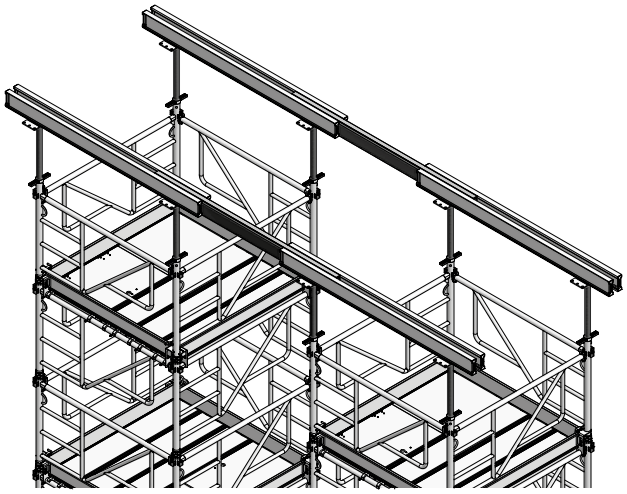
VarioMax

Technical Instruction Manual

meva



Product features

VarioMax is a lightweight and flexible support system for filigree slabs. The system consists of only three components: prop, double beam and slide-in beam. It convinces due to its low weight and simple handling and can be flexibly adapted to suit any building layout.

VarioMax is fully compatible with MEVA's props and shoring systems.

The calculations for VarioMax are based on DIN EN 12812.

The telescopic double and slide-in aluminium beams are lightweight, able to withstand high loads, durable and thus have a longer service life than H20 beams. Thanks to powder coating, there is less concrete adhesion, making the beams easier to clean.

The integrated mounting spikes determine the prop spacing and thus the position of the props. The use of VarioMax makes it unnecessary to add extra props just to be on the safe side and saves time, material and thus costs. The reduction of the number of props by up to 50% results in a reduction of labour costs of up to 40%. Additional components such as forked prop heads can also be dispensed with. In the best case, the prop spacing is 2.82 m and only four props are needed for a total stringer length of 8.77 m.

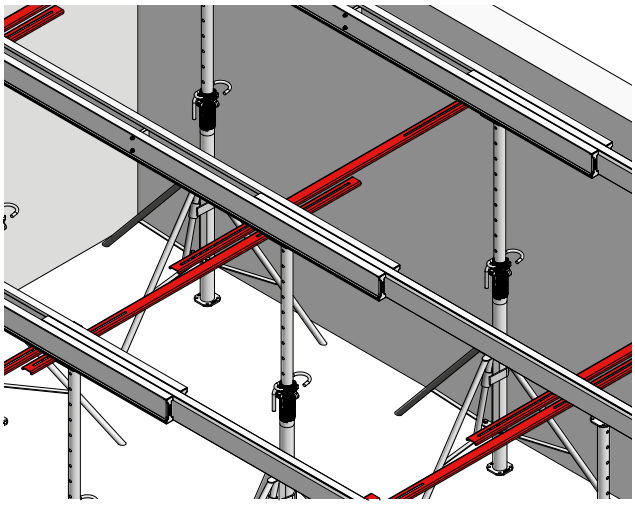
Formwork components must be visually inspected for damage before use. Damaged formwork components must not be installed. VarioMax is installed in the sequence described in the following sections.

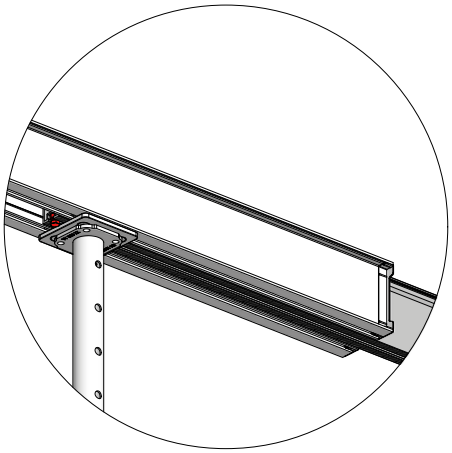
Abbreviations, measurements, figures and tables, etc.
The abbreviation VM is used for the VarioMax. DIN means Deutsche Industrie-Norm (German Industrial Standard). E DIN (E = Entwurf / draft) means that the DIN is in draft status and not yet approved. Any further abbreviations are explained where they are used for the first time.

TÜV means Technischer Überwachungsverein. This is the independent German organisation that tests the safety of technical installations, machinery and motor vehicles. If a product passes the test, it is permitted to carry the GS seal. GS stands for Geprüfte Sicherheit (approved safety).
Measurements: This manual uses the metric system, i.e. m (for metre), cm (for centimetre) and mm (for millimetre).

Non-defined dimensions are in cm.

The page numbers in this manual start with VM. The figures and tables are numbered per page. Depending on its product abbreviation, a cross reference in the text refers to a page, table or figure in this or in another manual. This is indicated by the product code with which the cross-reference begins.





Please note

This Technical Instruction Manual contains information, instructions and tips that describe how to use the MEVA equipment on the construction site in a proper, quick and economic way. Most examples shown are standard applications that will occur in practice most often. For more complicated or special applications not covered in this manual, please contact the MEVA experts for advice. They will help you without delay.

When using our products, the federal, state and local occupational health and safety regulations must be observed. Please observe the assembly instructions that your local contractor or employer has created for the site on which the MEVA equipment is used. Such instructions are intended to minimise site-specific risks and must contain the following details:

→ The order in which all working steps including assembly and disassembly must be carried out

→ The weight of the panels and other system parts

→ The type and number of ties and braces as well as the distance between them

→ The location, number and dimensions of working scaffolds including the working area and fall protection equipment required

→ Attachment points for panel transport by crane. With regard to panel transport, please observe this manual. Any deviation will require structural verification.

Important: Generally, only well-maintained material may be used. Damaged parts must be replaced. Use only original MEVA spare parts for replacement.

Contents

Overview

Filigree slab can be supported using three system components: the props and the aluminium double and slide-in beams (Figures 4.1 and 4.2).

Unlike stringers made of wood (Fig. 4.3), VarioMax has mounting spikes that are firmly connected to the beams and determine the prop spacing of 220 or 170 cm (Figures 4.1 and 4.2).

Slide-in beams can be pushed into the double beams, thus allowing the formwork to be flexibly adapted to suit any building layout.

The low own weight of the beams of, on average, 6.2 kg per running metre, the system's simple handling and the optimised number of props significantly reduces the amount of work involved.

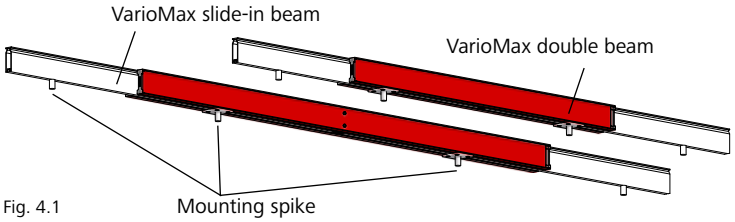


Fig. 4.1

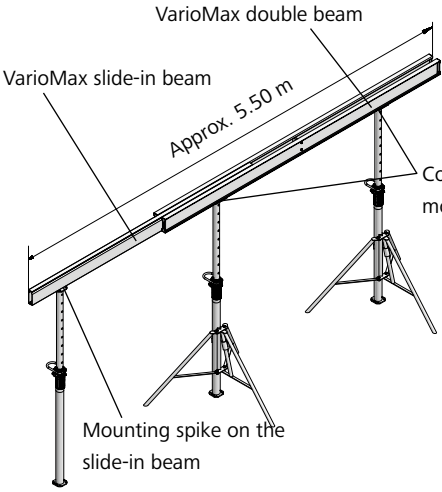


Fig. 4.2 VarioMax

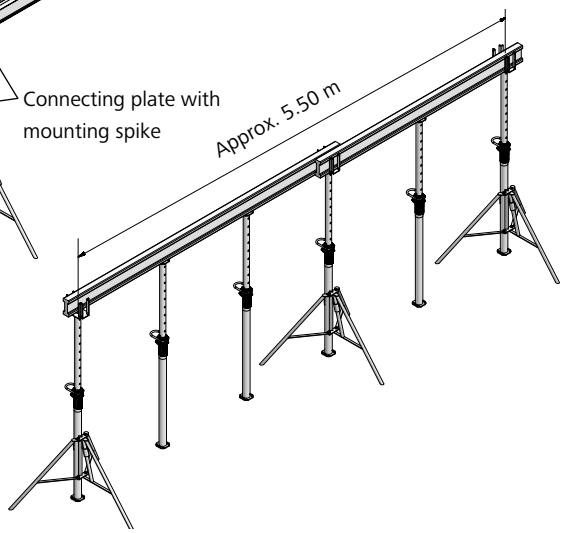


Fig. 4.3 Stringers made of wood

Installation example (Fig. 4.4):

80 EuMax props are required for a slab surface of 230 m² = 0.35 props/m².

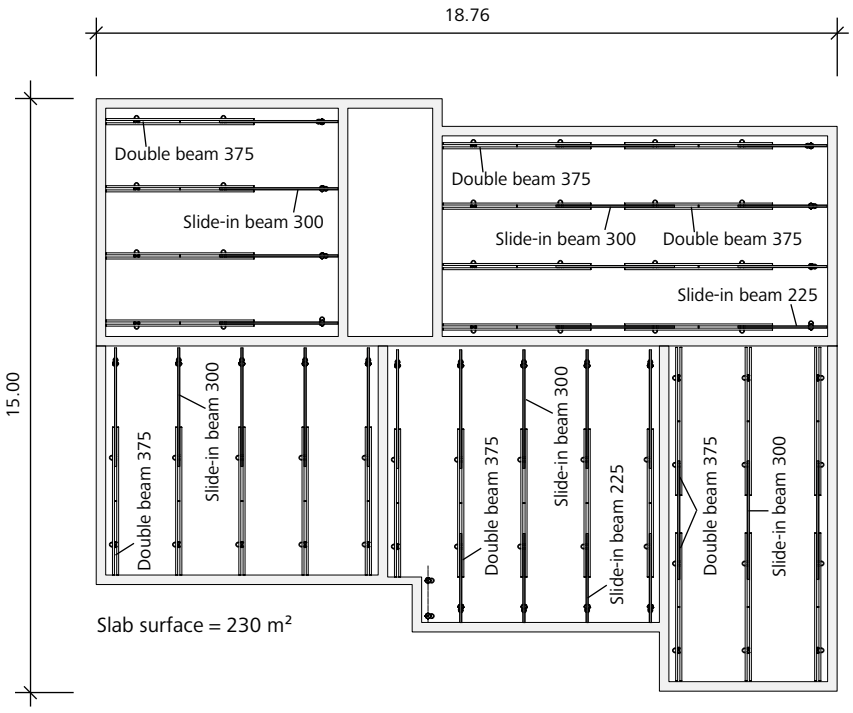


Fig. 4.4

The main VarioMax components

VarioMax double beam, aluminium, power-coated RAL 3020 (Traffic red).

Two lengths:

→ 3.75 m (Fig. 5.1), as basic element, with two mounting spikes 2.20 m apart for props. The beam is symmetrical and can be extended at both ends using slide-in beams.

→ 2.40 m (Fig. 5.2), supplementary to double beam 375, prop spacing 1.70 m for thicker slabs.

VarioMax slide-in beam, aluminium, power-coated RAL 9010 (Pure white).

Two lengths:

→ 3.00 m (Fig. 5.3), with mounting spike for prop. The slide-in beam is inserted into the double beam and permits stepless adjustment of the formwork to suit any room size.

→ 2.25 m (Fig. 5.4), with mounting spike for prop. The slide-in beam is inserted into the double beam and permits stepless adjustment of the formwork to suit any room size.

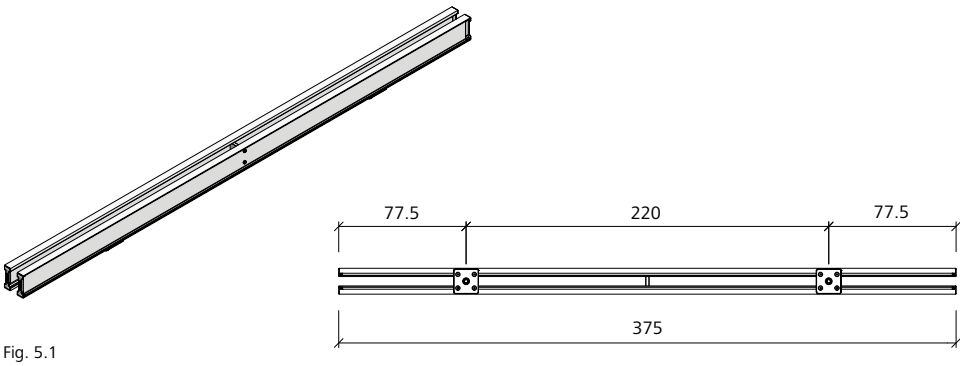


Fig. 5.1

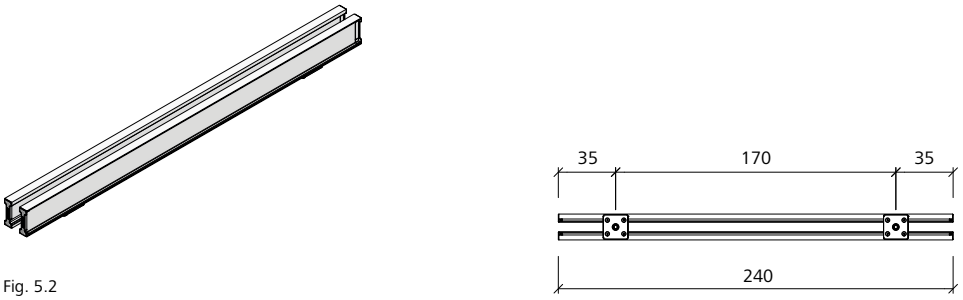


Fig. 5.2

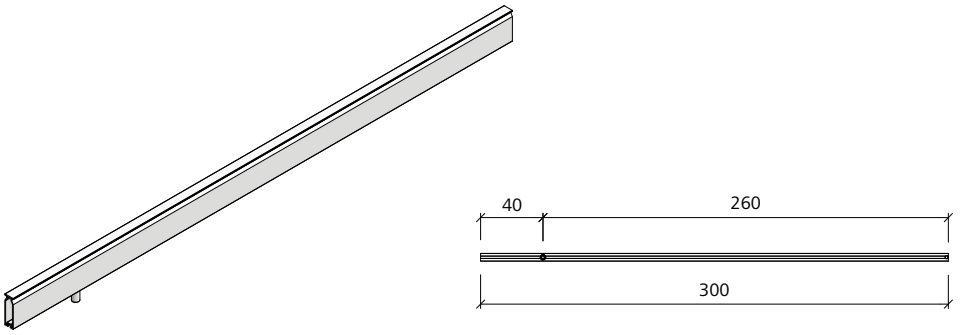


Fig. 5.3

Fig. 5.4

Description	Ref. No.
VarioMax double beam	
375	**29-217-10**
240	**29-217-20**
VarioMax slide-in beam	
300	**29-217-60**
225	**29-217-70**

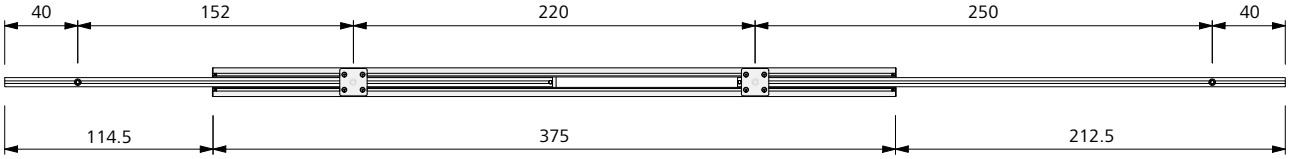
Perm. structural values	VarioMax double beam	VarioMax slide-in beam
Perm. bending moment (M_{perm})	12.90 kNm	7.71 kNm
Perm. lateral force (V_{perm})	21.80 kN	25.55 kN

Table 5.5 Structural values

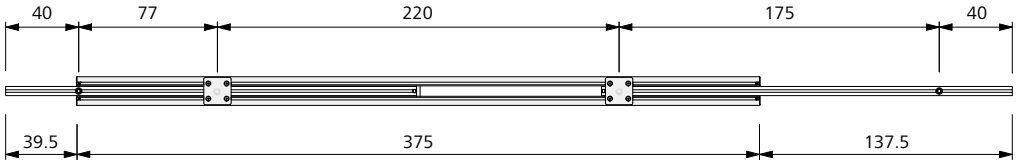
Beam combinations / overview of dimensions

Overview of dimensions – Minimum/maximum extension

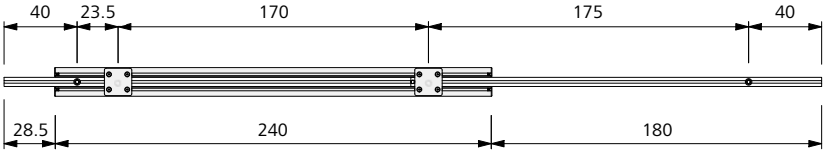
Double beam 375 +
slide-in beam 300



Double beam 375 +
slide-in beam 225



Double beam 240 +
slide-in beam 225



Support variants

VarioMax can be supported by stand-alone EuMax props (Fig. 7.1), stand-alone MEP props as well as by the MT 60 shoring tower (Fig. 7.2) or the MEP shoring tower (Fig. 7.3).

Important

→ For the maximum loading as a function of the beam combination, the slab thickness and the stringer spacing refer to tables VM-10 to 16.

→ When using stand-alone EuMax props, also observe the load charts VM-17 and -18.

→ When using the MT 60 shoring tower, individual MEP props and the MEP shoring tower, observe the respective Technical Instruction Manuals.

→ When using stand-alone props, the loading must always be verified.

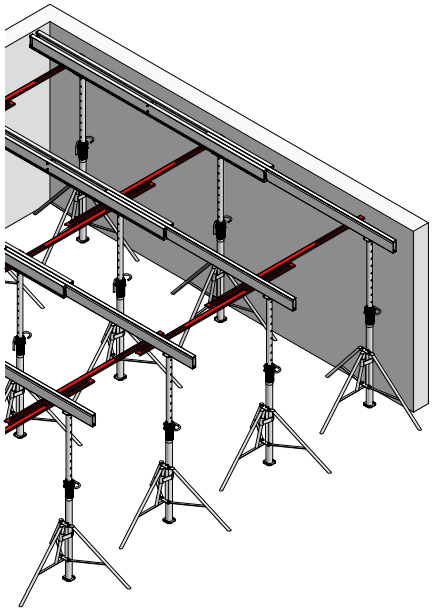


Fig. 7.1 Stand-alone EuMax props

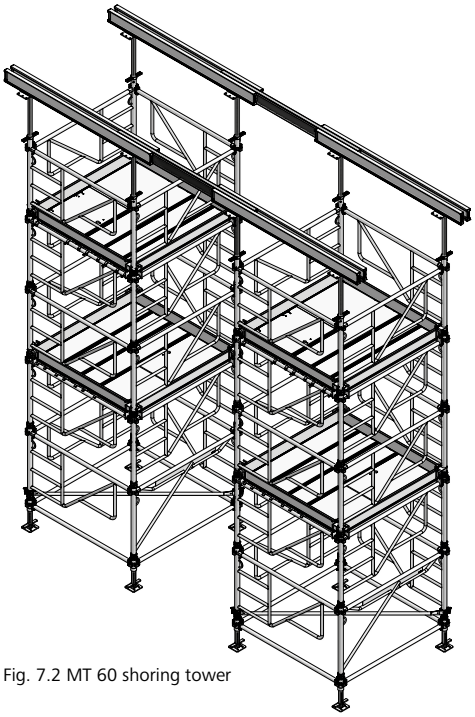


Fig. 7.2 MT 60 shoring tower

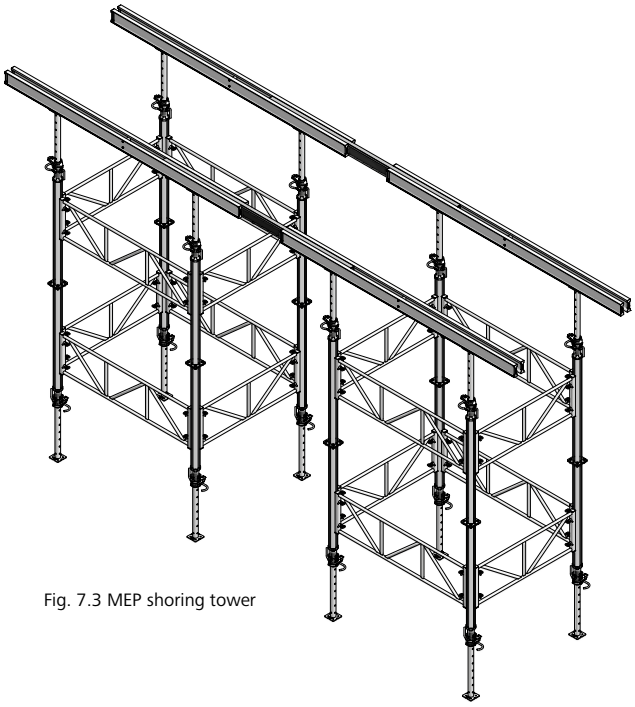


Fig. 7.3 MEP shoring tower

System installation

Steps for the installation using stand-alone props

1. Mark out the stringer spacings on the ground according to the formwork plan or the specification.
2. Place the VarioMax beams, props and tripods in the individual rooms in the quantities required at a distance of approx. half a meter from the stringer marking.
3. Pull out the props to the required length and place them on the stringer marking using the tripods so that they are spaced out according to the mounting spikes of the VarioMax double beams.
4. Place the double beams on the props first and then insert the slide-in beams (Fig. 8.1).
If a slide-in beam is located between two double beams, the slide-in beam's mounting spike can be pushed up as far as the double beam's mounting plate.
At the other end of the slide-in beam, the stop bolt defines the maximum prop spacing of the slide-in beam (Fig. 8.4).
5. Set the exact height using a levelling instrument, laser or measuring lath.

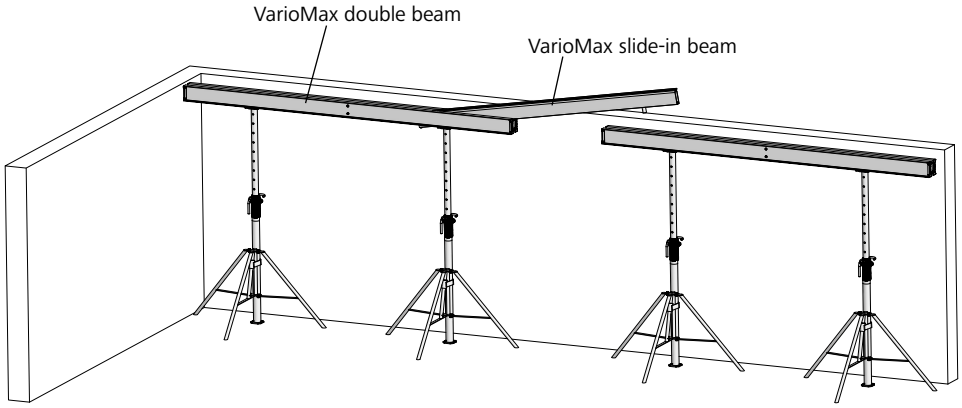


Fig. 8.1

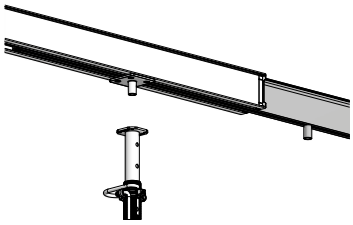


Fig. 8.2

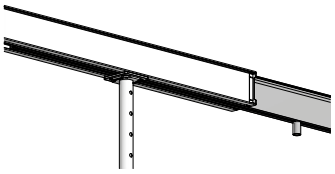


Fig. 8.3

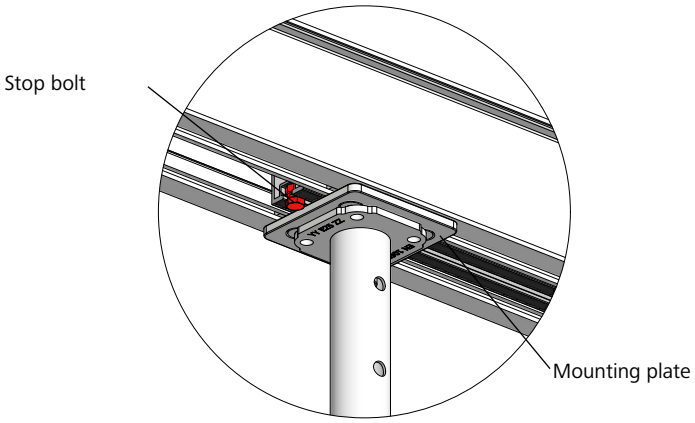


Fig. 8.4

Important

→ The maximum stringer spacings and directions defined in the slab layout plan must be adhered to.

Note

→ For the set-up using the MT 60 and MEP shoring towers,the respective Technical Instruction Manuals must also be observed.

VarioMax bracing rail

The aluminium VarioMax bracing rail enables VarioMax double beams or VarioMax slide-in beams to be securely connected to each other. The bracing rail is secured in the groove of the beam using the two integrated hammer-head screws (Figures 9.1 to 9.3).

→ Length: 2.48 m
→ Field of application: Stringer spacing from 1.00 m bis 2.40 m.

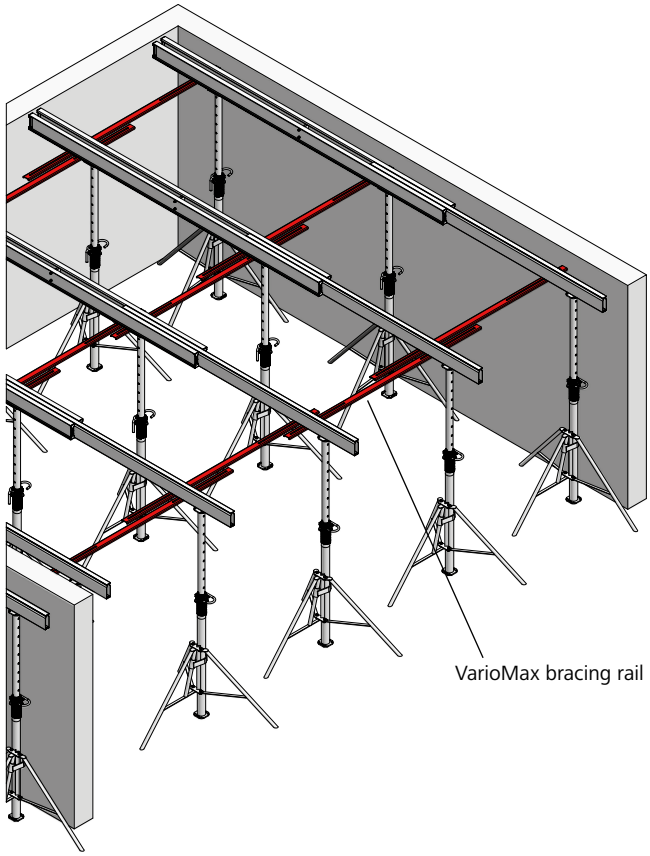


Fig. 9.1

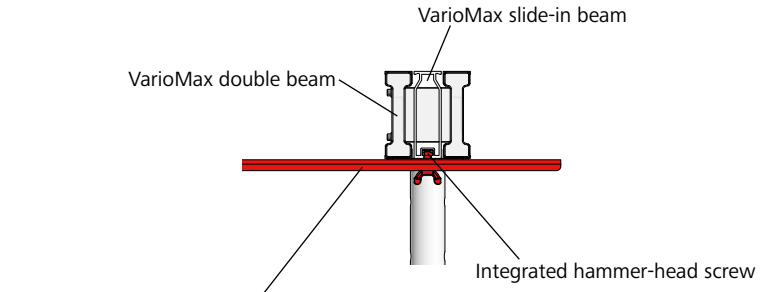


Fig. 9.2

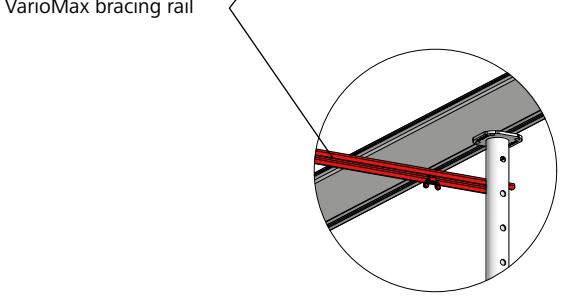


Fig. 9.3

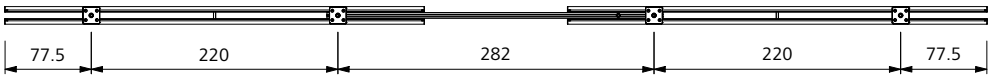
Description	Ref. No.
VarioMax bracing rail.....	**29-217-90**

Prop load

Prop load as a function of the beam combination, the slab thickness and the stringer spacing in kN/prop

Double beam at the slab edge – Maximum extension

Double beam 375 +
slide-in beam 300

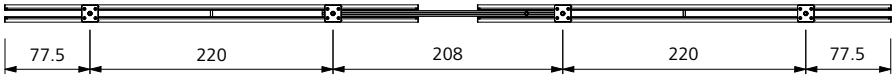


VarioMax double beam 375 + slide-in beam 300																	
Slab thickness (cm)		**16**	**18**	**20**	**22**	**24**	**25**	**26**	**28**	**30**	**32**	**34**	**35**	**36**	**38**	**40**	**42**
Stringer spacing e (m)	**1.00**	16.28	17.69	19.11	20.52	21.94	22.65	23.36	24.77	26.19	27.74	29.30	30.08	30.86	32.41	33.97	35.53
	1.10	17.91	19.46	21.02	22.58	24.13	24.91	25.69	27.25	28.81	30.52	32.23	33.09	33.94	35.66	37.37	39.08
	1.20	19.53	21.23	22.93	24.63	26.33	27.18	28.03	29.73	31.42	33.29	35.16	36.10	37.03	38.90		
	1.30	21.16	23.00	24.84	26.68	28.52	29.44	30.36	32.20	34.04	36.07	38.09	39.10				
	1.40	22.79	24.77	26.75	28.73	30.72	31.71	32.70	34.68	36.66	38.84						
	1.50	24.42	26.54	28.66	30.79	32.91	33.97	35.03	37.16	39.28							
	1.60	26.05	28.31	30.57	32.84	35.10	36.24	37.37	39.63								
	1.70	27.67	30.08	32.49	34.89	37.30	38.50	39.70									
	1.80	29.30	31.85	34.40	36.94	39.49											
	1.90	30.93	33.62	36.31	39.00												
	2.00	32.56	35.39	38.22													
	2.10	34.18	37.16														
	2.20	35.81	38.93														
	2.30	37.44															
	2.40	39.07															

Table 10.1

Double beam at the slab edge – Maximum extension

Double beam 375 +
slide-in beam 225



VarioMax double beam 375 + slide-in beam 225																	
Slab thickness (cm)		**16**	**18**	**20**	**22**	**24**	**25**	**26**	**28**	**30**	**32**	**34**	**35**	**36**	**38**	**40**	**42**
Stringer spacing e (m)	**1.00**	13.54	14.71	15.89	17.07	18.24	18.83	19.42	20.60	21.77	23.07	24.36	25.01	25.66	26.95	28.25	29.54
	1.10	14.89	16.18	17.48	18.77	20.07	20.72	21.36	22.66	23.95	25.38	26.80	27.51	28.22	29.65	31.07	32.50
	1.20	16.24	17.66	19.07	20.48	21.89	22.60	23.30	24.72	26.13	27.68	29.24	30.01	30.79	32.34	33.90	35.45
	1.30	17.60	19.13	20.66	22.19	23.72	24.48	25.25	26.78	28.31	29.99	31.67	32.51	33.36	35.04	36.72	38.41
	1.40	18.95	20.60	22.25	23.89	25.54	26.36	27.19	28.84	30.48	32.30	34.11	35.02	35.92	37.73	39.55	
	1.50	20.30	22.07	23.83	25.60	27.37	28.25	29.13	30.90	32.66	34.60	36.55	37.52	38.49			
	1.60	21.66	23.54	25.42	27.31	29.19	30.13	31.07	32.96	34.84	36.91	38.98					
	1.70	23.01	25.01	27.01	29.01	31.01	32.01	33.01	35.02	37.02	39.22						
	1.80	24.36	26.48	28.60	30.72	32.84	33.90	34.96	37.08	39.19							
	1.90	25.72	27.95	30.19	32.43	34.66	35.78	36.90	39.14								
	2.00	27.07	29.43	31.78	34.13	36.49	37.66	38.84									
	2.10	28.42	30.90	33.37	35.84	38.31	39.55										
	2.20	29.78	32.37	34.96	37.55												
	2.30	31.13	33.84	36.55	39.25												
	2.40	32.49	35.31	38.13													
	2.50	33.84	36.78	39.72													
	2.60	35.19	38.25														
	2.70	36.55	39.72														
	2.80	37.90															
	2.90	39.25															

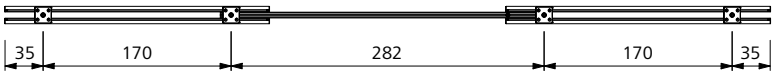
Table 10.2

Prop load

Prop load as a function of the beam combination, the slab thickness and the stringer spacing in kN/prop

Double beam at the slab edge – Maximum extension

Double beam 240 +
slide-in beam 300

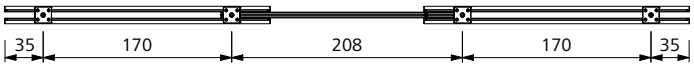


VarioMax double beam 240 + slide-in beam 300																	
Slab thickness (cm)		**16**	**18**	**20**	**22**	**24**	**25**	**26**	**28**	**30**	**32**	**34**	**35**	**36**	**38**	**40**	**42**
Stringer spacing e (m)	**1.00**	14.67	15.94	17.22	18.49	19.77	20.41	21.05	22.32	23.60	25.00	26.40	27.10	27.81	29.21	30.61	32.02
	1.10	16.14	17.54	18.94	20.34	21.75	22.45	23.15	24.55	25.96	27.50	29.04	29.81	30.59			
	1.20	17.60	19.13	20.66	22.19	23.72	24.49	25.25	26.79	28.32	30.00	31.68					
	1.30	19.07	20.73	22.39	24.04	25.70	26.53	27.36	29.02	30.68							
	1.40	20.54	22.32	24.11	25.89	27.68	28.57	29.46	31.25								
	1.50	22.00	23.92	25.83	27.74	29.66	30.61	31.57									
	1.60	23.47	25.51	27.55	29.59	31.63											
	1.70	24.94	27.10	29.27	31.44												
	1.80	26.40	28.70	30.99													
	1.90	27.87	30.29														
	2.00	29.34	31.89														
	2.10	30.80															

Table 11.1

Double beam at the slab edge – Maximum extension

Double beam 240 +
slide-in beam 225



VarioMax double beam 240 + slide-in beam 225																	
Slab thickness (cm)		**16**	**18**	**20**	**22**	**24**	**25**	**26**	**28**	**30**	**32**	**34**	**35**	**36**	**38**	**40**	**42**
Stringer spacing e (m)	**1.00**	12.06	13.11	14.16	15.21	16.26	16.78	17.31	18.36	19.41	20.56	21.71	22.29	22.87	24.02	25.18	26.33
	1.10	13.27	14.42	15.58	16.73	17.89	18.46	19.04	20.19	21.35	22.62	23.89	24.52	25.16	26.42	27.69	28.96
	1.20	14.48	15.74	16.99	18.25	19.51	20.14	20.77	22.03	23.29	24.67	26.06	26.75	27.44	28.83	30.21	31.60
	1.30	15.68	17.05	18.41	19.77	21.14	21.82	22.50	23.86	25.23	26.73	28.23	28.98	29.73	31.23	32.73	34.23
	1.40	16.89	18.36	19.83	21.29	22.76	23.50	24.23	25.70	27.17	28.78	30.40	31.21	32.02	33.63	35.25	36.86
	1.50	18.10	19.67	21.24	22.82	24.39	25.18	25.96	27.54	29.11	30.84	32.57	33.44	34.30	36.03	37.76	39.49
	1.60	19.30	20.98	22.66	24.34	26.02	26.85	27.69	29.37	31.05	32.90	34.74	35.67	36.59	38.44		
	1.70	20.51	22.29	24.07	25.86	27.64	28.53	29.42	31.21	32.99	34.95	36.91	37.90	38.88			
	1.80	21.71	23.60	25.49	27.38	29.27	30.21	31.16	33.04	34.93	37.01	39.09					
	1.90	22.92	24.91	26.91	28.90	30.89	31.89	32.89	34.88	36.87	39.06						
	2.00	24.13	26.23	28.32	30.42	32.52	33.57	34.62	36.72	38.81							
	2.10	25.33	27.54	29.74	31.94	34.14	35.25	36.35	38.55								
	2.20	26.54	28.85	31.16	33.46	35.77	36.92	38.08									
	2.30	27.75	30.16	32.57	34.98	37.40	38.60	39.81									
	2.40	28.95	31.47	33.99	36.51	39.02											
	2.50	30.16	32.78	35.40	38.03												
	2.60	31.37	34.09	36.82	39.55												
	2.70	32.57	35.40	38.24													
	2.80	33.78	36.72	39.65													
	2.90	34.98	38.03														
	3.00	36.19	39.34														

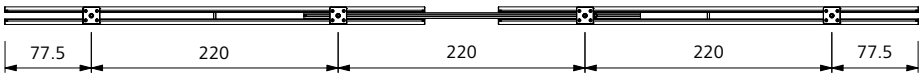
Table 11.2

Prop load

Prop load as a function of the beam combination, the slab thickness and the stringer spacing in kN/prop

Double beam at the slab edge – Extension 220 cm

Double beam 375 +
slide-in beam 300

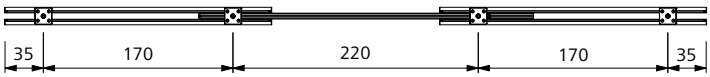


VarioMax double beam 375 + slide-in beam 300																	
Slab thickness (cm)		**16**	**18**	**20**	**22**	**24**	**25**	**26**	**28**	**30**	**32**	**34**	**35**	**36**	**38**	**40**	**42**
Stringer spacing e (m)	**1.00**	13.95	15.16	16.38	17.59	18.80	19.41	20.01	21.23	22.44	23.77	25.11	25.78	26.44	27.78	29.11	30.45
	1.10	15.34	16.68	18.01	19.35	20.68	21.35	22.02	23.35	24.68	26.15	27.62	28.35	29.09	30.56	32.02	33.49
	1.20	16.74	18.20	19.65	21.11	22.56	23.29	24.02	25.47	26.93	28.53	30.13	30.93	31.73	33.33	34.93	36.54
	1.30	18.13	19.71	21.29	22.87	24.44	25.23	26.02	27.60	29.17	30.91	32.64	33.51	34.38	36.11	37.85	39.58
	1.40	19.53	21.23	22.93	24.62	26.32	27.17	28.02	29.72	31.42	33.28	35.15	36.09	37.02	38.89		
	1.50	20.92	22.74	24.56	26.38	28.20	29.11	30.02	31.84	33.66	35.66	37.66	38.66	39.67			
	1.60	22.32	24.26	26.20	28.14	30.08	31.05	32.02	33.96	35.90	38.04						
	1.70	23.71	25.78	27.84	29.90	31.96	32.99	34.02	36.09	38.15							
	1.80	25.11	27.29	29.48	31.66	33.84	34.93	36.03	38.21								
	1.90	26.50	28.81	31.11	33.42	35.72	36.88	38.03									
	2.00	27.90	30.33	32.75	35.18	37.60	38.82										
	2.10	29.29	31.84	34.39	36.94	39.48											
	2.20	30.69	33.36	36.03	38.69												
	2.30	32.08	34.87	37.66													
	2.40	33.48	36.39	39.30													
	2.50	34.87	37.91														
	2.60	36.27	39.42														
	2.70	37.66															
	2.80	39.06															

Table 12.1

Double beam at the slab edge – Extension 220 cm

Double beam 240 +
slide-in beam 300



VarioMax double beam 240 + slide-in beam 300																	
Slab thickness (cm)		**16**	**18**	**20**	**22**	**24**	**25**	**26**	**28**	**30**	**32**	**34**	**35**	**36**	**38**	**40**	**42**
Stringer spacing e (m)	**1.00**	12.49	13.58	14.67	15.75	16.84	17.38	17.93	19.01	20.10	21.30	22.49	23.09	23.69	24.88	26.08	27.27
	1.10	13.74	14.94	16.13	17.33	18.52	19.12	19.72	20.92	22.11	23.42	24.74	25.40	26.05	27.37	28.68	30.00
	1.20	14.99	16.30	17.60	18.91	20.21	20.86	21.51	22.82	24.12	25.55	26.99	27.71	28.42	29.86	31.29	32.73
	1.30	16.24	17.66	19.07	20.48	21.89	22.60	23.31	24.72	26.13	27.68	29.24	30.01	30.79	32.35	33.90	35.45
	1.40	17.49	19.01	20.53	22.06	23.58	24.34	25.10	26.62	28.14	29.81	31.49	32.32	33.16	34.83	36.51	38.18
	1.50	18.74	20.37	22.00	23.63	25.26	26.08	26.89	28.52	30.15	31.94	33.74	34.63	35.53	37.32	39.11	
	1.60	19.99	21.73	23.47	25.21	26.95	27.81	28.68	30.42	32.16	34.07	35.98	36.94	37.90	39.81		
	1.70	21.24	23.09	24.94	26.78	28.63	29.55	30.48	32.32	34.17	36.20	38.23	39.25				
	1.80	22.49	24.45	26.40	28.36	30.31	31.29	32.27	34.22	36.18	38.33						
	1.90	23.74	25.80	27.87	29.93	32.00	33.03	34.06	36.13	38.19							
	2.00	24.99	27.16	29.34	31.51	33.68	34.77	35.85	38.03								
	2.10	26.24	28.52	30.80	33.08	35.37	36.51	37.65	39.93								
	2.20	27.49	29.88	32.27	34.66	37.05	38.24	39.44									
	2.30	28.74	31.24	33.74	36.23	38.73	39.98										
	2.40	29.99	32.60	35.20	37.81												
	2.50	31.24	33.95	36.67	39.39												
	2.60	32.49	35.31	38.14													
	2.70	33.74	36.67	39.60													
	2.80	34.99	38.03														
	2.90	36.23	39.39														
	3.00	37.48															

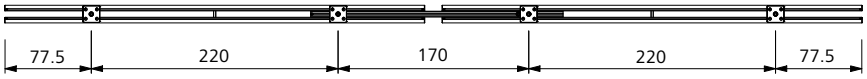
Table 12.2

Prop load

Prop load as a function of the beam combination, the slab thickness and the stringer spacing in kN/prop

Double beam at the slab edge – Extension 170 cm

Double beam 375 +
slide-in beam 225

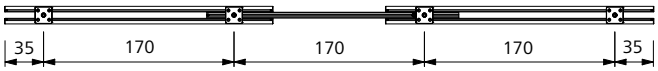


VarioMax double beam 375 + slide-in beam 225																	
Slab thickness (cm)		**16**	**18**	**20**	**22**	**24**	**25**	**26**	**28**	**30**	**32**	**34**	**35**	**36**	**38**	**40**	**42**
Stringer spacing e (m)	**1.00**	12.28	13.34	14.41	15.48	16.55	17.08	17.61	18.68	19.75	20.92	22.10	22.68	23.27	24.45	25.62	26.79
	1.10	13.50	14.68	15.85	17.03	18.20	18.79	19.38	20.55	21.72	23.02	24.31	24.95	25.60	26.89	28.18	29.47
	1.20	14.73	16.01	17.29	18.57	19.86	20.50	21.14	22.42	23.70	25.11	26.52	27.22	27.93	29.33	30.74	32.15
	1.30	15.96	17.35	18.73	20.12	21.51	22.20	22.90	24.29	25.67	27.20	28.73	29.49	30.25	31.78	33.31	34.83
	1.40	17.19	18.68	20.18	21.67	23.16	23.91	24.66	26.15	27.65	29.29	30.94	31.76	32.58	34.22	35.87	37.51
	1.50	18.41	20.02	21.62	23.22	24.82	25.62	26.42	28.02	29.62	31.38	33.15	34.03	34.91	36.67	38.43	
	1.60	19.64	21.35	23.06	24.77	26.47	27.33	28.18	29.89	31.60	33.48	35.36	36.30	37.23			
	1.70	20.87	22.68	24.50	26.31	28.13	29.04	29.94	31.76	33.57	35.57	37.57	38.56				
	1.80	22.10	24.02	25.94	27.86	29.78	30.74	31.70	33.63	35.55	37.66						
	1.90	23.32	25.35	27.38	29.41	31.44	32.45	33.47	35.49	37.52							
	2.00	24.55	26.69	28.82	30.96	33.09	34.16	35.23	37.36								
	2.10	25.78	28.02	30.26	32.51	34.75	35.87	36.99									
	2.20	27.01	29.36	31.70	34.05	36.40	37.58	38.75									
	2.30	28.24	30.69	33.15	35.60	38.06											
	2.40	29.46	32.03	34.59	37.15												
	2.50	30.69	33.36	36.03	38.70												
	2.60	31.92	34.69	37.47													
	2.70	33.15	36.03	38.91													
	2.80	34.37	37.36														
	2.90	35.60	38.70														
	3.00	36.83															

Table 13.1

Double beam at the slab edge – Extension 170 cm

Double beam 240 +
slide-in beam 225



VarioMax double beam 240 + slide-in beam 225																	
Slab thickness (cm)		**16**	**18**	**20**	**22**	**24**	**25**	**26**	**28**	**30**	**32**	**34**	**35**	**36**	**38**	**40**	**42**
Stringer spacing e (m)	**1.00**	9.60	10.43	11.27	12.10	12.93	13.35	13.77	14.60	15.44	16.36	17.27	17.73	18.19	19.11	20.03	20.95
	1.10	10.56	11.47	12.39	13.31	14.23	14.69	15.15	16.06	16.98	17.99	19.00	19.51	20.01	21.02	22.03	23.04
	1.20	11.52	12.52	13.52	14.52	15.52	16.02	16.52	17.52	18.53	19.63	20.73	21.28	21.83	22.93	24.03	25.14
	1.30	12.48	13.56	14.65	15.73	16.82	17.36	17.90	18.98	20.07	21.26	22.46	23.05	23.65	24.84	26.04	27.23
	1.40	13.44	14.60	15.77	16.94	18.11	18.69	19.28	20.45	21.61	22.90	24.18	24.83	25.47	26.75	28.04	29.32
	1.50	14.40	15.65	16.90	18.15	19.40	20.03	20.65	21.91	23.16	24.53	25.91	26.60	27.29	28.67	30.04	31.42
	1.60	15.35	16.69	18.03	19.36	20.70	21.36	22.03	23.37	24.70	26.17	27.64	28.37	29.11	30.58	32.04	
	1.70	16.31	17.73	19.15	20.57	21.99	22.70	23.41	24.83	26.25	27.81	29.37	30.15	30.93	32.49		
	1.80	17.27	18.78	20.28	21.78	23.28	24.03	24.78	26.29	27.79	29.44	31.09	31.92				
	1.90	18.23	19.82	21.40	22.99	24.58	25.37	26.16	27.75	29.33	31.08						
	2.00	19.19	20.86	22.53	24.20	25.87	26.70	27.54	29.21	30.88							
	2.10	20.15	21.91	23.66	25.41	27.16	28.04	28.92	30.67	32.42							
	2.20	21.11	22.95	24.78	26.62	28.46	29.37	30.29	32.13								
	2.30	22.07	23.99	25.91	27.83	29.75	30.71	31.67									
	2.40	23.03	25.04	27.04	29.04	31.04	32.04										
	2.50	23.99	26.08	28.16	30.25	32.34											
	2.60	24.95	27.12	29.29	31.46												
	2.70	25.91	28.16	30.42													
	2.80	26.87	29.21	31.54													
	2.90	27.83	30.25														
	3.00	28.79	31.29														

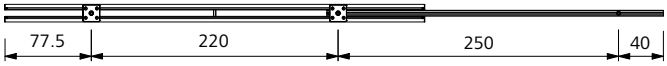
Table 13.2

Prop load

Prop load as a function of the beam combination, the slab thickness and the stringer spacing in kN/prop

Slide-in beam at the slab edge – Maximum extension

Double beam 375 +
slide-in beam 300

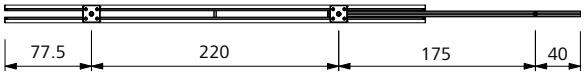


VarioMax double beam 375 + slide-in beam 300																	
Slab thickness (cm)		**16**	**18**	**20**	**22**	**24**	**25**	**26**	**28**	**30**	**32**	**34**	**35**	**36**	**38**	**40**	**42**
Stringer spacing e (m)	**1.00**	17.37	18.88	20.39	21.90	23.41	24.16	24.92	26.43	27.94	29.60	31.26	32.09	32.92	34.58	36.24	37.90
	1.10	19.10	20.76	22.42	24.08	25.75	26.58	27.41	29.07	30.73	32.56	34.38	35.30	36.21	38.04	39.86	
	1.20	20.84	22.65	24.46	26.27	28.09	28.99	29.90	31.71	33.52	35.52	37.51	38.51	39.50			
	1.30	22.57	24.54	26.50	28.46	30.43	31.41	32.39	34.35	36.32	38.47						
	1.40	24.31	26.43	28.54	30.65	32.77	33.82	34.88	37.00	39.11							
	1.50	26.05	28.31	30.58	32.84	35.11	36.24	37.37	39.64								
	1.60	27.78	30.20	32.62	35.03	37.45	38.66	39.86									
	1.70	29.52	32.09	34.65	37.22	39.79											
	1.80	31.26	33.98	36.69	39.41												
	1.90	32.99	35.86	38.73													
	2.00	34.73	37.75														
	2.10	36.47	39.64														
	2.20	38.20															
	2.30	39.94															

Table 14.1

Slide-in beam at the slab edge – Maximum extension

Double beam 375 +
slide-in beam 225



VarioMax double beam 375 + slide-in beam 225																	
Slab thickness (cm)		**16**	**18**	**20**	**22**	**24**	**25**	**26**	**28**	**30**	**32**	**34**	**35**	**36**	**38**	**40**	**42**
Stringer spacing e (m)	**1.00**	14.05	15.27	16.49	17.71	18.93	19.54	20.15	21.38	22.60	23.94	25.29	25.96	26.63	27.97	29.32	30.66
	1.10	15.45	16.80	18.14	19.48	20.83	21.50	22.17	23.51	24.86	26.34	27.81	28.55	29.29	30.77	32.25	33.73
	1.20	16.86	18.32	19.79	21.25	22.72	23.45	24.19	25.65	27.12	28.73	30.34	31.15	31.95	33.57	35.18	36.79
	1.30	18.26	19.85	21.44	23.03	24.61	25.41	26.20	27.79	29.38	31.12	32.87	33.74	34.62	36.36	38.11	39.86
	1.40	19.67	21.38	23.09	24.80	26.51	27.36	28.22	29.93	31.64	33.52	35.40	36.34	37.28	39.16		
	1.50	21.07	22.90	24.74	26.57	28.40	29.32	30.23	32.06	33.90	35.91	37.93	38.94	39.94			
	1.60	22.48	24.43	26.38	28.34	30.29	31.27	32.25	34.20	36.16	38.31						
	1.70	23.88	25.96	28.03	30.11	32.19	33.22	34.26	36.34	38.42							
	1.80	25.29	27.48	29.68	31.88	34.08	35.18	36.28	38.48								
	1.90	26.69	29.01	31.33	33.65	35.97	37.13	38.29									
	2.00	28.09	30.54	32.98	35.42	37.87	39.09										
	2.10	29.50	32.06	34.63	37.19	39.76											
	2.20	30.90	33.59	36.28	38.97												
	2.30	32.31	35.12	37.93													
	2.40	33.71	36.65	39.58													
	2.50	35.12	38.17														
	2.60	36.52	39.70														
	2.70	37.93															
	2.80	39.33															

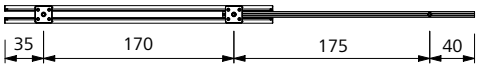
Table 14.2

Prop load

Prop load as a function of the beam combination, the slab thickness and the stringer spacing in kN/prop

Slide-in beam at the slab edge – Maximum extension

Double beam 240 +
slide-in beam 225

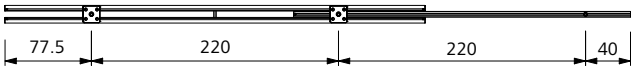


VarioMax double beam 240 + slide-in beam 225																	
Slab thickness (cm)		**16**	**18**	**20**	**22**	**24**	**25**	**26**	**28**	**30**	**32**	**34**	**35**	**36**	**38**	**40**	**42**
Stringer spacing e (m)	**1.00**	9.93	10.79	11.66	12.52	13.38	13.82	14.25	15.11	15.97	16.92	17.87	18.35	18.82	19.77	20.72	
	1.10	10.92	11.87	12.82	13.77	14.72	15.20	15.67	16.62	17.57	18.62	19.66	20.18	20.71			
	1.20	11.92	12.95	13.99	15.02	16.06	16.58	17.10	18.13	19.17	20.31	21.45					
	1.30	12.91	14.03	15.15	16.28	17.40	17.96	18.52	19.64	20.77							
	1.40	13.90	15.11	16.32	17.53	18.74	19.34	19.95	21.16								
	1.50	14.90	16.19	17.49	18.78	20.08	20.72	21.37									
	1.60	15.89	17.27	18.65	20.03	21.41											
	1.70	16.88	18.35	19.82	21.29												
	1.80	17.87	19.43	20.98													
	1.90	18.87	20.51														
	2.00	19.86															
	2.10	20.85															

Table 15.1

Slide-in beam at the slab edge – Extension 220 cm

Double beam 375 +
slide-in beam 300



VarioMax double beam 375 + slide-in beam 300																	
Slab thickness (cm)		**16**	**18**	**20**	**22**	**24**	**25**	**26**	**28**	**30**	**32**	**34**	**35**	**36**	**38**	**40**	**42**
Stringer spacing e (m)	**1.00**	16.08	17.48	18.87	20.27	21.67	22.37	23.07	24.47	25.86	27.40	28.94	29.71	30.48	32.01	33.55	35.09
	1.10	17.68	19.22	20.76	22.30	23.84	24.60	25.37	26.91	28.45	30.14	31.83	32.68	33.52	35.22	36.91	38.60
	1.20	19.29	20.97	22.65	24.33	26.00	26.84	27.68	29.36	31.04	32.88	34.73	35.65	36.57	38.42		
	1.30	20.90	22.72	24.53	26.35	28.17	29.08	29.99	31.80	33.62	35.62	37.62	38.62	39.62			
	1.40	22.51	24.47	26.42	28.38	30.34	31.32	32.29	34.25	36.21	38.36						
	1.50	24.12	26.21	28.31	30.41	32.50	33.55	34.60	36.70	38.79							
	1.60	25.72	27.96	30.20	32.43	34.67	35.79	36.91	39.14								
	1.70	27.33	29.71	32.08	34.46	36.84	38.03	39.21									
	1.80	28.94	31.46	33.97	36.49	39.00											
	1.90	30.55	33.20	35.86	38.51												
	2.00	32.15	34.95	37.75													
	2.10	33.76	36.70	39.63													
	2.20	35.37	38.45														
	2.30	36.98															
	2.40	38.58															

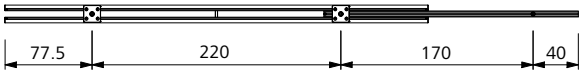
Table 15.2

Prop load

Prop load as a function of the beam combination, the slab thickness and the stringer spacing in kN/prop

Slide-in beam at the slab edge – Extension 170 cm

Double beam 375 +
slide-in beam 225

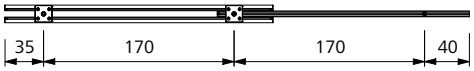


VarioMax double beam 240 + slide-in beam 225																	
Slab thickness (cm)		**16**	**18**	**20**	**22**	**24**	**25**	**26**	**28**	**30**	**32**	**34**	**35**	**36**	**38**	**40**	**42**
Stringer spacing e (m)	**1.00**	14.27	15.51	16.75	17.99	19.24	19.86	20.48	21.72	22.96	24.32	25.69	26.37	27.05	28.42	29.78	31.15
	1.10	15.70	17.06	18.43	19.79	21.16	21.84	22.52	23.89	25.25	26.76	28.26	29.01	29.76	31.26	32.76	34.26
	1.20	17.13	18.62	20.10	21.59	23.08	23.83	24.57	26.06	27.55	29.19	30.83	31.65	32.46	34.10	35.74	37.38
	1.30	18.55	20.17	21.78	23.39	25.01	25.81	26.62	28.23	29.85	31.62	33.40	34.28	35.17	36.94	38.72	
	1.40	19.98	21.72	23.45	25.19	26.93	27.80	28.67	30.40	32.14	34.05	35.96	36.92	37.88	39.79		
	1.50	21.41	23.27	25.13	26.99	28.85	29.78	30.71	32.58	34.44	36.49	38.53	39.56				
	1.60	22.83	24.82	26.81	28.79	30.78	31.77	32.76	34.75	36.73	38.92						
	1.70	24.26	26.37	28.48	30.59	32.70	33.76	34.81	36.92	39.03							
	1.80	25.69	27.92	30.16	32.39	34.62	35.74	36.86	39.09								
	1.90	27.12	29.47	31.83	34.19	36.55	37.73	38.91									
	2.00	28.54	31.03	33.51	35.99	38.47	39.71										
	2.10	29.97	32.58	35.18	37.79												
	2.20	31.40	34.13	36.86	39.59												
	2.30	32.82	35.68	38.53													
	2.40	34.25	37.23														
	2.50	35.68	38.78														
	2.60	37.11															
	2.70	38.53															
	2.80	39.96															

Table 16.1

Slide-in beam at the slab edge – Extension 170 cm

Double beam 240 +
slide-in beam 225



VarioMax double beam 240 + slide-in beam 225																	
Slab thickness (cm)		**16**	**18**	**20**	**22**	**24**	**25**	**26**	**28**	**30**	**32**	**34**	**35**	**36**	**38**	**40**	**42**
Stringer spacing e (m)	**1.00**	9.78	10.63	11.48	12.33	13.18	13.60	14.03	14.88	15.73	16.66	17.60	18.06	18.53	19.47	20.40	21.34
	1.10	10.75	11.69	12.62	13.56	14.49	14.96	15.43	16.36	17.30	18.33	19.35	19.87	20.38	21.41	22.44	23.47
	1.20	11.73	12.75	13.77	14.79	15.81	16.32	16.83	17.85	18.87	19.99	21.11	21.68	22.24	23.36	24.48	25.60
	1.30	12.71	13.81	14.92	16.02	17.13	17.68	18.23	19.34	20.44	21.66	22.87	23.48	24.09	25.30	26.52	27.74
	1.40	13.69	14.88	16.07	17.26	18.45	19.04	19.64	20.83	22.02	23.32	24.63	25.29	25.94	27.25	28.56	29.87
	1.50	14.66	15.94	17.21	18.49	19.76	20.40	21.04	22.31	23.59	24.99	26.39	27.09	27.80	29.20	30.60	32.00
	1.60	15.64	17.00	18.36	19.72	21.08	21.76	22.44	23.80	25.16	26.66	28.15	28.90	29.65	31.14		
	1.70	16.62	18.06	19.51	20.95	22.40	23.12	23.84	25.29	26.73	28.32	29.91	30.71	31.50			
	1.80	17.60	19.13	20.66	22.19	23.72	24.48	25.25	26.78	28.31	29.99	31.67					
	1.90	18.57	20.19	21.80	23.42	25.03	25.84	26.65	28.26	29.88	31.65						
	2.00	19.55	21.25	22.95	24.65	26.35	27.20	28.05	29.75	31.45							
	2.10	20.53	22.31	24.10	25.88	27.67	28.56	29.45	31.24								
	2.20	21.51	23.38	25.25	27.12	28.99	29.92	30.86									
	2.30	22.48	24.44	26.39	28.35	30.30	31.28										
	2.40	23.46	25.50	27.54	29.58	31.62											
	2.50	24.44	26.56	28.69	30.81												
	2.60	25.42	27.63	29.84	32.05												
	2.70	26.39	28.69	30.98													
	2.80	27.37	29.75														
	2.90	28.35	30.81														
	3.00	29.33	31.88														

Table 16.2

Perm. prop load EuMax 20 + MD props – Free-standing prop

Slab height (m)	EuMax 20/300 + MD 300/20	
	Perm. prop load in kN	
	Inner tube at top	Inner tube at bottom*
3.00	20.60	23.60
2.90	22.10	25.80
2.80	23.80	27.90
2.70	25.60	30.30
2.60	27.60	32.70
2.50	29.30	34.20
2.40	30.50	35.80
2.30	32.20	37.30
2.20	34.20	38.50
2.10	36.80	39.40
2.00	39.80	39.80
1.90	39.80	39.80
1.80	39.80	39.80

Table 17.1

Slab height (m)	EuMax 20/550	
	Perm. prop load in kN	
	Inner tube at top	Inner tube at bottom
5.50	21.80	23.90
5.40	22.90	25.30
5.30	24.10	26.70
5.20	25.20	28.10
5.10	26.50	29.60
5.00	27.80	31.30
4.90	29.20	33.00
4.80	30.70	35.00
4.70	32.40	37.20
4.60	34.10	39.50
4.50	36.00	41.30
4.40	38.00	41.30
4.30	40.20	41.30
4.20	41.30	41.30
4.10	41.30	41.30
4.00	41.30	41.30
3.90	41.30	41.30
3.80	41.30	41.30
3.70	41.30	41.30
3.60	41.30	41.30
3.50	41.30	41.30
3.40	41.30	41.30
3.30	41.30	41.30
3.20	41.30	41.30
3.10	41.30	41.30
3.04	41.30	41.30

Table 17.3

Slab height (m)	EuMax 20/400 + MD 400/20	
	Perm. prop load in kN	
	Inner tube at top	Inner tube at bottom
4.00	21.20	25.00
3.90	22.40	26.80
3.80	23.80	28.80
3.70	25.30	31.10
3.60	26.80	33.60
3.50	28.50	36.30
3.40	30.30	37.00
3.30	32.00	37.00
3.20	33.00	37.00
3.10	34.20	37.00
3.00	35.60	37.00
2.90	37.00	37.00
2.80	37.00	37.00
2.70	37.00	37.00
2.60	37.00	37.00
2.50	37.00	37.00
2.40	37.00	37.00
2.34	37.00	37.00

Table 17.2

Perm. prop load EuMax 30 + ME props – Free-standing prop

Slab height (m)	EuMax 30/250	
	Perm. prop load in kN	
	Inner tube at top	Inner tube at bottom*
2.50	47.00	47.00
2.40	47.00	47.00
2.30	47.00	47.00
2.20	47.00	47.00
2.10	47.00	47.00
2.00	47.00	47.00
1.90	47.00	47.00
1.80	47.00	47.00
1.70	47.00	47.00
1.60	47.00	47.00
1.54	47.00	47.00

Table 18.1

Slab height (m)	ME 250/30	
	Perm. prop load in kN	
	Inner tube at top	Inner tube at bottom*
2.50	31.91	36.18
2.40	34.00	40.91
2.30	37.21	46.12
2.20	39.58	46.16
2.10	41.21	46.16
2.00	42.79	46.16
1.90	44.67	46.16
1.80	46.16	46.16
1.70	46.16	46.16
1.60	46.16	46.16
1.54	46.16	46.16

Table 18.2

Slab height (m)	EuMax 30/350 + ME 350/30	
	Perm. prop load in kN	
	Inner tube at top	Inner tube at bottom*
3.50	31.20	33.40
3.40	33.30	36.20
3.30	36.20	39.20
3.20	38.80	42.10
3.10	41.80	43.80
3.00	44.00	45.30
2.90	45.30	47.00
2.80	47.00	47.00
2.70	47.00	47.00
2.60	47.00	47.00
2.50	47.00	47.00
2.40	47.00	47.00
2.30	47.00	47.00
2.20	47.00	47.00
2.10	47.00	47.00
2.04	47.00	47.00

Table 18.3

Slab height (m)	EuMax 30/450	
	Perm. prop load in kN	
	Inner tube at top	Inner tube at bottom*
4.50	31.50	34.30
4.40	33.50	36.70
4.30	35.50	39.30
4.20	37.80	41.30
4.10	40.10	41.30
4.00	41.30	41.30
3.90	41.30	41.30
3.80	41.30	41.30
3.70	41.30	41.30
3.60	41.30	41.30
3.50	41.30	41.30
3.40	41.30	41.30
3.30	41.30	41.30
3.20	41.30	41.30
3.10	41.30	41.30
3.00	41.30	41.30
2.90	41.30	41.30
2.80	41.30	41.30
2.70	41.30	41.30
2.60	41.30	41.30
2.54	41.30	41.30

Table 18.4

Services

Cleaning
The components of the VarioMax system are cleaned professionally using industrial equipment upon return.

Reconditioning of wall formwork and other components
Reconditioning is carried out as follows: The frames are checked and, if necessary, blasted, coated with a high-quality cured powder coating, and provided with a new facing. As long as the formwork equipment still has its full load capacity, correct dimensions and is fully functional, reconditioning will always be a more economical solution than purchasing new formwork. Please note that the cleaning and reconditioning service is not available in all countries in which MEVA does business.

Rentals
As we have a comprehensive range of equipment in stock, we offer our customers the option of renting supplementary material at peak times. The MEVA logistics centre guarantees rapid delivery throughout Europe. We also give prospective customers the chance to test MEVA formwork so they can see its benefits for themselves in actual use.

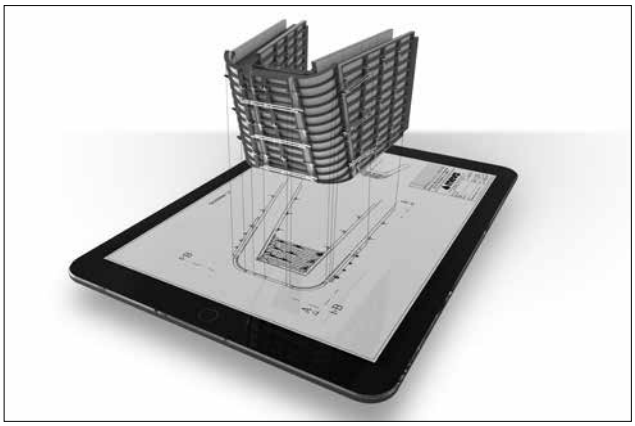
RentalPlus
For a flat-rate fee MEVA's "fully comprehensive insurance" for rental formwork and equipment covers all secondary costs that occur after return (excludes losses and write-offs). For the customer this means: Costing certainty instead of additional charges, an earlier end of the rental period and thus lower rental costs because you save the time required for cleaning and repairs.

Formwork drawings
Our application engineers worldwide work with CAD systems. This ensures that you always receive optimum formwork solutions and practice-oriented formwork and work cycle plans.

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

Structural calculations
Generally, this is only necessary for applications such as single-sided formwork where the anchor parts are embedded in the foundation or the base slab. On request, we can perform structural calculations for such applications at an additional charge.

Formwork seminars
To ensure that all our products are used properly and efficiently, we offer formwork seminars. They provide our customers with a good opportunity to keep themselves up to date and to benefit from the know-how of our engineers.



Notes