. 35.2) and the slab thickness is 20" (50.0 cm) the maximum load capacity of the MD-panel is achieved.
If the panel 160/80 is supported with two additional intermediate post shores the maximum slab thickness is 52" (132.0 cm).

Attention:
Make sure to check the admissible load capacity of the post shores (see pages 7-8). Loading of post shore (with MD-panel 160/80) with a slab thickness of 52" (132.0 cm) is 7.1 kips (31.5 KN).

Length compensation at the edge of a slab

The filler area is always smaller than 16" (40.0 cm) and can be reduced to 8" (20.0 cm) or even less through a timely change to a panel width of 2' (60.0 cm). The residual gap is closed with a piece of forming face, which on one side is supported by a MD-compensation beam and on the other by a row of timber girders (H20) or MD-beams located at the edge of the slab. For length compensation up to 4" (10.0 cm) it is sufficient to use the MD-compensation beam. An additional support is not required (Fig. 36.1 - 36.3). Alternatively, it is possible to put a squared timber just on top of the prop head.

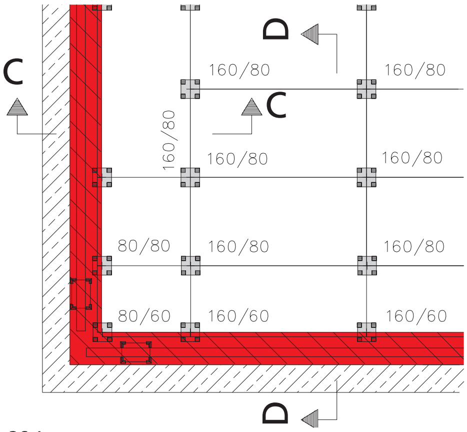


Fig. 36.1

Section C – C

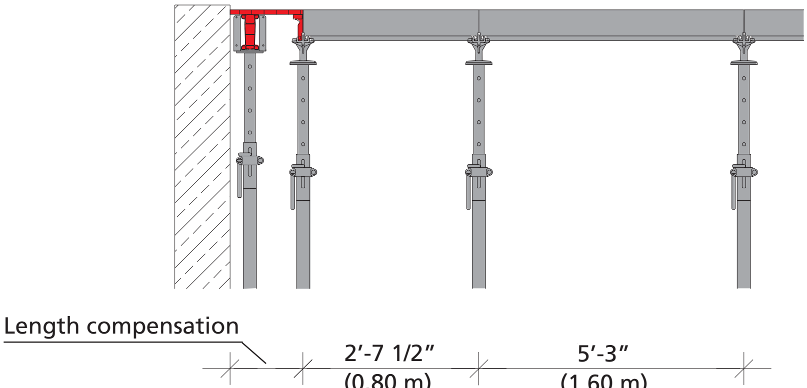


Fig. 36.2

Section D - D

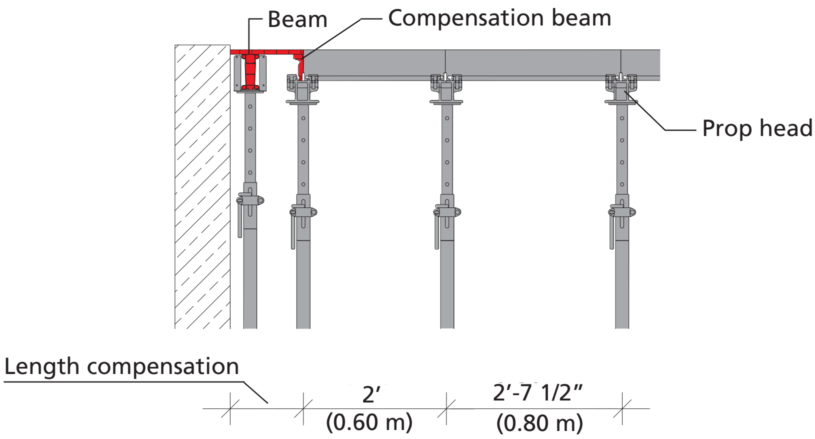


Fig. 36.3

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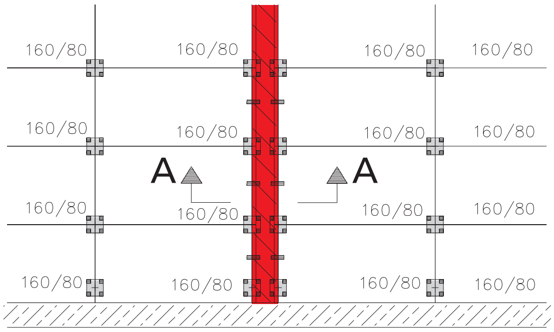

Fig. 37.1

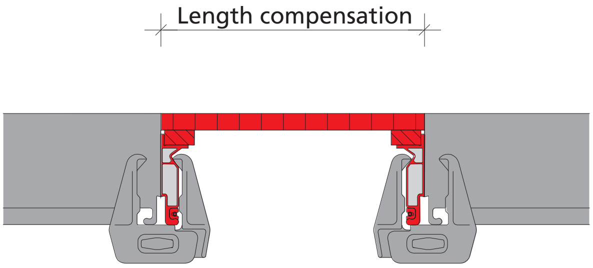

Fig. 37.2

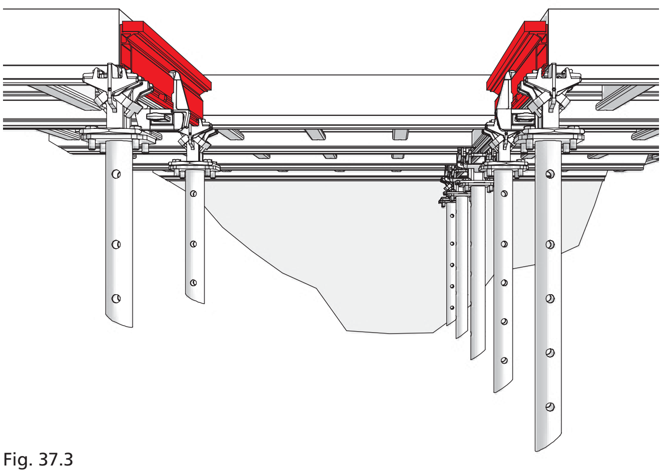

Fig. 37.3

Length compensation in the middle of the slab

The filler area can also be moved to the middle of the slab. To do so only compensation beams, assembly locks and forming faces are required.
The compensation beams are supported by prop heads and are attached to the panel by means of assembly locks (one lock per panel).
This way of compensation is ideal for L-shaped layouts, where the formwork assembly is usually started at different ends at the same time. Thus, the compensation area can be optimized (Fig. 37.1 - 37.3).

Panel method

Formwork assembly

Attention: Always observe the federal, state and local codes and regulations when using our products.

Erect three post shores with prop heads in one corner of the room at a distance of 5′-3″ (160.0 cm) or 2′-7 1/2″ (80.0 cm), stabilize them with tripods and align them vertically. Install the panel on the prop heads, so that the post shore located in the corner supports the first cross stiffener of the panel. Continue to install panels on prop heads and swing them up until the first row is finished. The panels are automatically secured against disengagement. From the second row on, the panels are hooked into the prop heads of the preceding row. Swing the panel up with the first assembly stick 340 and leave the stick as temporary support.

① The panel is only temporarily supported by an assembly stick 340.
② A post shore with MD-prop head is placed under the panel corner and set plumb.
③ Hook in the next panel, swing it up with the assembly stick and support it temporarily with the stick.
④ Erect the next post shore with MD-prop head, set it plumb, remove the first assembly stick and continue as described under point ③ (Fig. 38.1 and 38.2).

Stripping
Dismantling is effected in reverse order with regard to the assembly. Begin with the dismantling in the filler areas. Support a panel with the assembly stick, release the post shore and remove it. The post shore row located behind can now be released and lowered by some 1/2″ to 1″ (1.0 cm to 2.0 cm). Swing the panels down and unhook them.

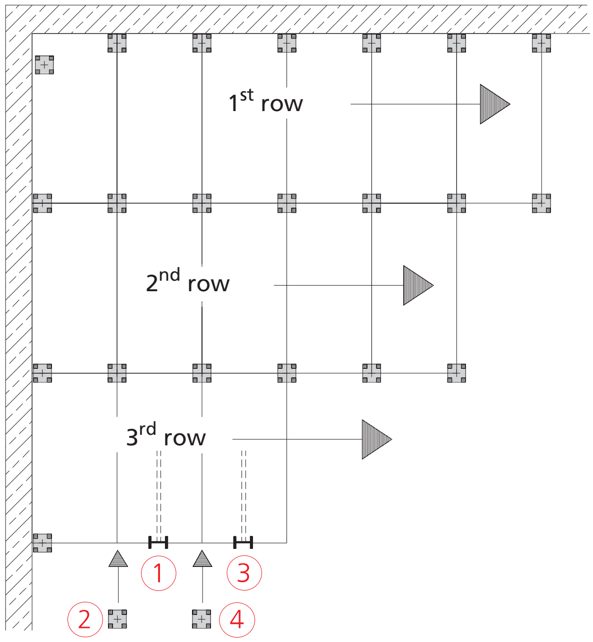

Fig. 38.1

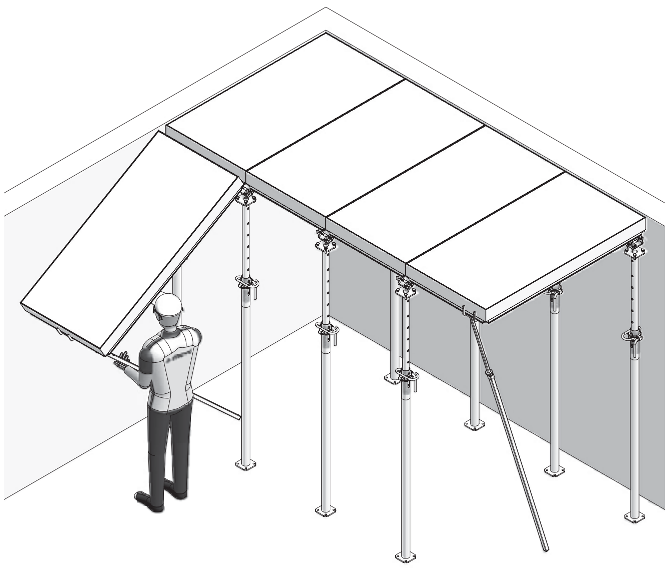

Fig. 38.2

Description	Ref.-No.
MD-assembly stick 340	29-302-35

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Levelling

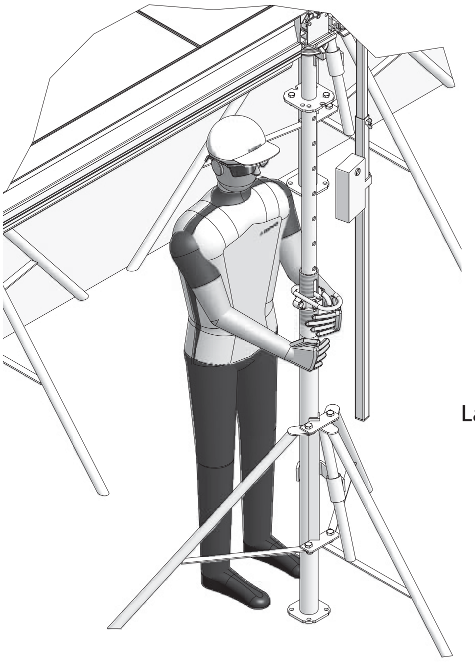

Fig. 39.1

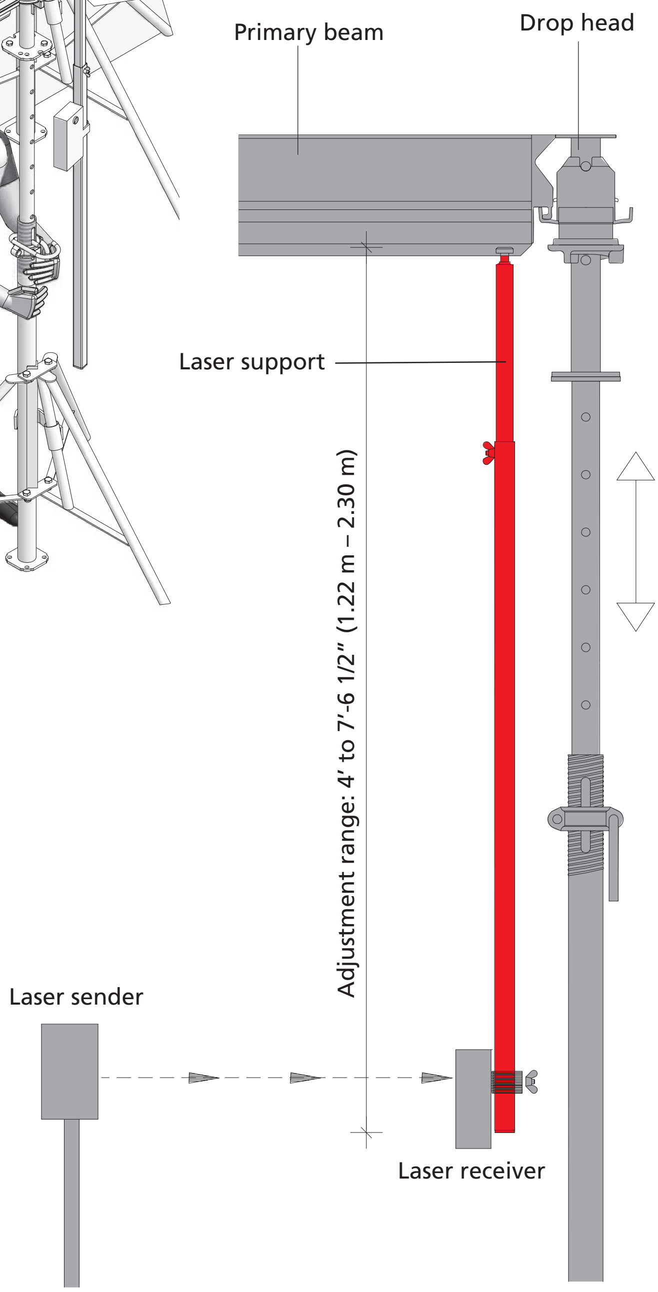

Fig. 39.2

First, a post shore with drop head must be adjusted to the required height. The MD-laser support (made of aluminum) has to be attached to the T-groove of the MD-primary beam located next to this post shore. The MD-laser support is provided with a laser receiver. The laser sender has to be erected and adjusted horizontally. The laser receiver has to be attuned to the laser sender. Now just one person can adjust the whole slab formwork to the required height.

N.B.: The height adjustment is done by using the adjustment nut of the post shores.

Description	Ref.-No.
MD-laser support	**29-302-50**

MevaDec in combination with MEP

The shoring system MEP and the slab formwork system MevaDec are well matched. The higher the slabs to form, the more difficult it is to support the slab formwork with single post shores. At heights of more than 16’-1” (4.90 m) (including 16” (40.0 cm)) of the drop head) it is more economical to work with shoring towers.
The MEP 300 and MEP 450 post shores can be used as single post shores or as shoring towers when reinforced with frames. They provide perfect solutions for all kind of slabs.
The reinforcing frames 170 and 220 are designed to match the primary beam dimensions of the MevaDec (Fig. 40.1 and 40.2).
MEP-towers can be used as long as the MevaDec system is applied with primary beams, secondary beams and drop-heads, or with primary beams, panels and drop-heads. This way, “early stripping” is possible. A combination of MEP-towers with MevaDec panels only is not possible because the dimensions of the MEP-frames do not match the panel sizes.

Description	Ref.-No.
MEP 450 w/ SAS	**29-907-70**
MEP 300 w/ SAS	**29-907-65**
MEP-frame 330	**29-909-30**
MEP-frame 220	**29-909-25**
MEP-frame 170	**29-909-20**
MEP-frame 110	**29-909-15**
MEP-frame 55	**29-909-10**
MEP exten. 360	**29-907-95**
MEP exten. 120	**29-907-90**
MEP exten. 80	**29-907-85**
Plug connector	**29-909-85**
Pin 14/135	**29-909-90**

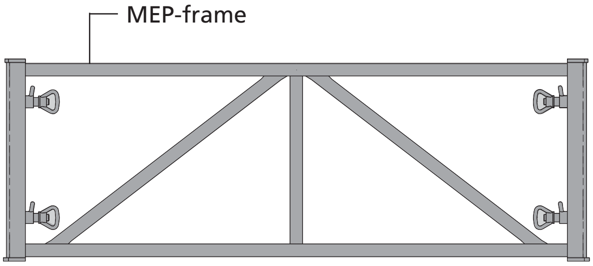

Fig. 40.1

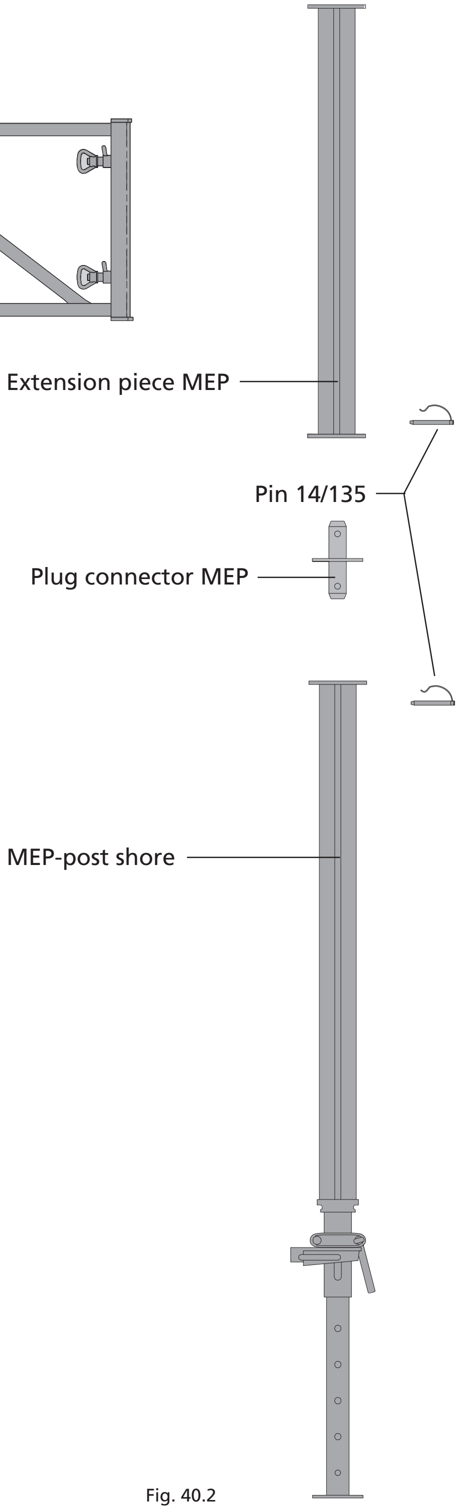

Fig. 40.2

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MevaDec in combination with MEP

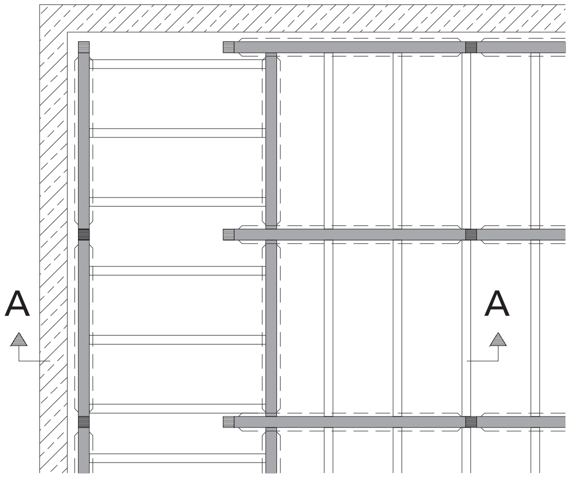

Fig. 41.1

Section A – A

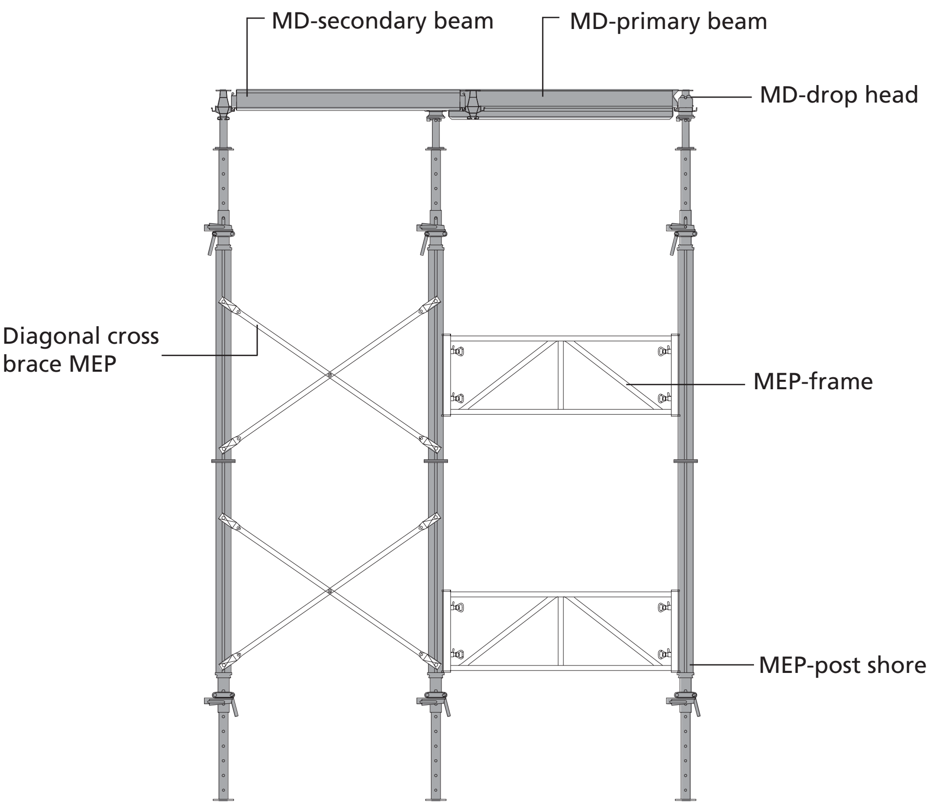

Fig. 41.2

When using the MEP shoring system to support MevaDec make sure that the extension pieces are always attached with plug connectors and pins. This greatly simplifies the asssembly.
If a height extension is required, it is recommended to use an additional spindle on top of the extension to give extra adjustment and to facilitate the levelling.
If two MEP post shores are used on top of each other, make sure that one spindle points downwards and one upwards.
If the surface is sloped, the calotte support should be used as base plate for the MEP post shores to guarantee a perpendicular load transfer.
If you have adaptations to make, e.g. if the direction of primary beams changes and the regular MEP-frames do not fit, you can use MEP-cross braces 170/90 or 300/180 (Fig. 41.1 and 41.2).
Always make sure that all post shores are in perpendicular position.

We recommend the use of the pluggable drop-heads.

Description	Ref.-No.
Diagonal cross-brace 170/90 MEP........	**29-909-60**
Diagonal cross-brace 300/180 MEP......	**29-909-55**

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MD-dismantling auxiliary

When stripping the MevaDec, and if the formwork cannot be lowered by its own weight due to tension forces or high concrete adhesion, the dismantling auxiliary comes into play.
Slide the movable part of the auxiliary into the hammer head groove of the primary beam and push against the foot/ head plate of the post shore where the drop head is attached to (Fig. 42.3).
The MD-dismantling auxiliary facilitates stripping of the MevaDec slab formwork as long as drop heads and primary beams are used.

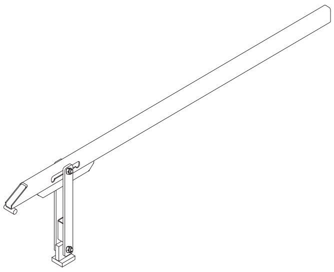

Fig. 42.1

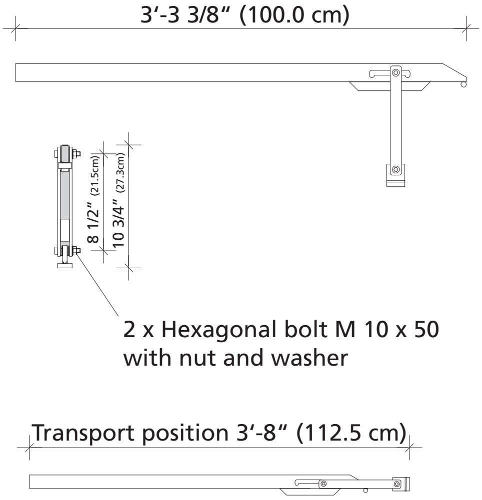

Fig. 42.2

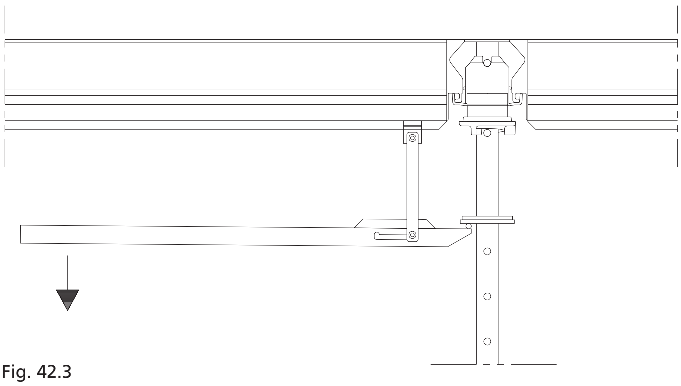

Fig. 42.3

Description	Ref-No.
MD-dismantling auxiliary	**29-302-40**

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MD-transport rack

The MD-transport rack is designed for stacking and transporting MevaDec panels. One rack can hold 14 MD-panels 160/80 (Fig. 43.1 and 43.2). Before loading the rack, the four linch pins must be removed and the hinge-joints opened (Fig. 43.3). Two MD-transport racks can be stacked one upon the other (Fig. 43.4). Thereby the crane eyes of the lower MD-transport rack prevent the upper rack from shifting. Transport of the MD-transport rack can be made by crane, forklift, lift truck (pallet jack) or by means of swivel-type castors.

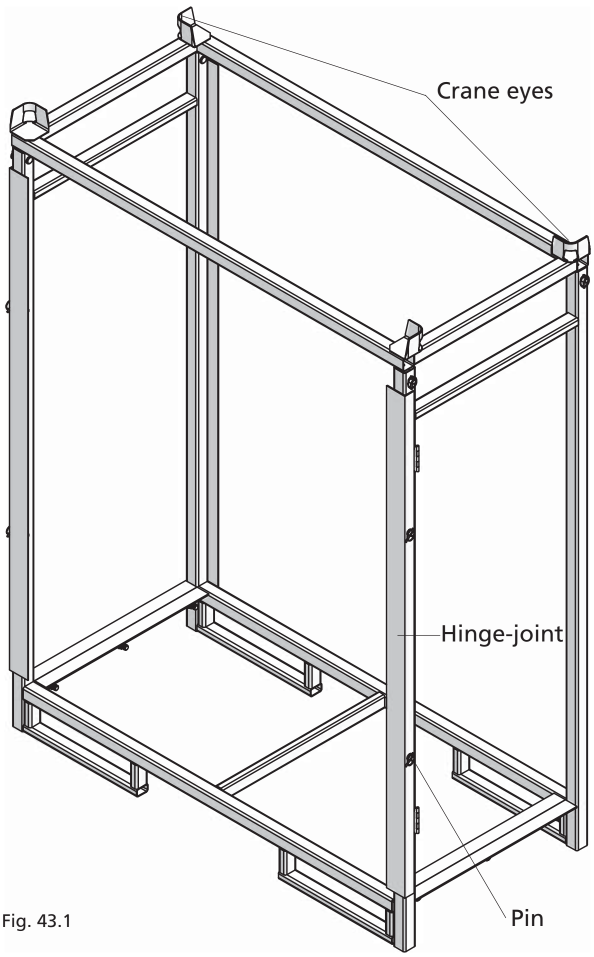

Fig. 43.1

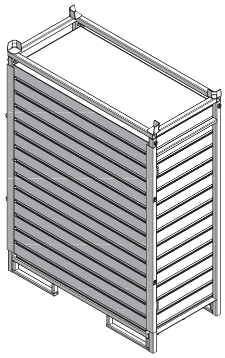

Fig. 43.2

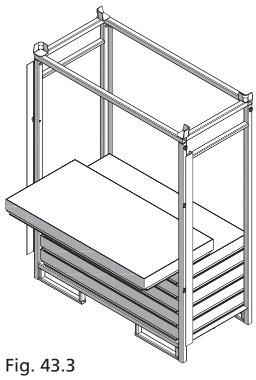

Fig. 43.3

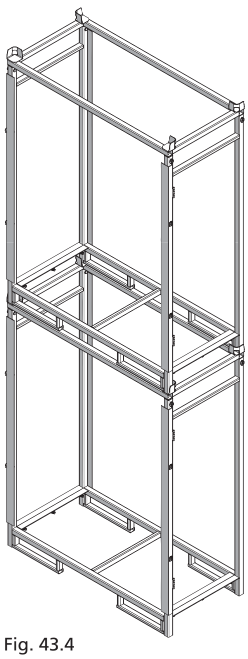

Fig. 43.4

Description	Ref.-No.
MD-transport-rack	27-000-60

Transport

MD-transport rack

The MD-transport rack will be delivered completely assembled, however it can be dismantled (Fig. 44.1).
Assembly:
The two side frames are attached to the base frame by using ① :

- three hexagonal bolts M16x55
- three spring washers A16
- three cotter pins 4x32
- three castle nuts M16

Finally, the top frame must be attached to the side frames and secured against uplift by means of ② :

- four head bolts and
- four linch pins.

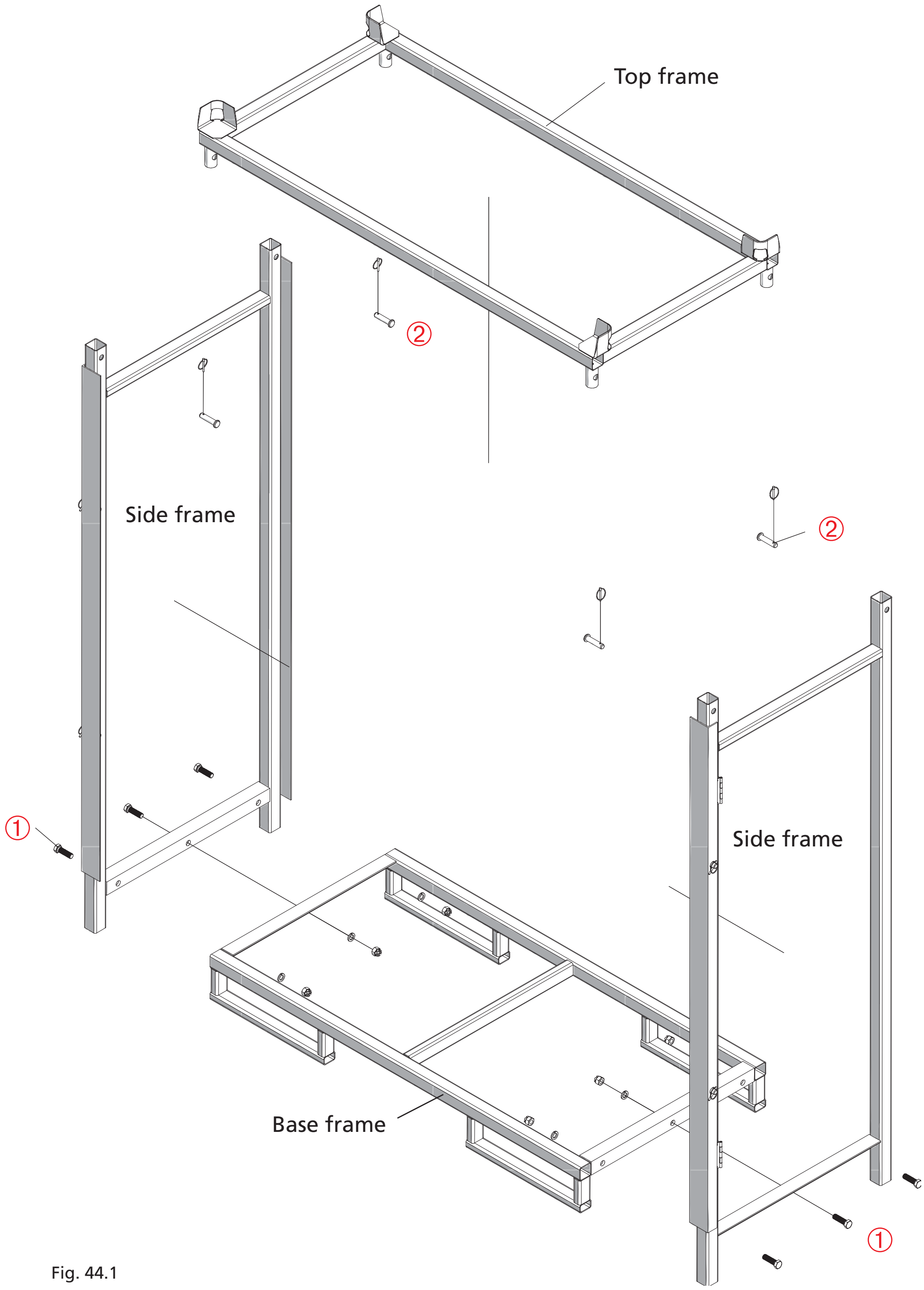

Fig. 44.1

Description	Ref-No.
MD-transport-rack	27-000-60

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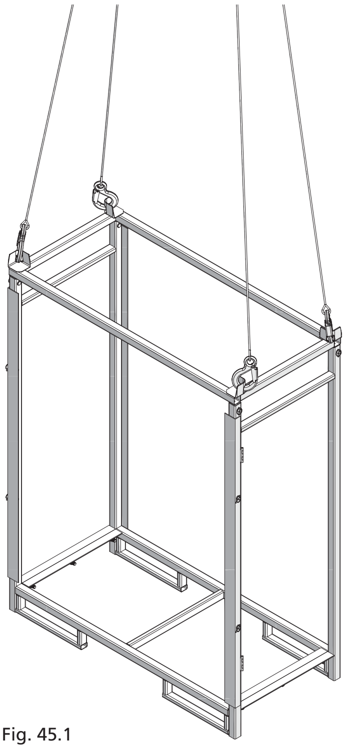

Fig. 45.1

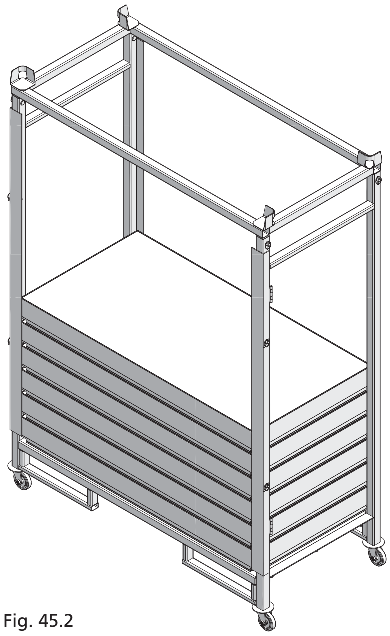

Fig. 45.2

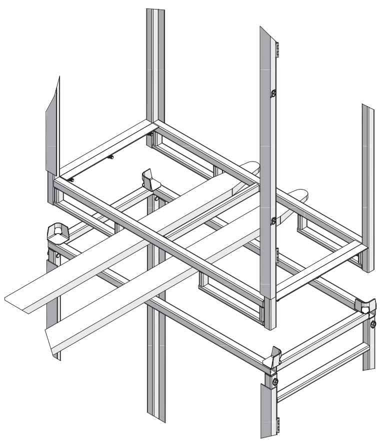

Fig. 45.3

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MD-transport rack

The MD-transport rack is designed for the transport of MevaDec-panels only! Do not transport any other panels or parts!

There are various possibilities to move the MD-transport rack.

- Transport by crane

Personnel underneath the danger zone of load **must** be avoided. Only suspension gear with stop chains should be used. Suspension chain must be able to rotate. The crane hook must be secured against inadvertent unhooking (Fig. 45.1).

- Transport with castors on the slab

The MD-transport rack can additionally be equipped with four swivel-type castors 100 (Ref.-No. 29-305-95). The swivel-type castors 100 must be plugged into the side frames of the empty MD-transport rack.
The total height increases by 4 3/4“ (12.0cm) (Fig. 45.2).

- Transport by lift truck (pallet jack)

- Transport by forklift (Fig. 45.3).

Description	Ref.-No.
MD-transport-rack	**27-000-60**
Swivel-type castor 100	**29-305-95**

MD-stacking rack

The plastic comb is placed at the side of the rack as long as the stacking rack is not loaded. Before loading the rack the plastic comb is inserted between the beams into the guidance to the left and the right of the rack.
The comb allows a correct stacking of the beams to get the maximum quantity of beams into the rack. At the same time it avoids that the beams can slide sideways.
The front frames can be adjusted in length to fit all beam sizes and avoid a sliding of the beams towards the front side. (Fig 46.1 and 46.2).

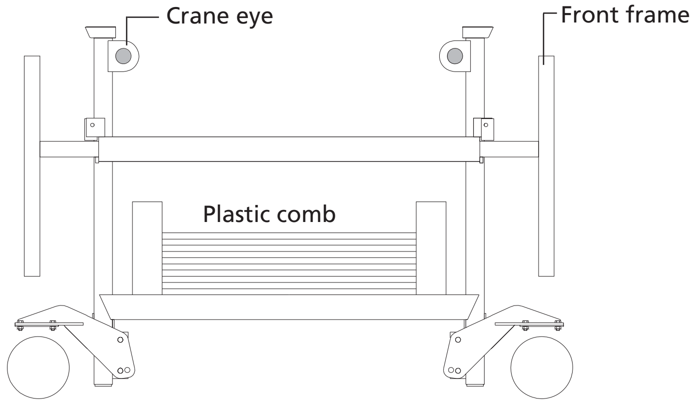

Fig. 46.1

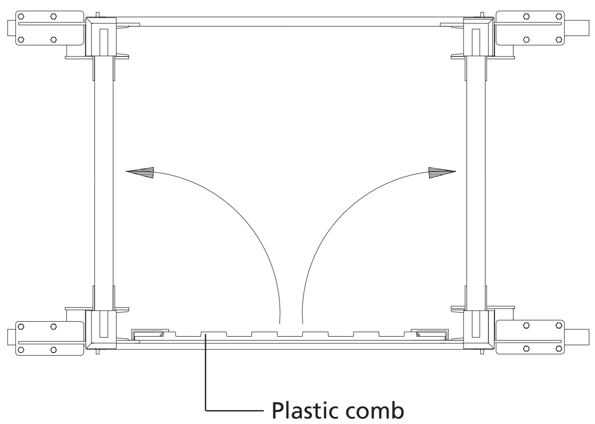

Fig. 46.2

Description	Ref.-No.
MD-stacking rack with wheels	27-000-50

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Transport

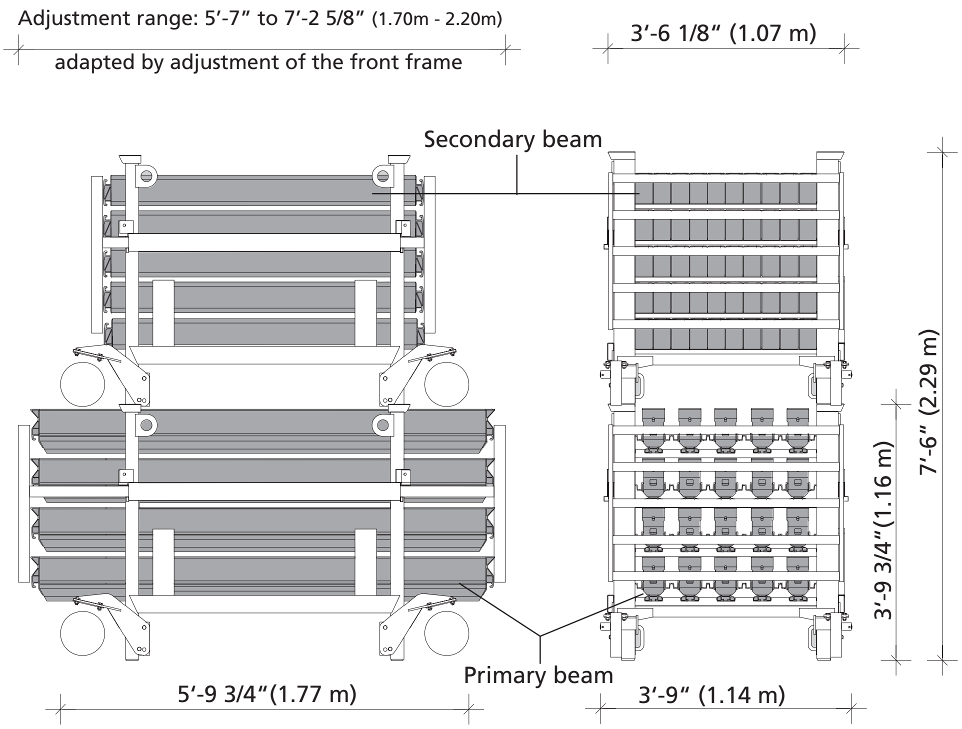

Fig. 47.1

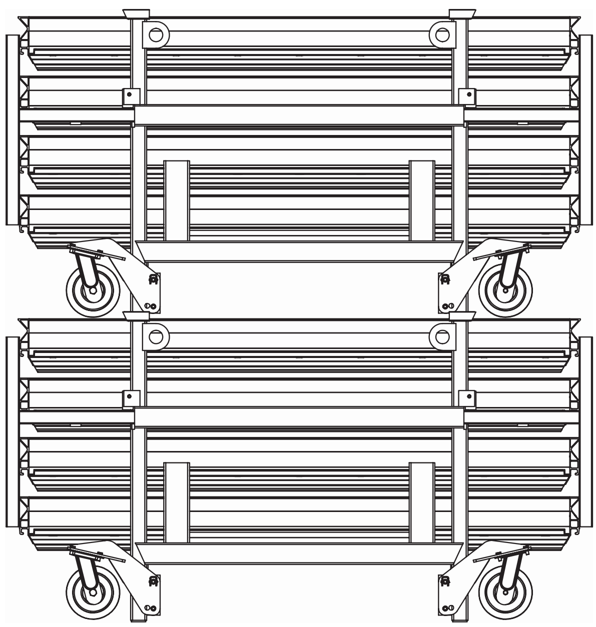

Fig. 47.2

When delivered to the construction site by truck the castor wheels of the MD-stacking rack are folded up.
While unloading the truck by crane or forklift the wheels should be folded down to permit crane-independent movement.

One stacking rack can hold:

30 MD-primary beams 210 or

30 MD-primary beams 160 or

50 MD-secondary beams 160 or

50 MD-beams 200.

Description	Ref.-No.
MD-stacking rack with wheels	27-000-50

Transport

Transport angles

The transport angles are another possibility to stack panels in a save and economic way. The transport angles are available as rigid or foldable type. We recommend to use two (2) rigid and two (2) foldable angles to build a rack for one stack. Five (5) to twelve (12) panels can be stacked and transported.
The maximum load capacity is 2,250 lbf (10.0 KN) per angle. For safety reasons consider 4,500 lbf (20.0 KN) as maximum capacity for the complete stack.
It is also possible to mount swivel-type castors to allow the transport of the rack on a slab.

Fig. 48.1
The four foot pieces are placed underneath the first MD-panel (forming face up).
Fig. 48.2
As soon as two panels are stacked, mount the two rear angles.
Fig. 48.3
Stack the panels from the front side. Place the last panel with forming face down.
Fig. 48.4
When the stack is complete, insert the front angles into the foot pieces, open the safety lever and lift it together with the angle to upright position. Then release the lever again.

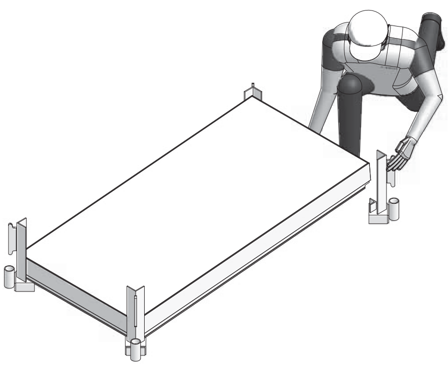

Fig. 48.1

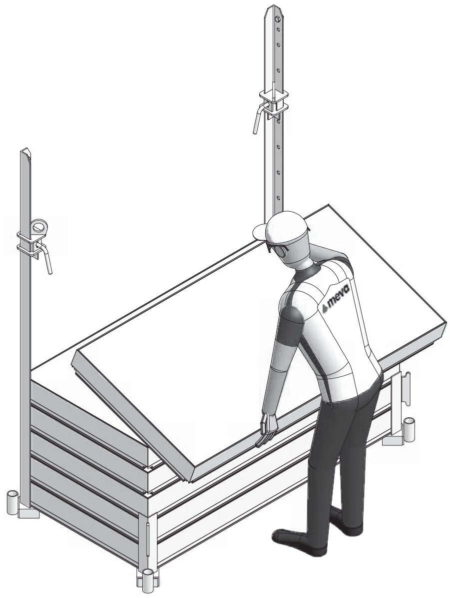

Fig. 48.2

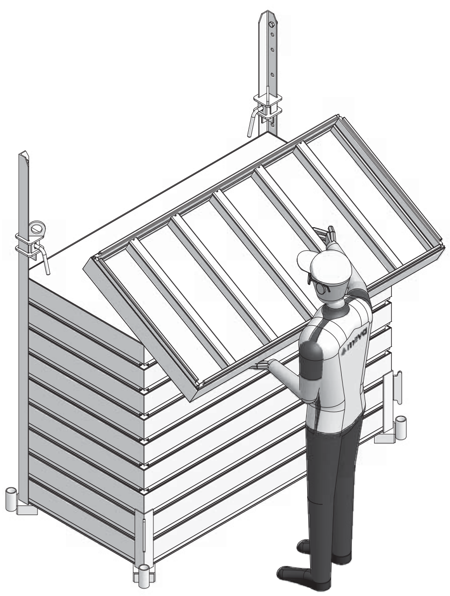

Fig. 48.3

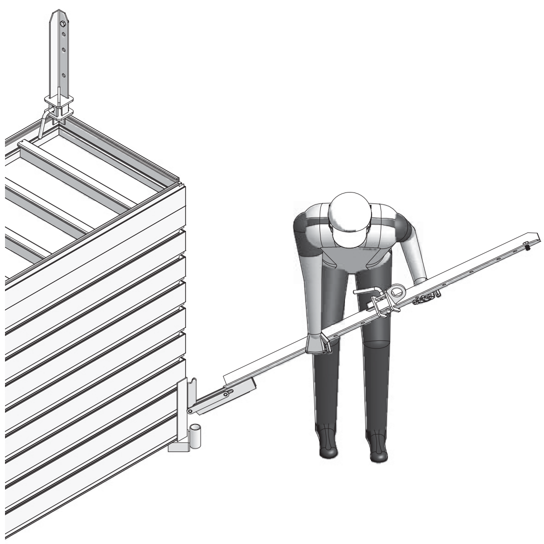

Fig. 48.4

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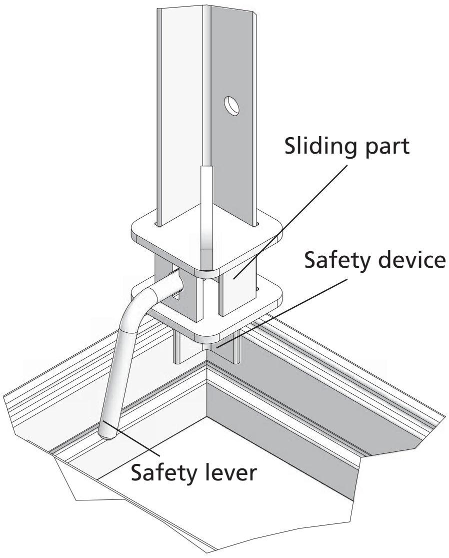

Fig. 49.1

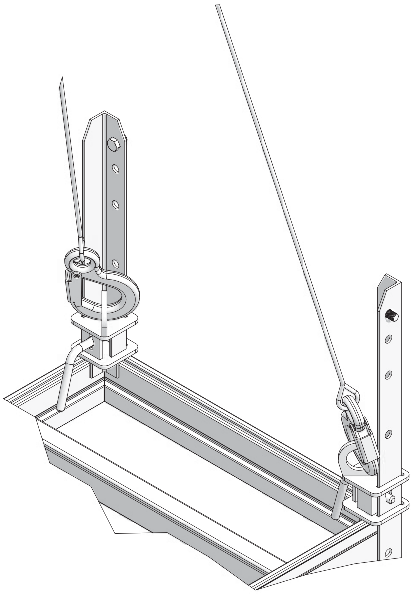

Fig. 49.2

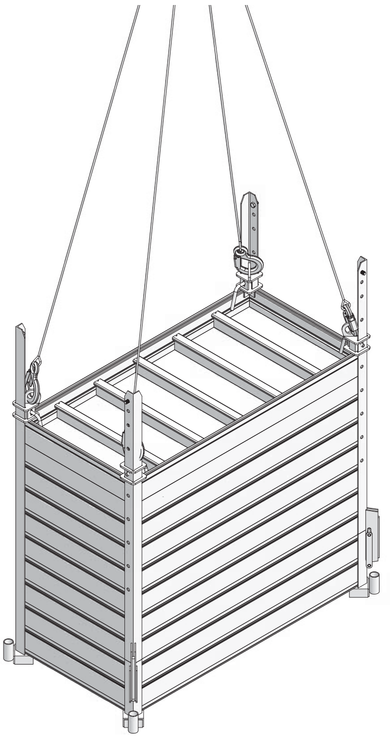

Fig. 49.3

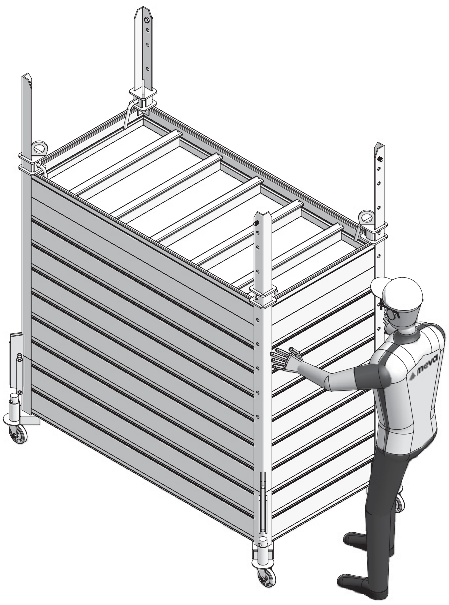

Fig. 49.4

Fig. 49.1 and 49.2
The two front angles are mounted as described under Fig. 48.4.
The sliding part with crane eye is directly attached above the top panel, allowing the safety device to engage in the frame corners (even if the pile is not completed).

Attention:
The safety lever must be tightly locked.

Fig. 49.3
Attach the four-rope crane slings.

Fig. 49.4
Equipped with four swivel-type castors 100, the stack of panels can be moved on the slab.

Attention:
Before transporting the panels make sure that the pins of the sliding part and the safety lever are locked.

Description	Ref.-No.
Transport angles 14	29-305-30
Transport angles14 rigid	29-305-35
Swivel-type castor 100	29-305-95

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Transport by truck

General rule:
One tension belt has to be used per 3'-6" (1.0 m) of load. A fully loaded semitrailer with a standard length of 48' (~14.0 m) requires at least 14 tension belts.

Loading of MEP:
To transport the MEP shoring system two belts are required per bundle or rack width (Fig. 50.1 and 50.2).

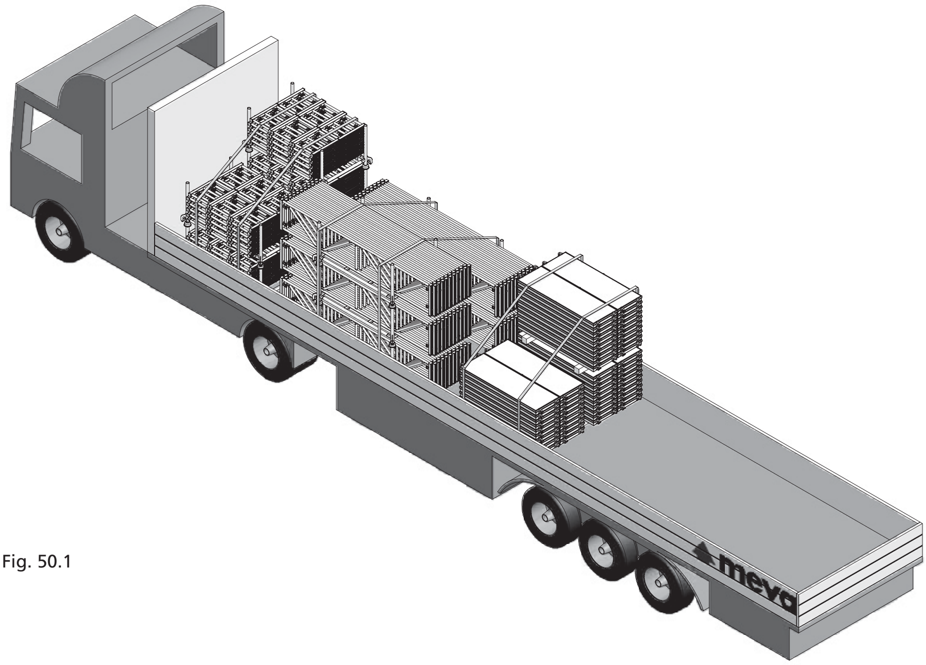

Fig. 50.1

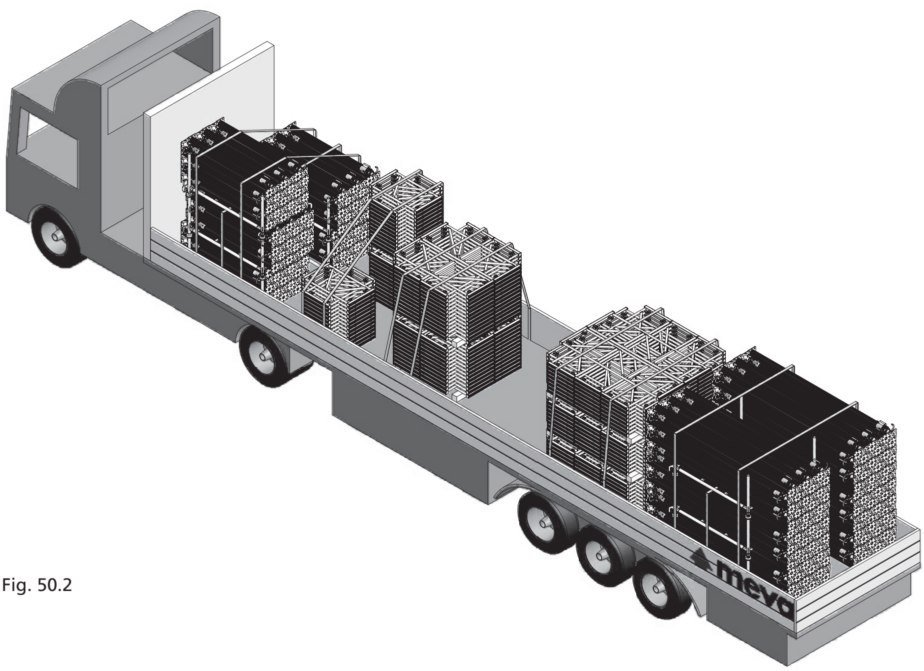

Fig. 50.2

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Rentals
We offer our customers the option of renting supplementary material during peak times. We also give prospective customers the chance to test MEVA formwork so they can see its benefits for themselves in actual use.

RentalPlus
Since MEVA started the flat rate for cleaning and repair of rented formwork systems in early 2000 more and more contractors experience the outstanding advantages. Ask our representatives about the details!

Formwork drawings
Of course, all offices in our technical department have CAD facili ties. You get expert, clearly represented plans and work cycle drawings.

MBS - MEVA Basic Support
MBS is an addition to AutoCAD, developed by MEVA Formwork Systems in 2000.
MBS is based on standard programs (AutoCAD and Excel) and can be used on any PC that has these two programs installed.
It includes pull down menues for AutoCAD and applications to ease forming. It also includes the possibility to create take-offs.

Special solutions
We can help with special parts, custom designed for your project, as a supplement to our formwork systems.

Static calculations
Generally, this is only necessary for applications like single-sided formwork where the anchor parts are embedded in the foundation or the base slab. If requested, we can perform static calculations for such applications at an additional charge.

meva

Notes

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