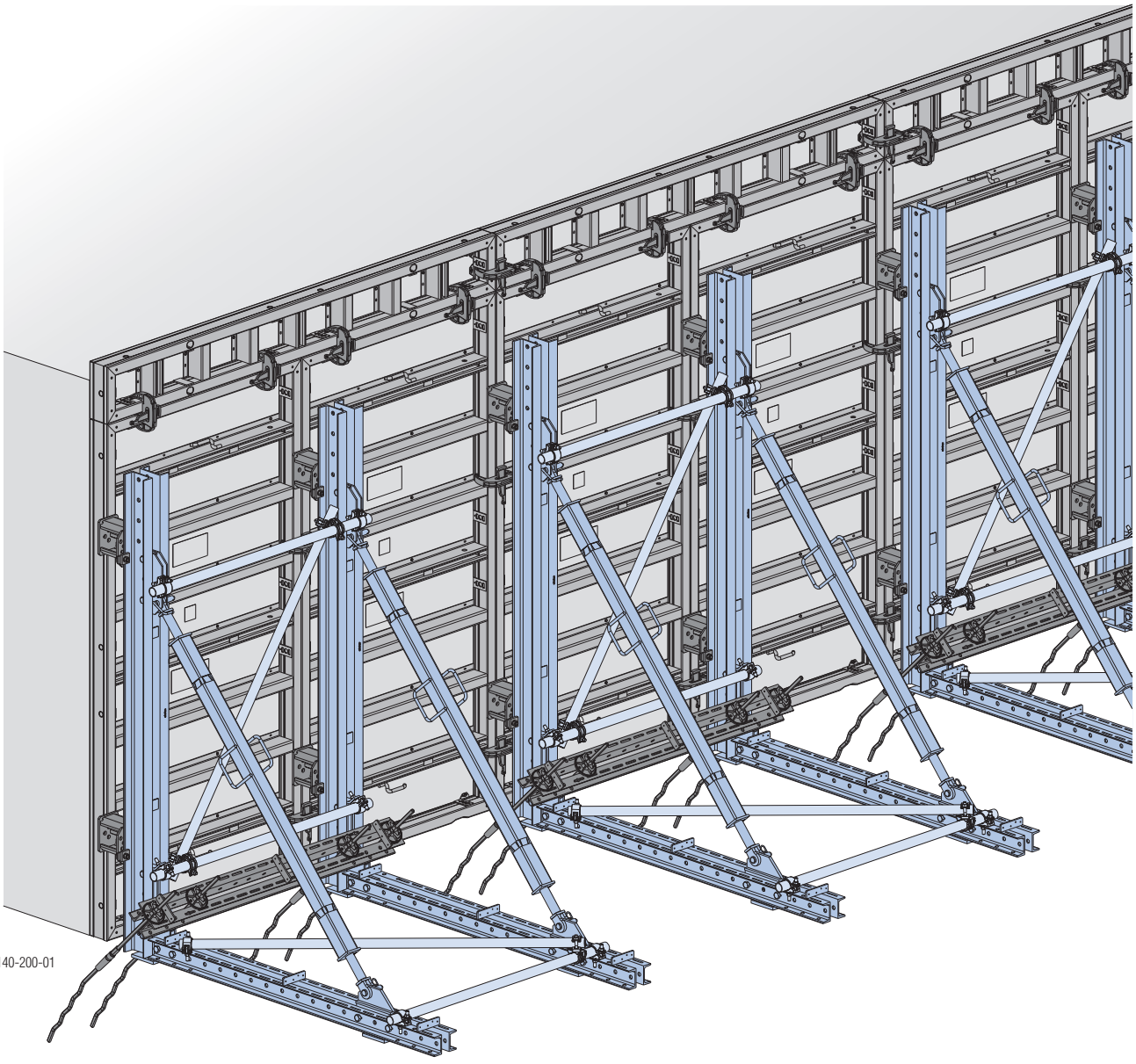
999814002 - 11/2019
en-GB

The Formwork Experts.

Supporting construction frame "Variable"

User Information

Instructions for assembly and use (Method statement)



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Contents

Introduction

Elementary safety warnings

User target groups

- This booklet is aimed at all persons who will be working with the Doka product or system that it describes. It contains information on the standard design for setting up this system, and on correct, compliant utilisation of the system.
- All persons working with the product described herein must be familiar with the contents of this booklet and with all the safety instructions it contains.
- Persons who are incapable of reading and understanding this booklet, or who can do so only with difficulty, must be instructed and trained by the customer.
- The customer is to ensure that the information materials provided by Doka (e.g. User Information booklets, Instructions for Assembly and Use, Operating Instruction manuals, plans etc.) are up to date and available to all users, and that they have been made aware of them and have easy access to them at the usage location.
- In the relevant technical documentation and formwork utilisation plans, Doka shows the workplace safety precautions that are necessary in order to use the Doka products safely in the usage situations shown.
  In all cases, users are obliged to ensure compliance with national laws, standards and regulations throughout the entire project and to take appropriate additional or alternative workplace safety precautions where necessary.

Hazard assessment

- The customer is responsible for drawing up, documenting, implementing and continually updating a hazard assessment at every job-site.
  This booklet serves as the basis for the site-specific hazard assessment, and for the instructions given to users on how to prepare and utilise the system. It does not substitute for these, however.

Remarks on this booklet

- This document can be used as general Instructions for Assembly and Use (Method Statement) or be incorporated into site-specific Instructions for Assembly and Use (Method Statement).
- **The graphics, animations and videos in this document or app sometimes depict partially assembled assemblies and may require additional safety equipment and/or measures to comply with safety regulations.**
  The customer must ensure all applicable regulations are complied with, even if they are not shown or implied in the graphics, animations and videos provided.
- **Individual sections contain further safety instructions and/or special warnings as applicable.**

Planning

- Provide safe workplaces for those using the formwork (e.g. for when it is being erected/dismantled, modified or repositioned etc). It must be possible to get to and from these workplaces via safe access routes!
- **If you are considering any deviation from the details and instructions given in this booklet, or any application which goes beyond those described in the booklet, then revised static calculations must be produced for checking, as well as supplementary assembly instructions.**

Regulations; industrial safety

- All laws, Standards, industrial safety regulations and other safety rules applying to the utilisation of our products in the country and/or region in which you are operating must be observed at all times.
- If a person or object falls against, or into, the sideguard component and/or any of its accessories, the component affected may only continue in use after it has been inspected and passed by an expert.

Rules applying during all phases of the assignment

- The customer must ensure that this product is erected and dismantled, reset and generally used for its intended purpose in accordance with the applicable laws, standards and rules, under the direction and supervision of suitably skilled persons.
  These persons' mental and physical capacity must not in any way be impaired by alcohol, medicines or drugs.
- Doka products are technical working appliances which are intended for industrial / commercial use only, always in accordance with the respective Doka User Information booklets or other technical documentation authored by Doka.
- The stability and load-bearing capacity of all components and units must be ensured during all phases of the construction work!
- Do not step on or apply strain to cantilevers, closures, etc. until suitable measures to ensure their stability have been correctly implemented (e.g. by tie-backs).
- Strict attention to and compliance with the functional instructions, safety instructions and load specifications are required. Non-compliance can cause accidents and severe injury (risk of fatality) and considerable damage to property.
- Sources of fire in the vicinity of the formwork are prohibited. Heaters are permissible only when used correctly and situated a correspondingly safe distance from the formwork.
- Customer must give due consideration to any and all effects of the weather on the equipment and regards both its use and storage (e.g. slippery surfaces, risk of slipping, effects of the wind, etc.) and implement appropriate precautionary measures to secure the equipment and surrounding areas and to protect workers.
- All connections must be checked at regular intervals to ensure that they are secure and in full working order.
  In particular threaded connections and wedged connections have to be checked and retightened as necessary in accordance with activity on the jobsite and especially after out-of-the-ordinary occurrences (e.g. after a storm).
- It is strictly forbidden to weld Doka products – in particular anchoring/tying components, suspension components, connector components and castings etc. – or otherwise subject them to heating.
  Welding causes serious change in the microstructure of the materials from which these components are made. This leads to a dramatic drop in the failure load, representing a very great risk to safety.
  It is permissible to cut individual tie rods to length with metal cutting discs (introduction of heat at the end of the rod only), but it is important to ensure that flying sparks do not heat and thus damage other tie rods.
  The only articles which are allowed to be welded are those for which the Doka literature expressly points out that welding is permitted.

Assembly

- The equipment/system must be inspected by the customer before use, to ensure that it is in an acceptable condition. Steps must be taken to exclude components that are damaged, deformed, or weakened due to wear, corrosion or rot (e.g. fungal decay).
- Using our safety and formwork systems together with those of other manufacturers can create risks that may lead to injury and damage to property. This requires separate verification.
- The equipment/system must be assembled and erected in accordance with the applicable laws, standards and rules by trained customer personnel whilst maintaining any applicable safety inspections that may be required.
- It is not permitted to modify Doka products; such modifications constitute a safety risk.

Closing the formwork

- Doka products and systems must be set up so that all loads acting upon them are safely transferred!

Pouring

- Do not exceed the permitted fresh-concrete pressures. Over-high pouring rates overload the formwork, cause greater deflection and risk breakage.

Stripping the formwork

- Do not strip out the formwork until the concrete has reached sufficient strength and the person in charge has given the order for the formwork to be stripped out!
- When stripping out the formwork, never use the crane to break concrete cohesion. Use suitable tools such as timber wedges, special pry-bars or system features such as Framax stripping corners.
- When stripping out the formwork, do not endanger the stability of any part of the structure, or of any scaffolding, platforms or formwork that is still in place!

Transporting, stacking and storing

- Observe all country-specific regulations applying to the handling of formwork and scaffolding. For system formwork the Doka slinging means stated in this booklet must be used – this is a mandatory requirement.
  If the type of sling is not specified in this document, the customer must use slinging means that are suitable for the application envisaged and that comply with the regulations.
- When lifting, always make sure that the unit to be lifted and its individual parts can absorb the forces that occur.
- Remove loose parts or secure them so that they cannot slip out of position and drop.
- All components must be stored safely, following all the special Doka instructions given in the relevant sections of this document!

Maintenance

- Only original Doka components may be used as spare parts. Repairs may only be carried out by the manufacturer or authorised facilities.

Miscellaneous

The weights as stated are averages for new material; actual weights can differ, depending on material tolerances. Dirt accretions, moisture saturation, etc. can also affect weight.
We reserve the right to make alterations in the interests of technical progress.

Eurocodes at Doka

The permissible values stated in Doka documents (e.g. F_{perm} = 70 kN) **are not design values** (e.g. F_{Rd} = 105 kN)**!**

- It is essential to avoid confusing permissible values with design values!
- Doka documents will continue to state the permissible values.

Allowance has been made for the following partial factors:

- γ_F = 1.5
- $\gamma_{M,\ timber}$ = 1.3
- $\gamma_{M,\ steel}$ = 1.1
- k_{mod} = 0.9

Consequently, all the design values for an EC design calculation can be determined from the permissible values.

Symbols used

The following symbols are used in this document:

DANGER
This is a notifier drawing attention to an extremely dangerous situation in which non-compliance with this notifier will lead to death or severe, irreversible injury.

WARNING
This is a notifier drawing attention to a dangerous situation in which non-compliance with this notifier can lead to death or severe, irreversible injury.

CAUTION
This is a notifier drawing attention to a dangerous situation in which non-compliance with this notifier can lead to slight, reversible injury.

NOTICE
This is a notifier drawing attention to a situation in which non-compliance with this notifier can lead to malfunctions or damage to property.

Instruction
Indicates that actions have to be performed by the user.

Sight-check
Indicates that you need to do a sight-check to make sure that necessary actions have been carried out.

Tip
Points out useful practical tips.

Reference
Cross-references other documents.

Services

Support in every stage of the project

- Project success assured by products and services from a single source.
- Competent support from planning through to assembly directly on site.

Project assistance from start to finish

Every single project is unique and calls for individualised solutions. When it comes to the forming operations, the Doka team can help you with its consulting, planning and ancillary services in the field, enabling you to carry out your project effectively, safely and reliably. Doka assists you with individual consulting services and customised training courses.

Efficient planning for a safe project sequence

Efficient formwork solutions can only be developed economically if there is an understanding of project requirements and construction processes. This understanding is the basis of Doka engineering services.

Optimise construction workflows with Doka

Doka offers special tools that help you in designing transparent processes. This is the way to speed up pouring processes, optimise inventories and create more efficient formwork planning processes.

Custom formwork and on-site assembly

To complement its system formwork range, Doka offers customised formwork units. And specially trained personnel assemble load-bearing towers and formwork on site.

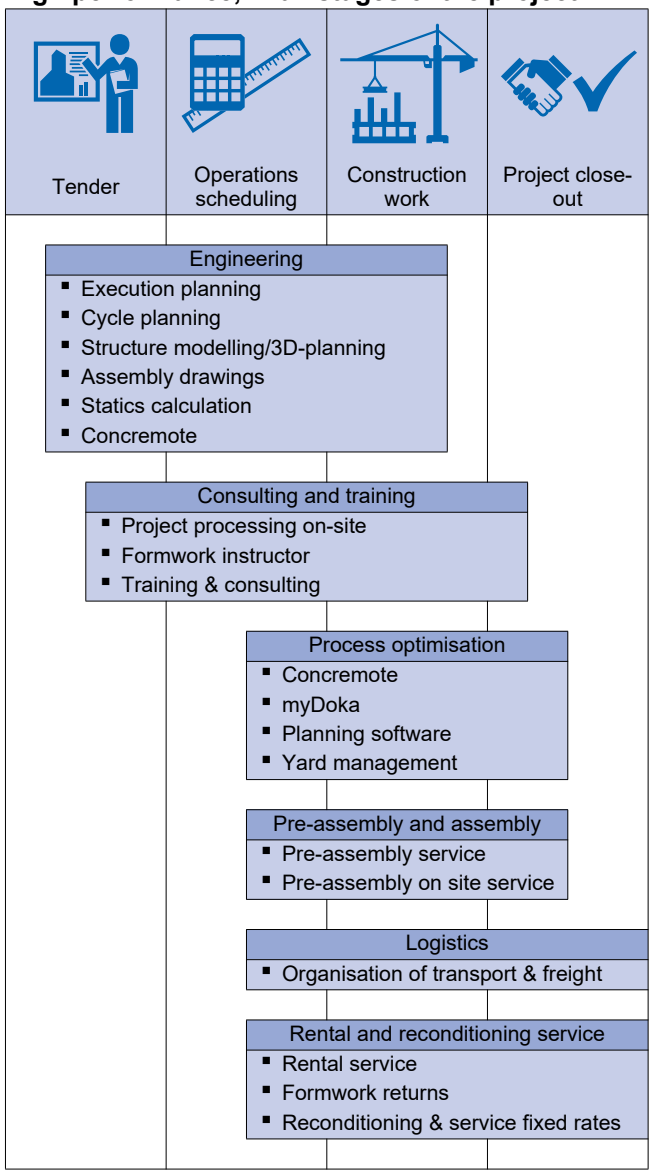
Just-in-time availability

Formwork availability is a crucial factor in realising your project on time and on budget. The worldwide logistics network puts the necessary formwork quantities on site at the agreed time.

Rental and reconditioning service

The formwork material needed for any particular project can be rented from Doka's high-performing rental park. Doka Reconditioning cleans and overhauls both client-owned equipment and Doka rental equipment.

High performance, in all stages of the project



upbeat construction
digital services for higher productivity

From planning through to completion - with upbeat construction we'll be moving construction forward and upping the beat for more productive building with all our digital services. Our digital portfolio covers the entire construction process and is being extended all the time. To find out more about our specially developed solutions go to doka.com/upbeatconstruction.

System description

Supporting construction frame "Variable"- for pour heights of up to 4.00 m

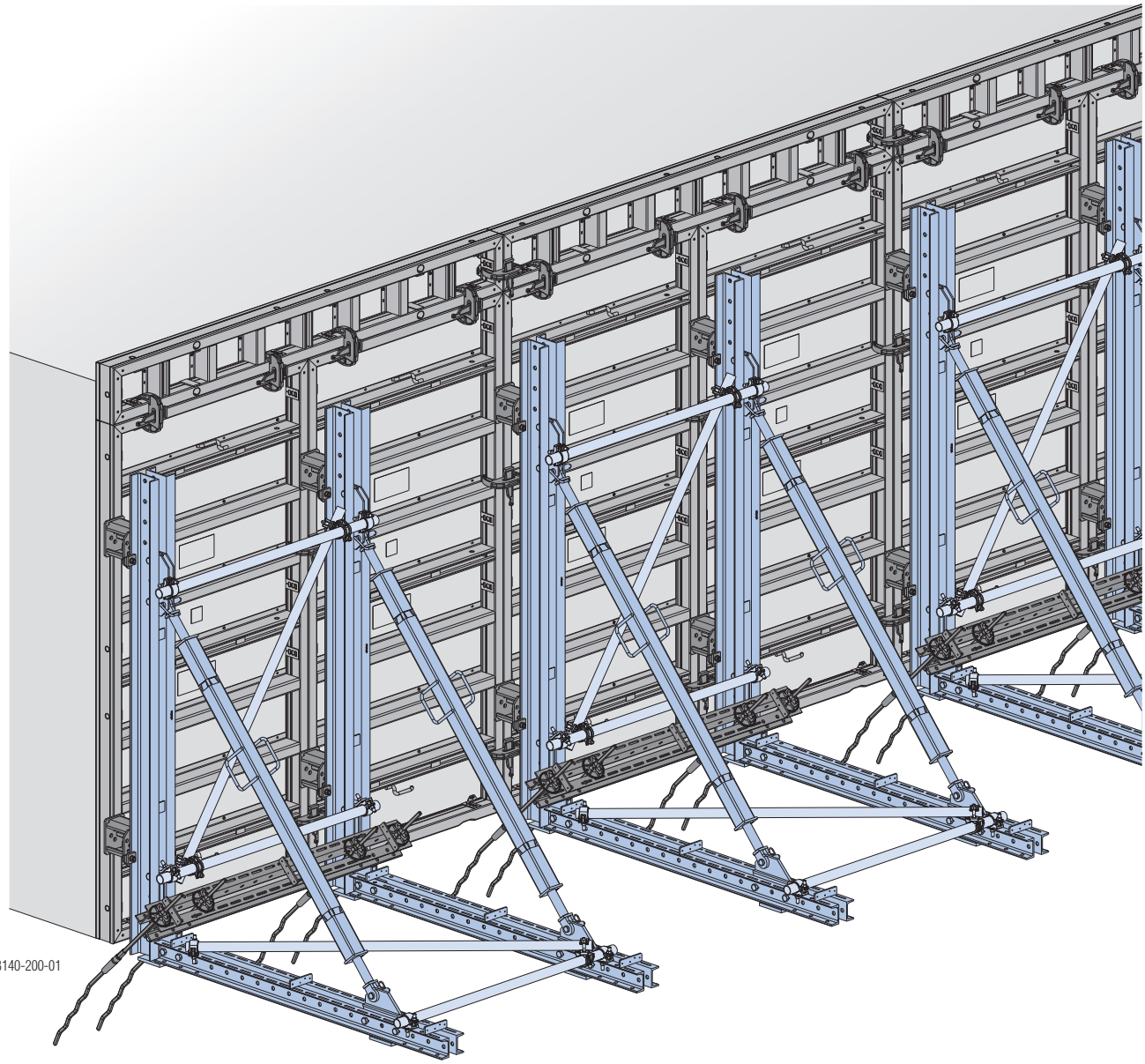
The Supporting construction frame "Variable" is an easy, straightforward way of combining standard walings with add-on components to make supporting construction frames for formwork of up to approx. 4.0 m in height.

Product features:

- Suitable for timber-beam and framed formwork.
- Tensile forces are reliably transferred by means of diagonal anchors.
- Adjusting for the different fresh-concrete pressures required is easy and economical – simply increase or decrease the spacing between the supporting construction frames, as appropriate.

Note:

Your regional Doka branch will be pleased to advise you on the exact planning and dimensioning.



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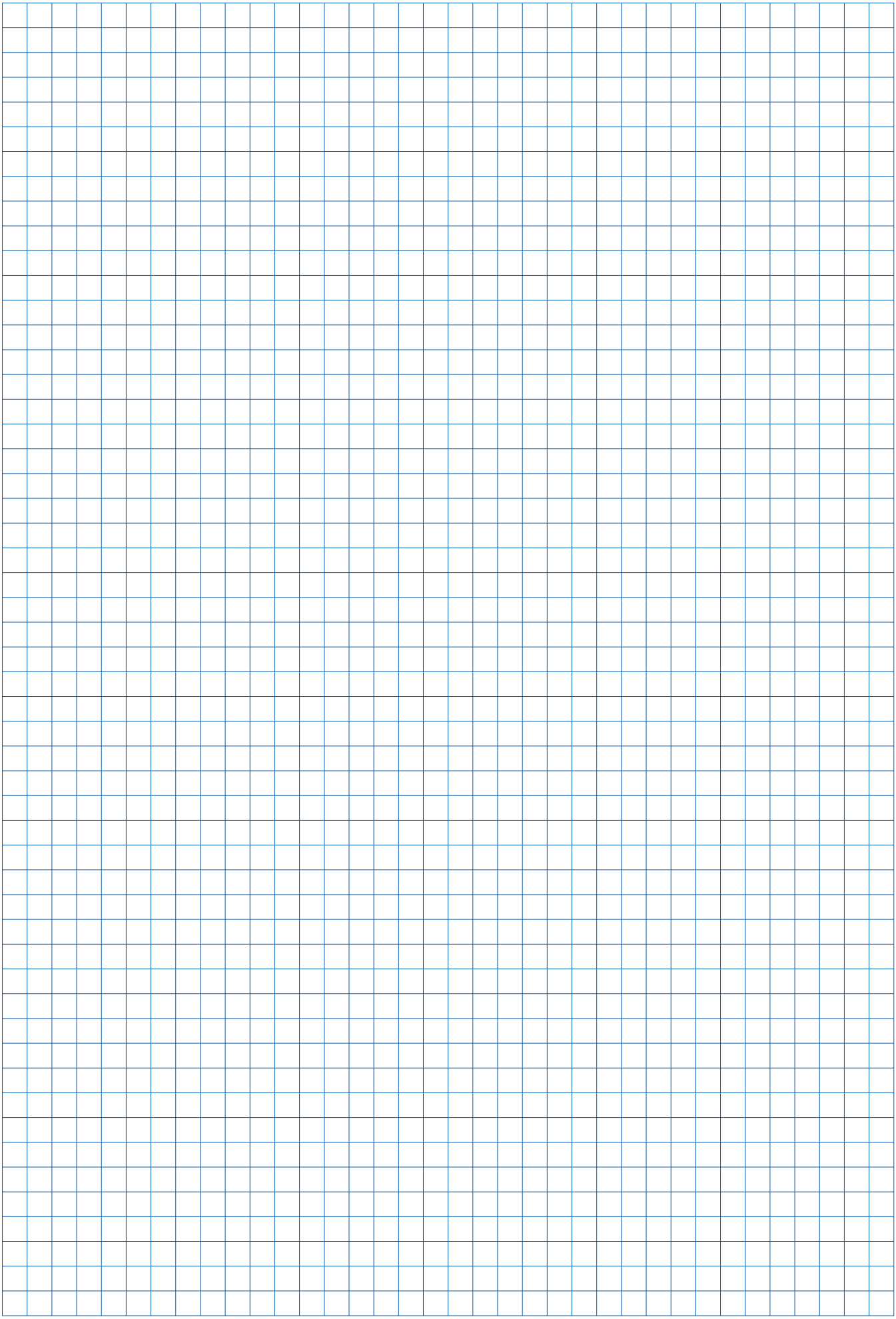
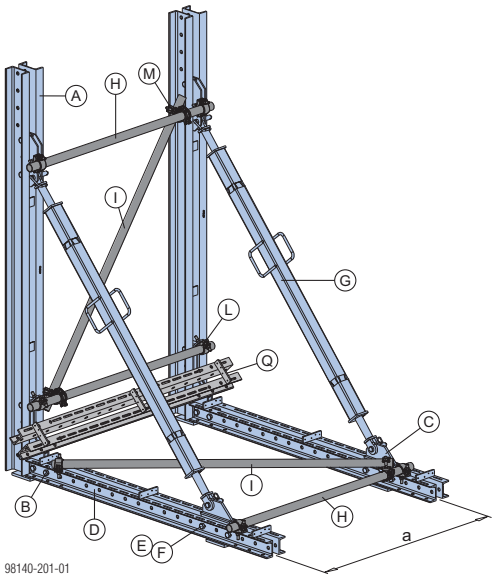
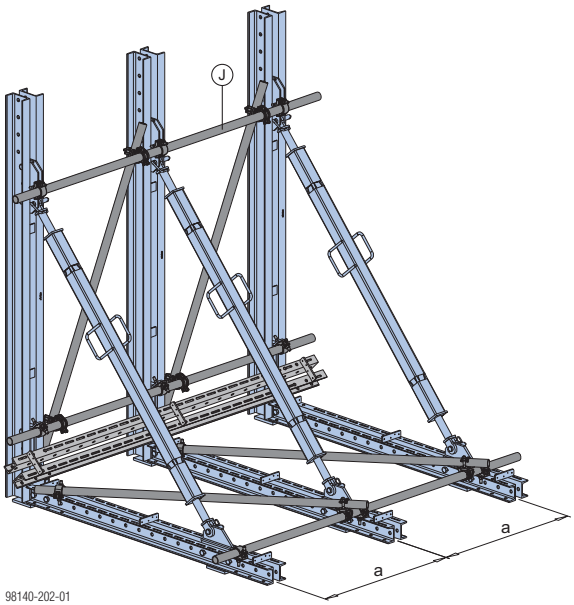
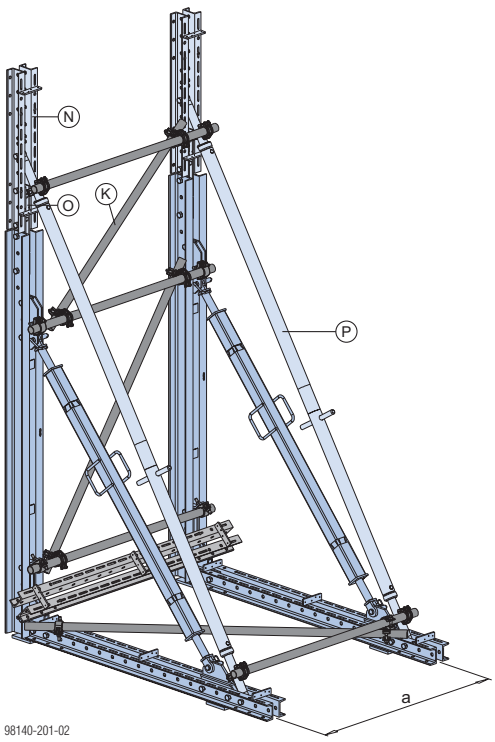
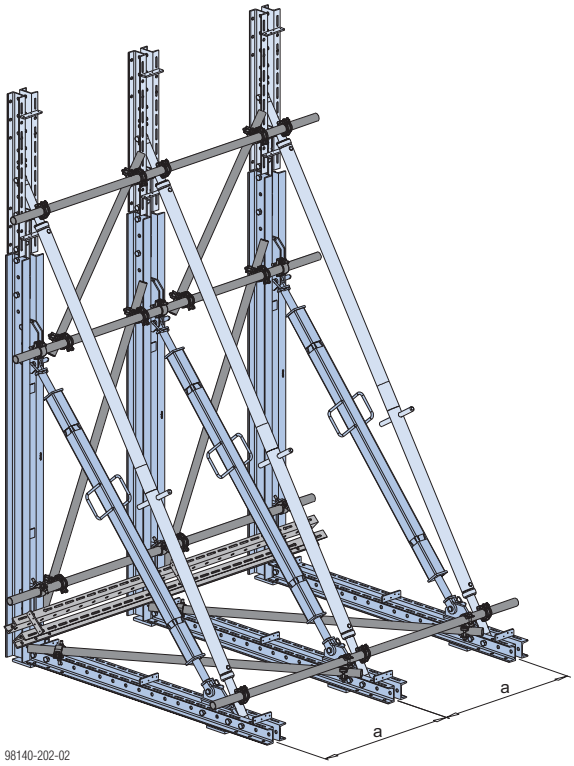


Standard units

Units with bracing for repositioning

SC-frame type	2 girderframe units	3 girderframe units
A  9739-311-01	 98140-201-01	 98140-202-01
B  9739-312-01 vertically extended	 98140-201-02	 98140-202-02

a ... Centre-to-centre distance (depending on concrete pressure and formwork system used)

NOTICE

Bracing with scaffold-tube braces is needed only for repositioning the supporting construction frame assemblies!

Items needed

		2 girderframe units		3 girderframe units	
	SC-frame type	**A**	**B**	**A**	**B**
(A)	Waling WU14 for supporting construction frame	2	2	3	3
(B)	Tension plate	2	2	3	3
(C)	Supporting shoe	2	2	3	3
(D)	Multi-purpose waling WS10 Top50 2.00m	2	2	3	3
(E)	Connecting pin 10cm	10	18	14	26
(F)	Spring cotter 5mm	10	18	14	26
(G)	Spindle strut 12 3.00m	2	2	3	3
(H)	Scaffold tube 48.3mm (longitudinal, 2 girderframe units)*)	3	4	—	—
(I)	Scaffold tube 48.3mm (diagonal)*)	2	2	4	4
(J)	Scaffold tube 48.3mm (longitudinal, 3 girderframe units)*)	—	—	3	4
(K)	Scaffold tube 48.3mm (diagonal, vertical stacking)*)	—	1	—	2
(L)	Screw-on coupler 48mm 50	7	5	11	8
(M)	Swivel coupler 48mm	3	9	6	16
(N)	Multi-purpose waling WS10 Top50 1.00m	—	2	—	3
(O)	Formwork element connector FF20/50 Z	—	2	—	3
(P)	Spindle strut T7 305/355cm	—	2	—	3
(Q)	Multi-purpose waling used as anchor waling *)	1	1	1	1
	Weight of the unit [kg] – rounded	450	600	700	950

*) For lengths see table headed 'Scaffold-tube and anchor waling lengths'

Scaffold-tube and anchor-waling lengths

Centre-to-centre distance (a)	**0.90 - 1.25 m**	**1.25 - 1.35 m**	**1.55 m**
(H)	Scaffold tube 48.3mm 1.50m	Scaffold tube 48.3mm 1.50m	Scaffold tube 48.3mm 2.00m
(I)	Scaffold tube 48.3mm 2.00m	Scaffold tube 48.3mm 2.00m	Scaffold tube 48.3mm 2.50m
(J)	Scaffold tube 48.3mm 2.50m	—	—
(K)	Scaffold tube 48.3mm 1.50m	Scaffold tube 48.3mm 1.50m	Scaffold tube 48.3mm 2.00m

2 girderframe units

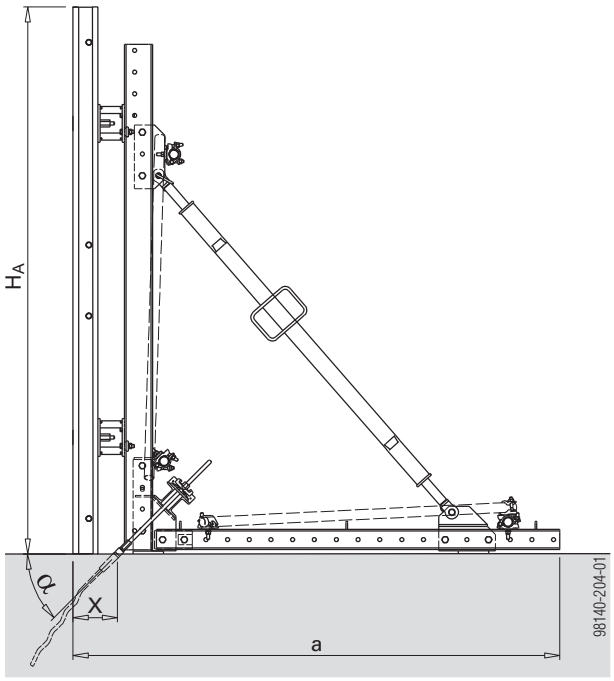
Centre-to-centre distance (a)	**0.90 - 1.55 m**
(Q)	Multi-purpose waling 2.00m

3 girderframe units

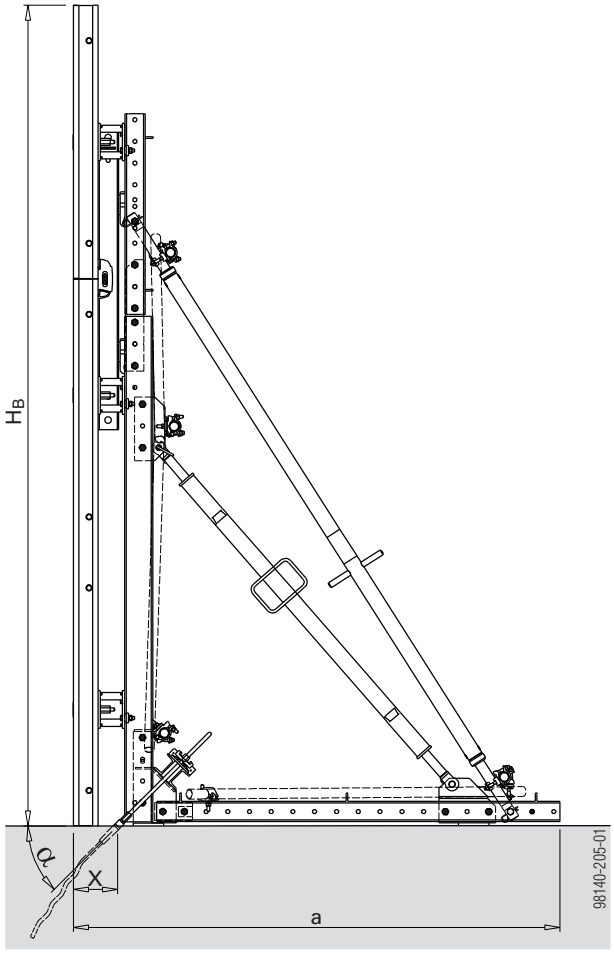
Centre-to-centre distance (a)	**0.90 m**	**1.00 m**
(Q)	Multi-purpose waling 2.50m	Multi-purpose waling 2.75m

System dimensions

SC-frame type **A**



SC-frame type **B**



α ... 45°

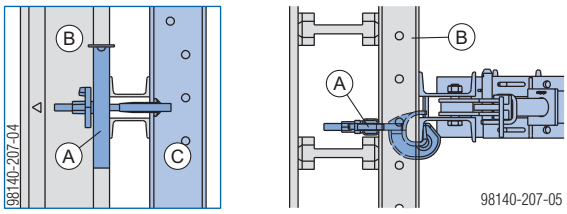
System dimensions for each formwork system [cm]

	Timber-beam formwork	Framax Xlife / Alu-Framax Xlife	Framax Xlife plus	Frami Xlife
H_A (max.)	325.0	315.0	315.0	300.0
H_B (max.)	400.0	405.0	405.0	360.0
X	29.0	29.0 [1] (19.0 [2])	22.0	16.0
a	247.0	247.0 [1] (237.0 [2])	240.0	234.0

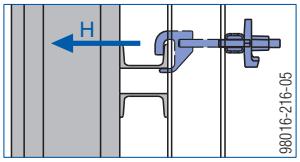
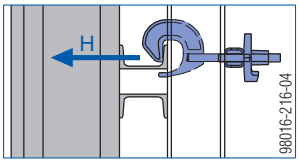
Values apply for all fixing variants shown in this document;
exceptions [1] used with supporting construction distancers and [2] used with multi-purpose walings

Used with Timber-beam formwork

With the **Waling-to-bracket holder 9-15cm**, the girderframe units are mounted directly on the formwork panel regardless of the positions of the panel walings. 2 waling-to-bracket holders are needed for each girderframe unit.

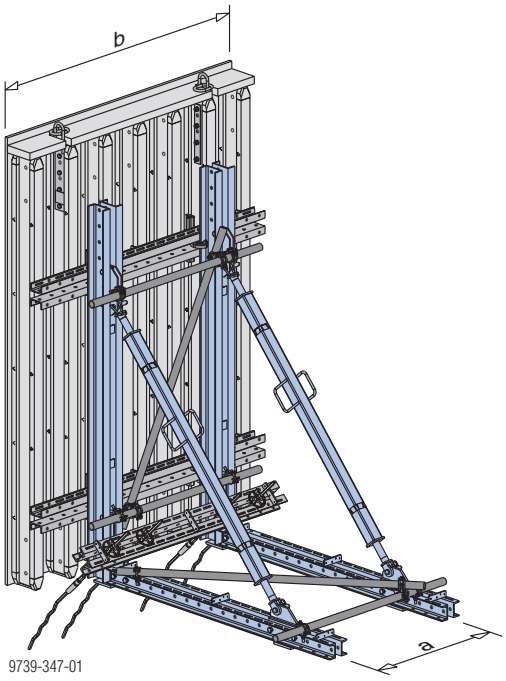


A Waling-to-bracket holder 9-15cm
B Top50 or FF20 formwork panel
C Waling WU14 for supporting construction frame

Waling-to-bracket holder	Waling-to-bracket holder (new version)
H ... permitted horizontal load: 11 kN	H ... permitted horizontal load: 22 kN
	

Pour heights of up to 3.25 m

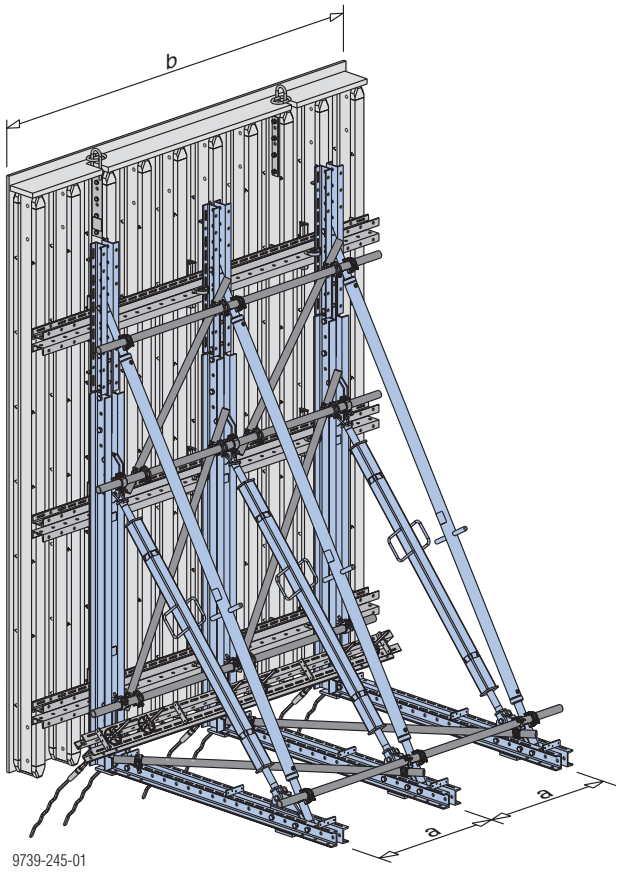
SC-frame type **A**



a ... influence width
b ... panel width (max. 2x influence width)

Pour heights of up to 4.00 m

SC-frame type **B**



a ... influence width
b ... panel width (max. 3x influence width)

Structural design

The values given in the table are only applicable to forming situations where there is no kicker. In cases with large kickers, the overall stability of the SC-frame must be reviewed.

The loading data is stated per girderframe unit for an anchor inclination of 45°.

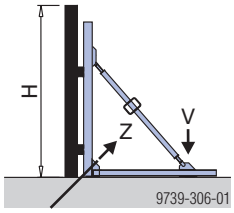
Fields containing no data (—) are not permissible – SC-frame would be overloaded!

Pour heights of up to 3.25 m

SC-frame type

A

Supporting construction frame "Variable"



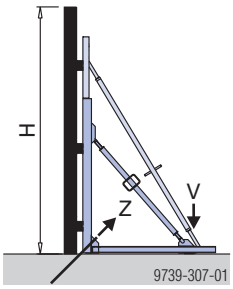
Permitted fresh-concrete pressure:	Pour height **H** [m]	Influence width 1.00 m: Anchor force Z_k [kN]	Influence width 1.00 m: Shoring force V_k [kN]	Influence width 1.00 m: Deformation top [mm]	Influence width 1.25 m: Anchor force Z_k [kN]	Influence width 1.25 m: Shoring force V_k [kN]	Influence width 1.25 m: Deformation top [mm]
40 kN/m²	2.50	96	34	2	120	43	2
	2.75	110	45	3	138	56	3
	3.00	124	56	3	156	70	4
	3.25	139	69	4	173	86	5
50 kN/m²	2.50	106	36	2	133	45	2
	2.75	124	47	3	155	59	3
	3.00	141	60	4	177	75	5
	3.25	159	75	5	199	94	6

Pour heights of up to 4.00 m

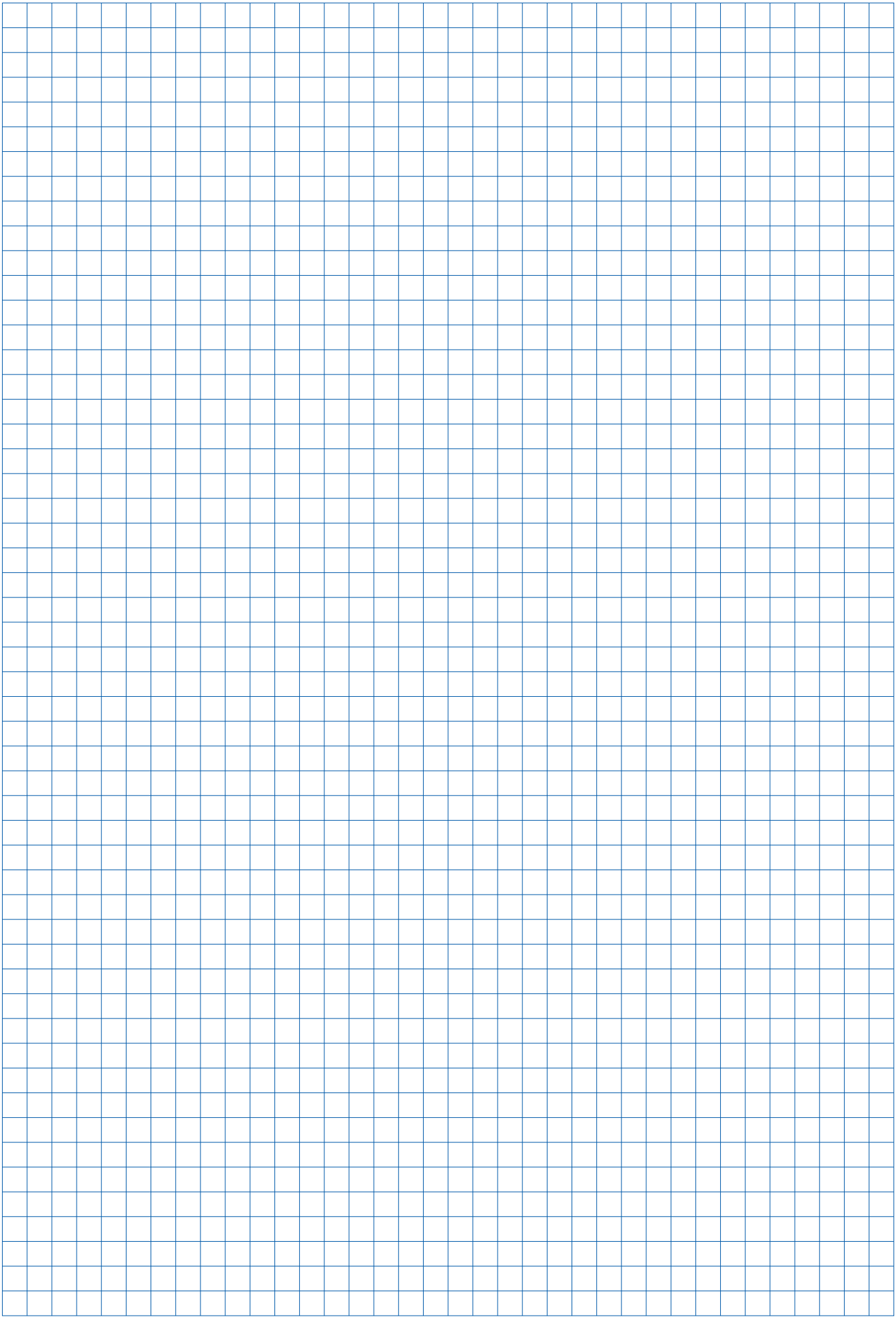
SC-frame type

B

Vertically extended Supporting construction frame "Variable"



Permitted fresh-concrete pressure:	Pour height **H** [m]	Influence width 1.00 m: Anchor force Z_k [kN]	Influence width 1.00 m: Shoring force V_k [kN]	Influence width 1.00 m: Deformation top [mm]	Influence width 1.25 m: Anchor force Z_k [kN]	Influence width 1.25 m: Shoring force V_k [kN]	Influence width 1.25 m: Deformation top [mm]
40 kN/m²	3.25	139	69	2	173	86	2
	3.50	153	83	2	191	104	3
	3.75	167	99	3	—	—	—
	4.00	181	116	5	—	—	—
50 kN/m²	3.25	159	75	2	199	94	2
	3.50	177	91	3	—	—	—
	3.75	194	110	4	—	—	—
	4.00	212	130	5	—	—	—

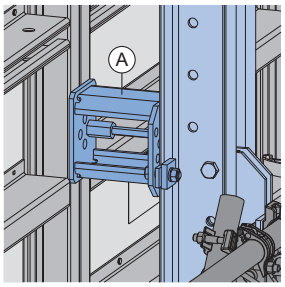


Used with Framed formwork Framax Xlife

with SC distancer

Note:
Also applies for use with Framed formwork Alu-Framax Xlife!

- The **Supporting construction distancer 20cm** is fastened in the anchoring sleeve of the formwork panel using the supporting construct. frame bolt 27cm supplied.
- The girderframe unit's Waling WU14 for supporting construction frame is secured to the supporting construction distancer.



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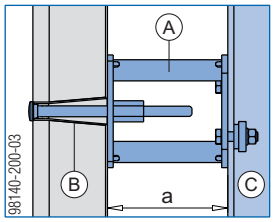


a ... 20 cm

A	Supporting construction distancer 20cm
B	Form-tie sleeve Framax Xlife or Alu-Framax Xlife panel
C	Waling WU14 for supporting construction frame

Note:
The SC-distancers are positioned following the same rules as for form ties on double-sided wall formwork.

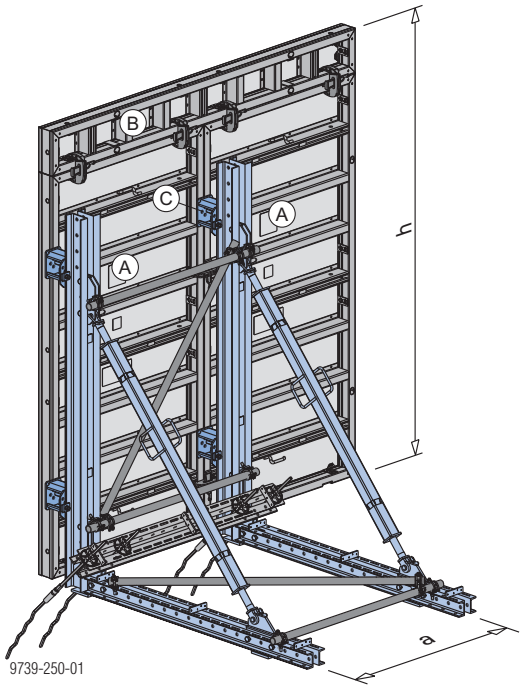
Follow the directions in the 'Framed formwork Framax Xlife' and/or 'Framed formwork Alu-Framax Xlife' User Information booklets.

Tools needed for assembly:

- Fork wrench 30/32
- Reversible ratchet 1/2" with Box nut 24 1/2"
- Tie-rod wrench 15.0/20.0
  (for holding the SC-frame bolt)

Pour heights of up to 3.15 m

- SC-frame type **A**
- Influence width 1.35 m



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Centre-to-centre distance 'a' ... 1.35 m

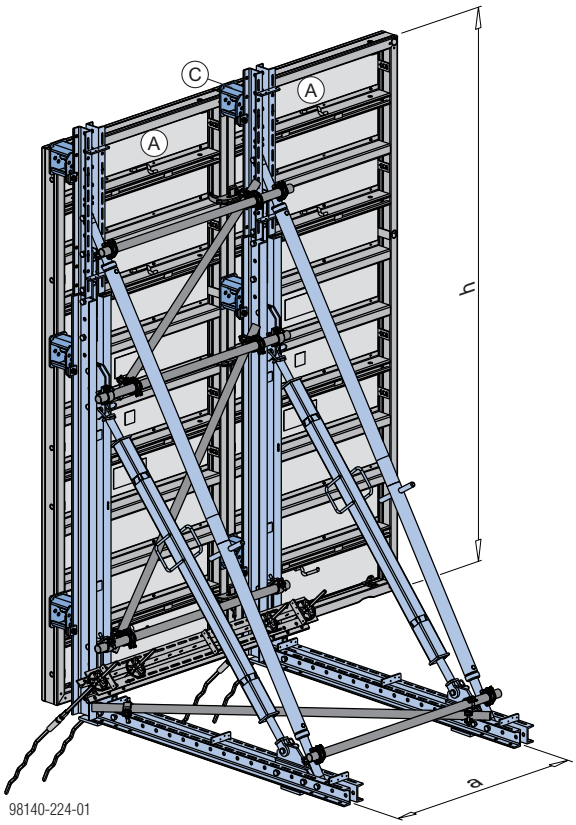
Pour height h	Framax Xlife panel (A)	Framax Xlife panel (B)	Supporting construction distancer 20cm (C)
2.40 m	**2.40**x2,70m[1)]	—	4 units
2.70 m	1.35x**2.70m**[2) 3)]	—	
	2.40x2,70m[1)]	**0.30**x2.70m	
2.85 m	**2.40**x2,70m[1)]	**0.45**x2.70m	
3.00 m	1.35x**2.70m**[2)]	**0.30**x2.70m	
3.15 m	1.35x**2.70m**[2)]	**0.45**x2.70m	

- 1) 1 extra-large panel (centre-to-centre distance 'a' ... 1,55m)
- 2) Alternatively 1 extra-large panel width 2.70 m (centre-to-centre distance a ... 1,55m)
- 3) Alternatively 1 extra-large panel width 2.40m (centre-to-centre distance a ... 1,32m)

- Panel heights are highlighted in the table.

For pour heights of up to 3.30 m

- SC-frame type **B**
- Influence width 1.35 m



Centre-to-centre distance 'a' ... 1.35 m

Pour height h	Framax Xlife panel (A)	(B)	Supporting construction distancer 20cm (C)
3.00 m	**2.40**x2,70m[1)]	**0.60**x2.70m	6 units[4)]
3.30 m	1.35x**2.70m**[2)]	**0.60**x2.70m	6 units[4)]
	1.35x**3.30m**[2) 3)]	—	6 units
	2.40x2.70m[1)]	**0.90**x2.70m	6 units[4)]

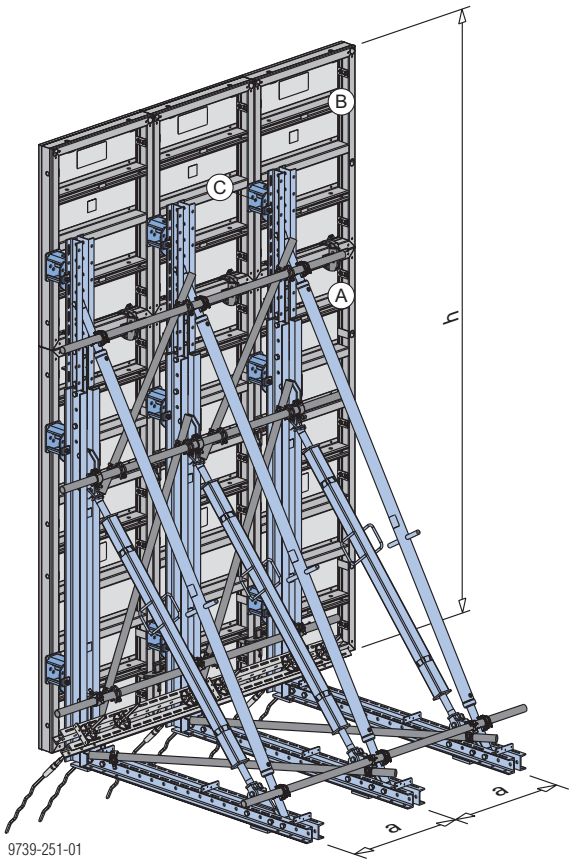
- 1) 1 extra-large panel (centre-to-centre distance 'a' ... 1,55m)
- 2) Alternatively 1 extra-large panel width 2.70 m (centre-to-centre distance a ... 1,55m)
- 3) Alternatively 1 extra-large panel width 2.40m (centre-to-centre distance a ... 1,32m)

- 4) Topmost supporting construction distancer is not secured to the formwork

- Panel heights are highlighted in the table.

Pour heights of up to 4.05 m

- SC-frame type **B**
- Influence width 0.90 m



Centre-to-centre distance 'a' ... 0.90 m

Pour height h	Framax Xlife panel (A)	(B)	Supporting construction distancer 20cm (C)
3.60 m	0.90x**3.30m**	**0.30**x2.70m	9 units
3.75 m		**0.45**x2.70m	
4.05 m	0.90x**2.70m**	0.90x**1.35m**	

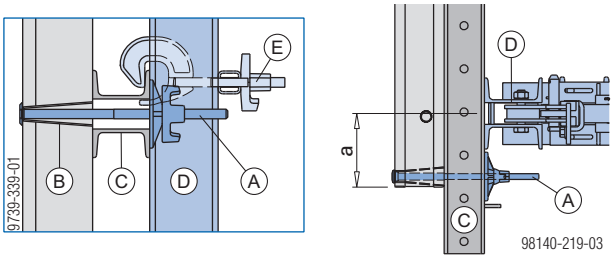
- Panel heights are highlighted in the table.

with multi-purpose walings at the tying levels

Note:
Also applies for use with Framed formwork Alu-Framax Xlife!

- The multi-purpose waling is fastened in the anchoring sleeve of the formwork panel using the **Framax supporting construct. frame bolt 36cm**.
- The girderframe unit's Waling WU14 for supporting construction frame is secured to the multi-purpose waling with **Waling-to-bracket holders 9-15cm**.

Plan view:



a ... 18.0 cm

A	Framax supporting construct. frame bolt 36cm + Super plate 15,0 (assembly with Tie-rod wrench 15.0/20.0)
B	Form-tie sleeve Framax Xlife or Alu-Framax Xlife panel
C	Multi-purpose waling WS10 Top50
D	Waling WU14 for supporting construction frame
E	Waling-to-bracket holder 9-15cm

Lengths of the Multi-purpose walings WS10 Top50:

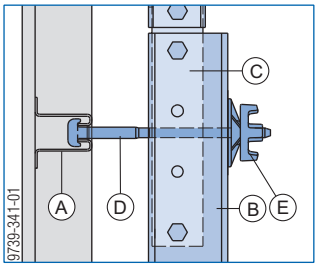
- on upright panels: 2.00 m
- On panels turned longside horizontal (or 3 girderframe units): 2.50 m

Number of Multi-purpose walings WS10 Top50:

- Panel height 2.70m: 2
- Panel height 3.30m: 3
- Panel height 1.35m: 1

Additional fixing

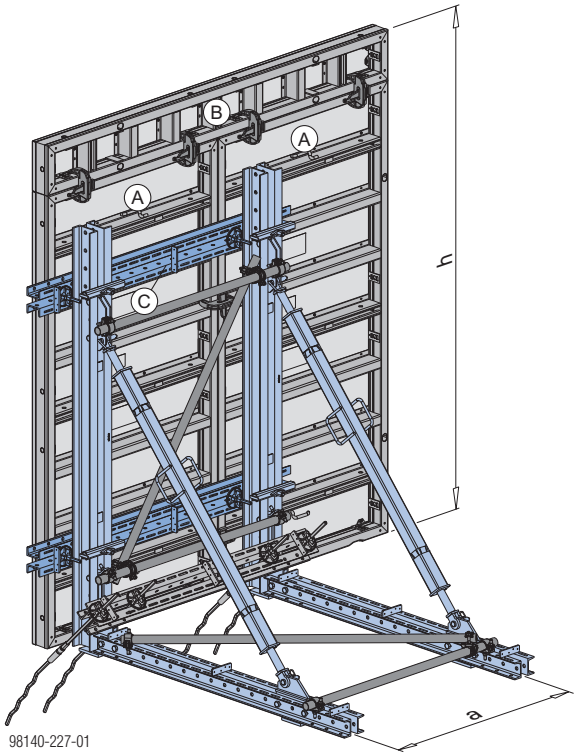
near the Formwork element connector FF20/50 Z on vertically stacked configurations



A	Waling profile of the Framax Xlife or Alu Framx Xlife panel
B	Waling WU14 for supporting construction frame
C	Formwork element connector FF20/50 Z
D	Framax universal fixing bolt 10-25cm
E	Super plate 15.0

Pour heights of up to 3.15 m

- SC-frame type **A**
- Influence width 1.35 m



Centre-to-centre distance 'a' ... 1.35 m

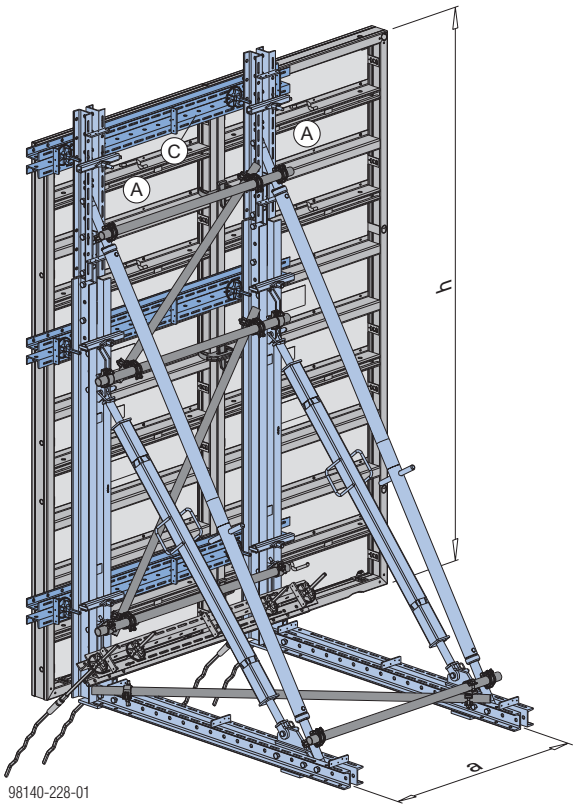
Pour height h	Framax Xlife panel (A)	Framax Xlife panel (B)	Multi-purpose waling WS10 Top50 (C)
2.40 m	**2.40**x2.70m[1)]	—	2 units
2.70 m	1.35x**2.70m**[2) 3)]	—	
	2.40x2.70m[1)]	**0.30**x2.70m	
2.85 m	**2.40**x2.70m[1)]	**0.45**x2.70m	
3.00 m	1.35x**2.70m**[2)]	**0.30**x2.70m	
3.15 m	1.35x**2.70m**[2)]	**0.45**x2.70m	

- 1) 1 extra-large panel (centre-to-centre distance 'a' ... 1,20m)
- 2) Alternatively 1 extra-large panel width 2.70 m (centre-to-centre distance a ... 1,20m)
- 3) Alternatively 1 extra-large panel width 2.40m (centre-to-centre distance a ... 1,00m)

- Panel heights are highlighted in the table.

For pour heights of up to 3.30 m

- SC-frame type **B**
- Influence width 1.35 m



Centre-to-centre distance 'a' ... 1.35 m

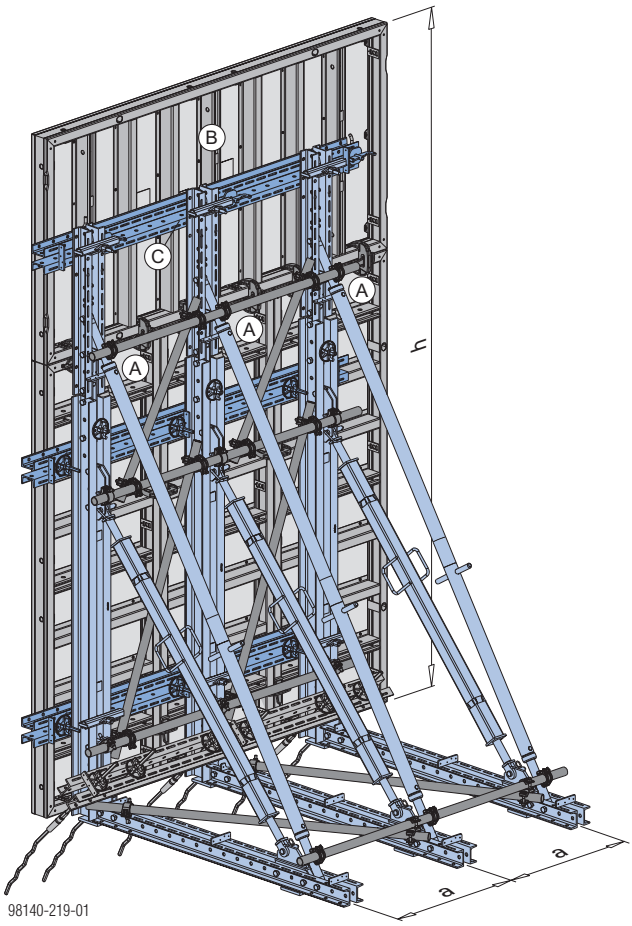
Pour height h	Framax Xlife panel (A)	Framax Xlife panel (B)	Multi-purpose waling WS10 Top50 (C)
3.00 m	**2.40**x2.70m[1)]	**0.60**x2.70m	3 units
3.30 m	1.35x**2.70m**[2)]	**0.60**x2.70m	
	1.35x**3.30m**[2) 3)]	—	
	2.40x2.70m[1)]	**0.90**x2.70m	

- 1) 1 extra-large panel (centre-to-centre distance 'a' ... 1,20m)
- 2) Alternatively 1 extra-large panel width 2.70 m (centre-to-centre distance a ... 1,20m)
- 3) Alternatively 1 extra-large panel width 2.40m (centre-to-centre distance a ... 1,00m)

- Panel heights are highlighted in the table.

Pour heights of up to 4.05 m

- SC-frame type **B**
- Influence width 0.90 m



Centre-to-centre distance 'a' ... 0.90 m

Pour height h	Framax Xlife panel (A)	Framax Xlife panel (B)	Multi-purpose waling WS10 Top50 (C)
3.60 m	0.90x**2.70m**	**0.90**x2.70m	3 units[1)]
3.60 m	0.90x**3.30m**	**0.30**x2.70m	3 units[2)]
3.75 m		**0.45**x2.70m	
3.90 m		**0.60**x2.70m	4 units[1) 2)]
4.05 m	0.90x**2.70m**	**1.35**x2.70m	3 units[1)]

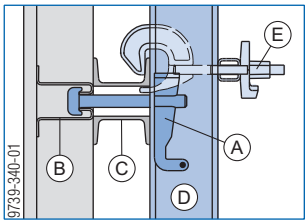
- 1) Vertical stacking: Multi-purpose walings secured to waling profile
- 2) Panel 3.30 m: Topmost multi-purpose waling secured to waling profile (see section headed 'with multi-purpose walings at waling profile levels')

- Panel heights are highlighted in the table.

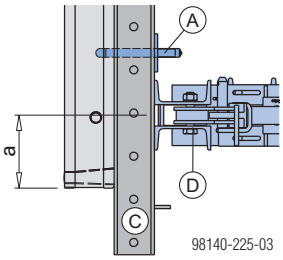
with multi-purpose walings at waling profile levels

Note:
Also applies for use with Framed formwork Alu-Framax Xlife!

- The multi-purpose waling is fastened in the waling profile of the formwork panel using the **Framax wedge clamp** or Framax universal fixing bolt.
- The girderframe unit's Waling WU14 for supporting construction frame is secured to the multi-purpose waling with **Waling-to-bracket holders 9-15cm**.



Plan view:



a ... 18.0 cm

A	Framax wedge clamp or Framax universal fixing bolt 10-16cm + Super plate 15.0
B	Waling profile of the Framax Xlife or Alu Framx Xlife panel
C	Multi-purpose waling WS10 Top50
D	Waling WU14 for supporting construction frame
E	Waling-to-bracket holder 9-15cm

Lengths of the Multi-purpose walings WS10 Top50:

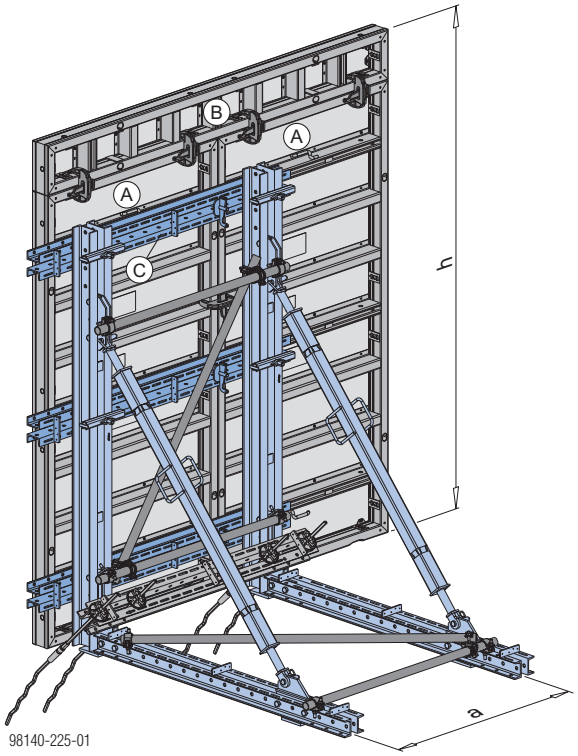
- on upright panels: 2.00 m
- On panels turned longside horizontal (or 3 girder-frame units): 2.50 m

Number of Multi-purpose walings WS10 Top50:

- Panel height 2.70m: 3
- Panel height 3.30m: 4
- Panel height 1.35m: 1

Pour heights of up to 3.15 m

- SC-frame type **A**
- Influence width 1.35 m



Centre-to-centre distance 'a' ... 1.35 m

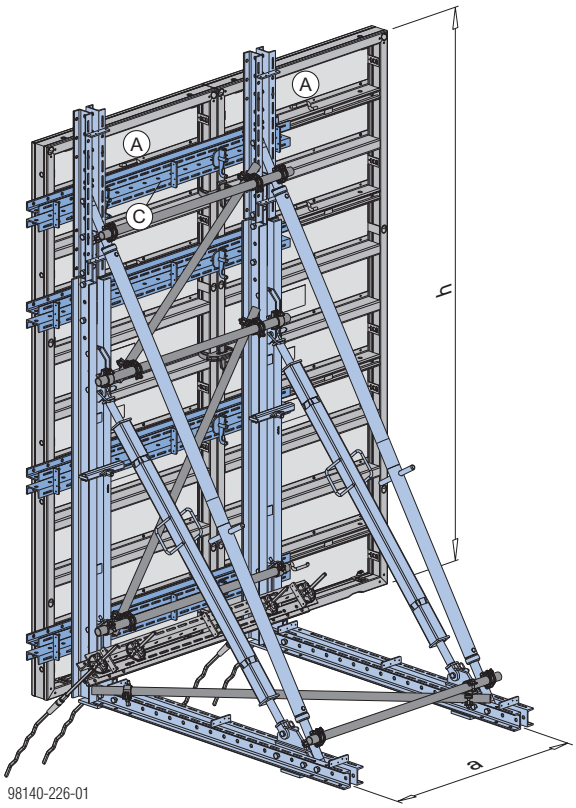
Pour height h	Framax Xlife panel (A)	Framax Xlife panel (B)	Multi-purpose waling WS10 Top50 (C)
2.40 m	**2.40**x2.70m[1)]	—	3 units
2.70 m	1.35x**2.70m**[2) 3)]	—	
	2.40x2.70m[1)]	**0.30**x2.70m	
2.85 m	**2.40**x2.70m[1)]	**0.45**x2.70m	
3.00 m	1.35x**2.70m**[2)]	**0.30**x2.70m	
3.15 m	1.35x**2.70m**[2)]	**0.45**x2.70m	

- 1) 1 extra-large panel
- 2) Alternatively 1 extra-large panel width 2.70m
- 3) Alternatively 1 extra-large panel width 2.40m

- Panel heights are highlighted in the table.

For pour heights of up to 3.30 m

- SC-frame type **B**
- Influence width 1.35 m



Centre-to-centre distance 'a' ... 1.35 m

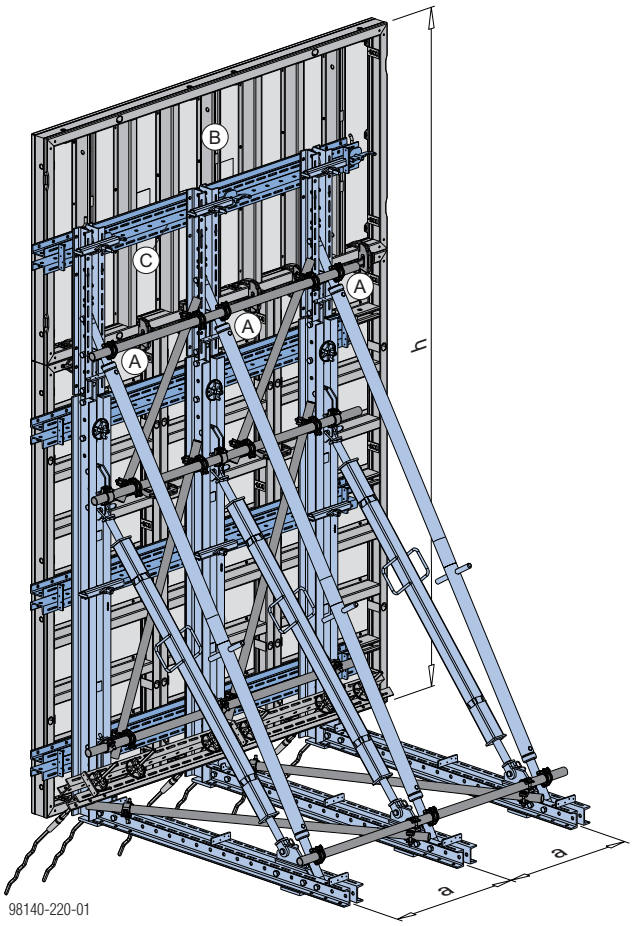
Pour height h	Framax Xlife panel		Multi-purpose waling WS10 Top50 (C)
	(A)	(B)	
3.00 m	**2.40**x2.70m[1)]	**0.60**x2.70m	3 units
3.30 m	1.35x**2.70m**[2)]	**0.60**x2.70m	4 units
	1.35x**3.30m**[2) 3)]	—	
	2.40x2.70m[1)]	**0.90**x2.70m	3 units

- 1) 1 extra-large panel
- 2) Alternatively 1 extra-large panel width 2.70m (centre-to-centre distance a ... 1,20m)
- 3) Alternatively 1 extra-large panel width 2.40m (centre-to-centre distance a ... 1,00m)

- Panel heights are highlighted in the table.

Pour heights of up to 4.05 m

- SC-frame type **B**
- Influence width 0.90 m



Centre-to-centre distance 'a' ... 0.90 m

Pour height h	Framax Xlife panel		Multi-purpose waling WS10 Top50 (C)
	(A)	(B)	
3.60 m	0.90x**2.70m**	**0.90**x2.70m	4 units
3.75 m	**2.40**x2.70m[*)]	**1.35**x2.70m	3 units
3.75 m	0.90x**3.30m**	**0.45**x2.70m	4 units
3.90 m		**0.60**x2.70m	5 units
4.05 m	0.90x**2.70m**	**1.35**x2.70m	4 units

*) 1 extra-large panel

- Panel heights are highlighted in the table.

Structural design

The values given in the table are only applicable to forming situations where there is no kicker. In cases with large kickers, the overall stability of the SC-frame must be reviewed.

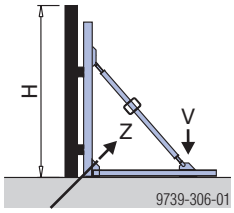
The loading data is stated per girderframe unit for an anchor inclination of 45°.

Pour heights of up to 3.00 m

SC-frame type

A

Supporting construction frame "Variable"



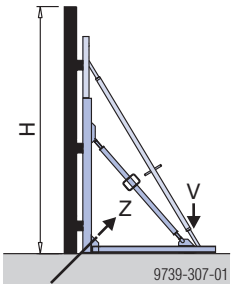
Permitted fresh-concrete pressure:	Pour height **H** [m]	Anchor force Z_k [kN]	Shoring force V_k [kN]	Deformation top [mm]
	Influence width 1.35 m			
40 kN/m²	2.70	145	57	3
	3.00	168	76	4
	3.15	179	86	5
50 kN/m²	2.70	162	60	3
	3.00	191	81	5
	3.15	205	93	6

Pour heights of up to 3.30 m

SC-frame type

B

Vertically extended Supporting construction frame "Variable"



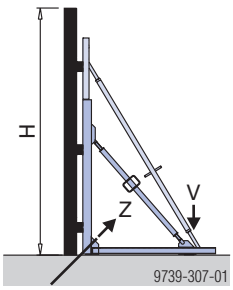
Permitted fresh-concrete pressure:	Pour height **H** [m]	Anchor force Z_k [kN]	Shoring force V_k [kN]	Deformation top [mm]
	Influence width 1.35 m			
40 kN/m²	3.15	179	86	2
	3.30	191	97	2
50 kN/m²	3.15	205	93	2
	3.30	220	105	3

Pour heights of up to 4.05 m

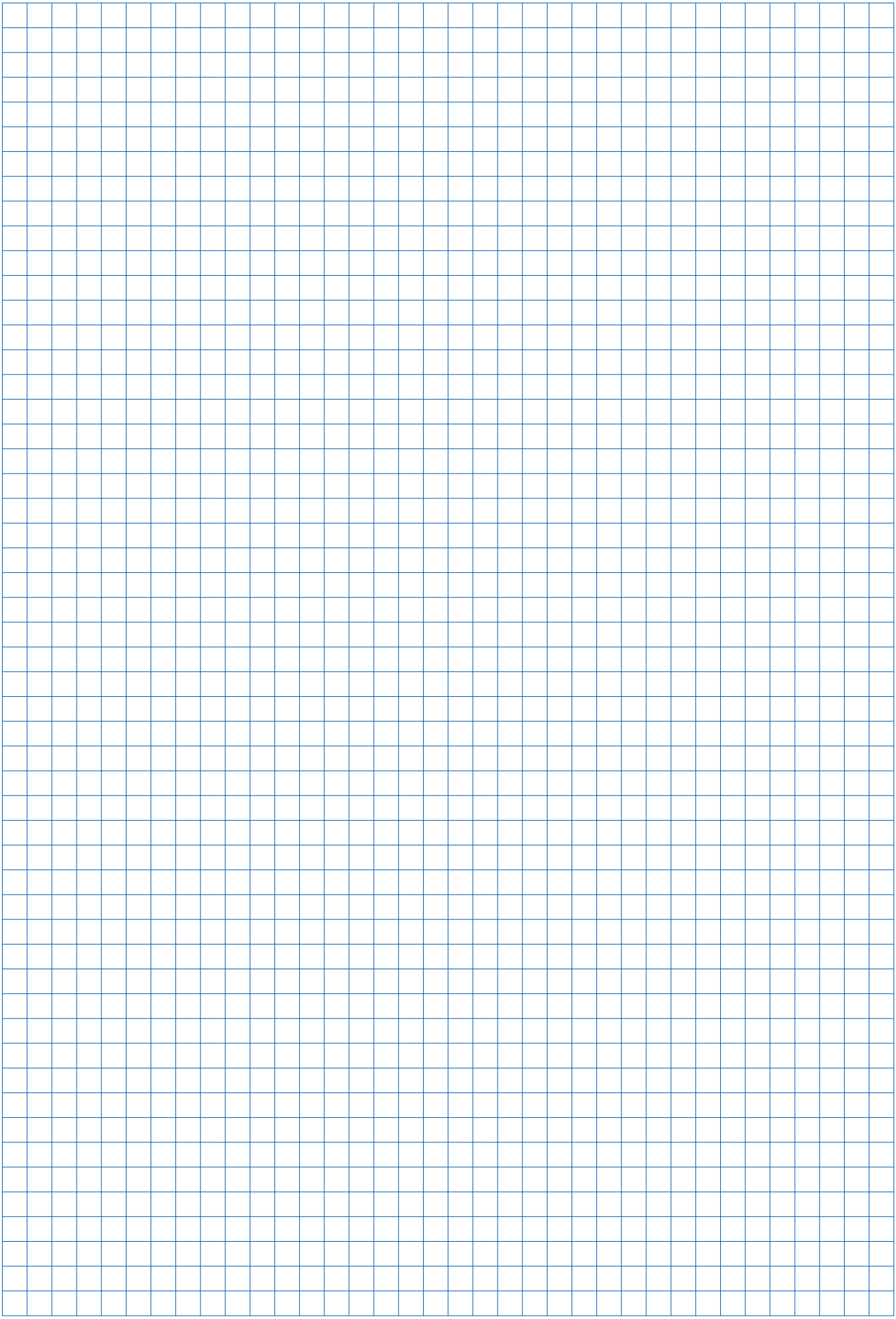
SC-frame type

B

Vertically extended Supporting construction frame "Variable"



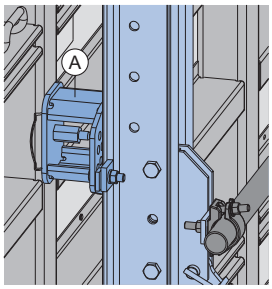
Permitted fresh-concrete pressure:	Pour height **H** [m]	Anchor force Z_k [kN]	Shoring force V_k [kN]	Deformation top [mm]
	Influence width 0.90 m			
40 kN/m²	3.60	143	81	2
	3.75	150	89	3
	3.90	158	98	4
	4.05	165	108	4
50 kN/m²	3.60	165	89	3
	3.75	175	99	3
	3.90	185	109	4
	4.05	194	120	5



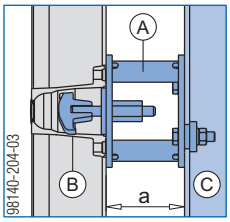
Used with Framed formwork Framax Xlife plus

with SC distancer

- The **Framax Xlife plus supp.-frame distancer 12cm** is secured in the form-tie sleeve of the formwork panel.
- The girderframe unit's Waling WU14 for supporting construction frame is secured to the supporting construction distancer.



98140-204-02



a ... 13.0 cm

A	Framax Xlife plus supp.-frame distancer 12cm
B	Form-tie sleeve of the Framax Xlife plus panel
C	Waling WU14 for supporting construction frame

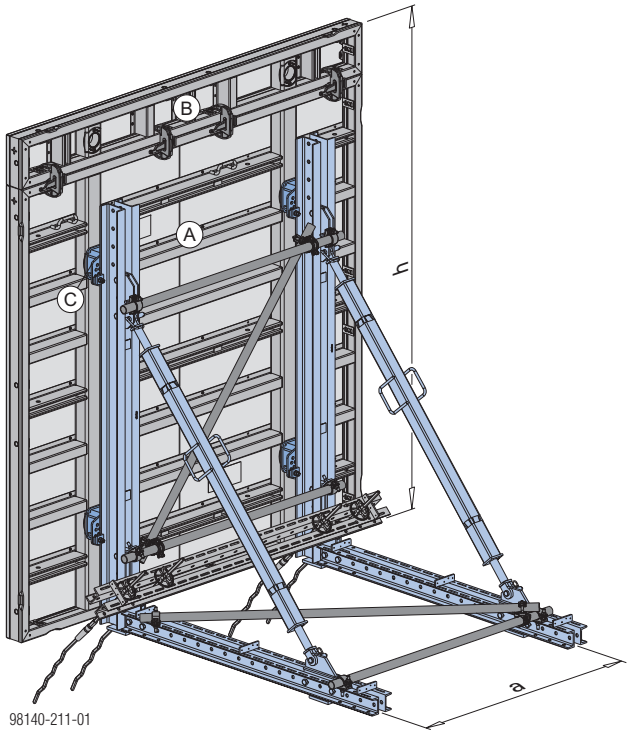
Note:
The SC-distancers are positioned following the same rules as for form ties on double-sided wall formwork.

Follow the directions in the 'Framed formwork Framax Xlife plus' User Information booklet.

Tools needed for assembly:
- Fork wrench 30/32
- Reversible ratchet 1/2" with Box nut 24 1/2"
- Fork wrench 22/24

Pour heights of up to 3.15 m

- SC-frame type **A**
- Influence width 1.35 m



Centre-to-centre distance 'a' ... 1.55 m

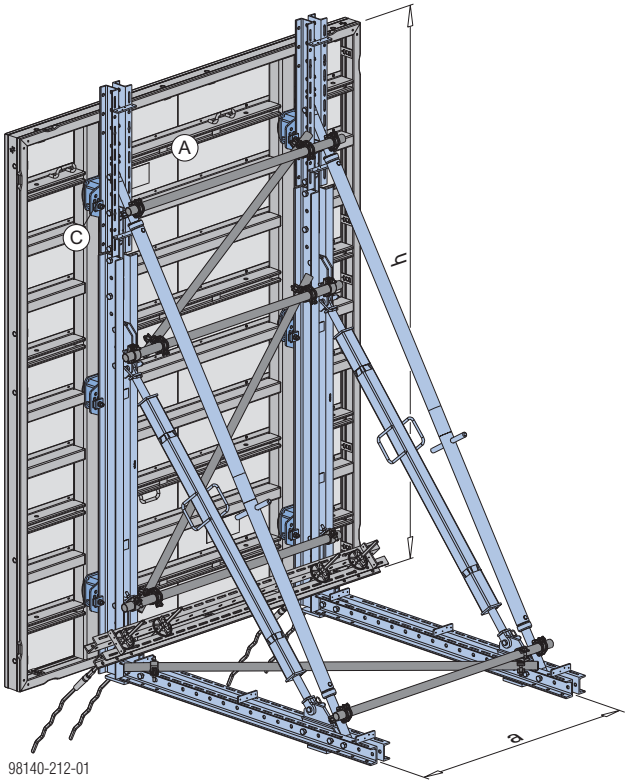
Pour height h	Framax Xlife plus panel (A)	Framax Xlife plus panel (B)	Framax Xlife plus supp.-frame distancer 12cm (C)
2.70 m	2,70x**2.70m***)	—	4 units
3.00 m		**0.30**x2.70m	
3.15 m		**0.45**x2.70m	

*) Alternatively 2 units of width 1.35m (centre-to-centre distance a ... 1.35 m)

- Panel heights are highlighted in the table.

For pour heights of up to 3.30 m

- SC-frame type **B**
- Influence width 1.35 m



Centre-to-centre distance 'a' ... 1.55 m

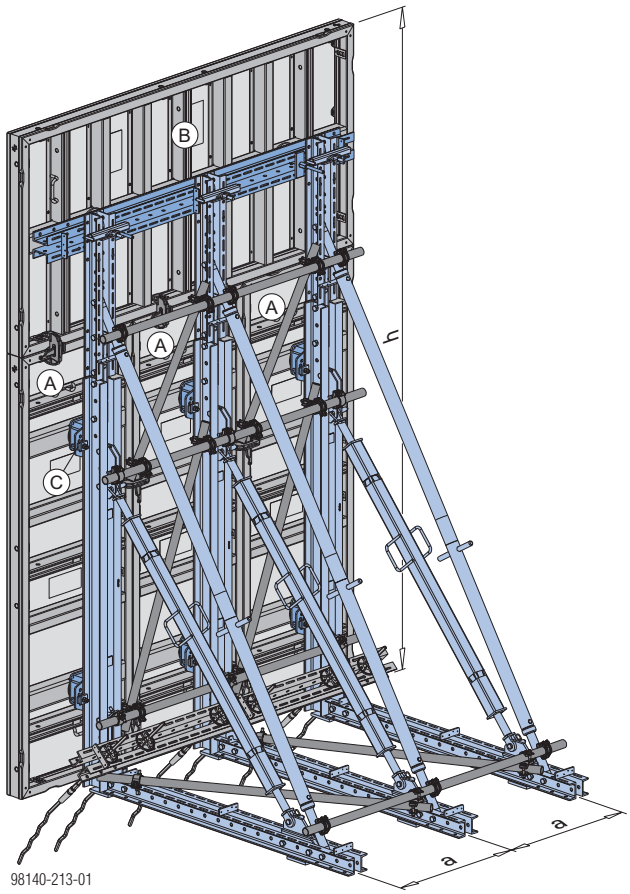
Pour height h	Framax Xlife plus panel (A)	Framax Xlife plus supp.-frame distancer 12cm (C)
3.30 m	2,70x**3.30m***)	6 units

*) Alternatively 2 units of width 1.35m (centre-to-centre distance a ... 1.35 m)

- Panel heights are highlighted in the table.

Pour heights of up to 4.05 m

- SC-frame type **B**
- Influence width 0.90 m



Centre-to-centre distance 'a' ... 0.90 m

Pour height h	Framax Xlife plus panel		Framax Xlife plus supp.-frame distancer 12cm (C)
	(A)	(B)	
3.45 m	0.90x**2.70m**	**0.75**x2.70m	6 units*)
3.60 m	0.90x**2.70m**	**0.90**x2.70m	
3.60 m	0.90x**3.30m**	**0.30**x2.70m	9 units
3.75 m		**0.45**x2.70m	9 units*)
3.90 m		**0.60**x2.70m	
4.05 m	0.90x**2.70m**	**1.35**x2.70m	6 *)

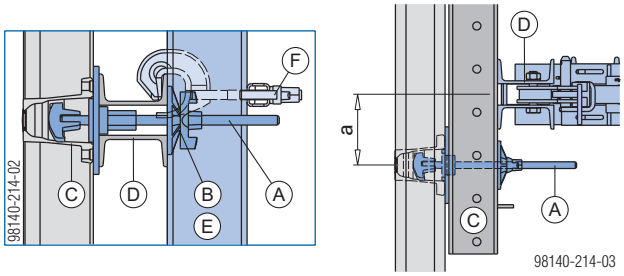
*) Topmost fixing with Multi-purpose waling WU12 Top50
(see the section headed 'with multi-purpose walings at tying levels')

- Panel heights are highlighted in the table.

with multi-purpose walings at the tying levels

- The multi-purpose waling is fastened in the anchoring sleeve of the formwork panel using the **Framax Xlife plus supporting frame bolt**.
- The girderframe unit's Waling WU14 for supporting construction frame is secured to the multi-purpose waling with **Waling-to-bracket holders 9-15cm**.

Plan view:



a ... 17.5 cm

A	Framax Xlife plus supporting-frame bolt (assembly with Tie-rod wrench 15.0/20.0)
B	Super plate 15.0 (or to avoid collision with the waling for SC frame: Framax pressure plate 6/15 + Hexagon nut 15.0
C	Form-tie sleeve of the Framax plus panel
D	Multi-purpose waling WU12 Top50
E	Waling WU14 for supporting construction frame
F	Waling-to-bracket holder 9-15cm

Lengths of the Multi-purpose walings WU12 Top50:

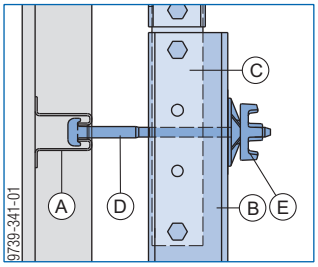
- on upright panels: 2.00 m
- On panels turned longside horizontal (or 3 girderframe units): 2.50 m

Number of Multi-purpose walings WU12 Top50:

- Panel height 2.70m: 2
- Panel height 3.30m: 3
- Panel height 1.35m: 1

Additional fixing

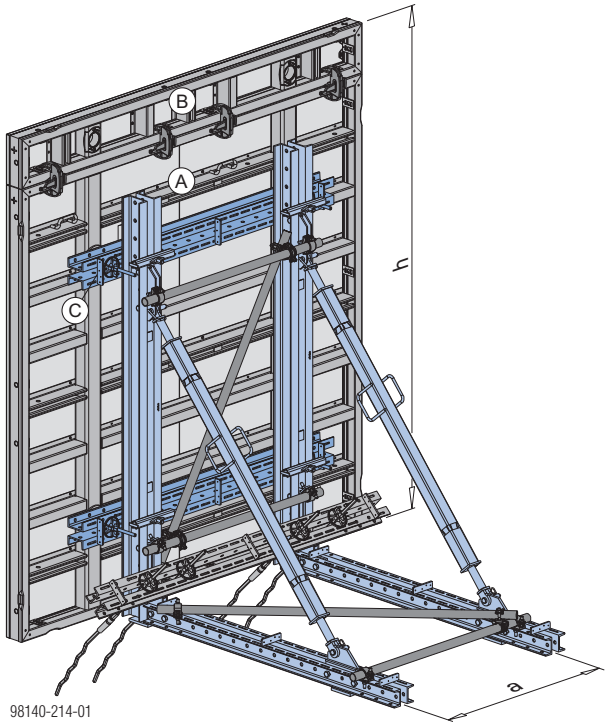
near the Formwork element connector FF20/50 Z on vertically stacked configurations



A	Waling profile of the Framax Xlife plus panel
B	Waling WU14 for supporting construction frame
C	Formwork element connector FF20/50 Z
D	Framax universal fixing bolt 10-25cm
E	Super plate 15.0

Pour heights of up to 3.15 m

- SC-frame type **A**
- Influence width 1.35 m



Centre-to-centre distance 'a' ... 1.20 m

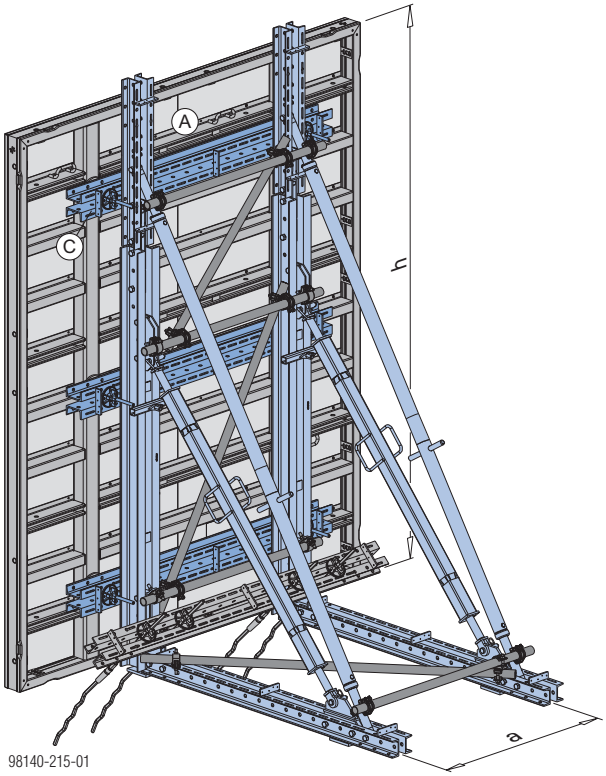
Pour height h	Framax Xlife plus panel (A)	Framax Xlife plus panel (B)	Multi-purpose waling WU12 Top50 (C)
2.70 m	2.70x**2.70m***)	—	2 units
3.00 m		**0.30**x2.70m	
3.15 m		**0.45**x2.70m	

*) Alternatively 2 units of width 1.35m (centre-to-centre distance a ... 1.65 m)

- Panel heights are highlighted in the table.

For pour heights of up to 3.30 m

- SC-frame type **B**
- Influence width 1.35 m



Centre-to-centre distance 'a' ... 1.20 m

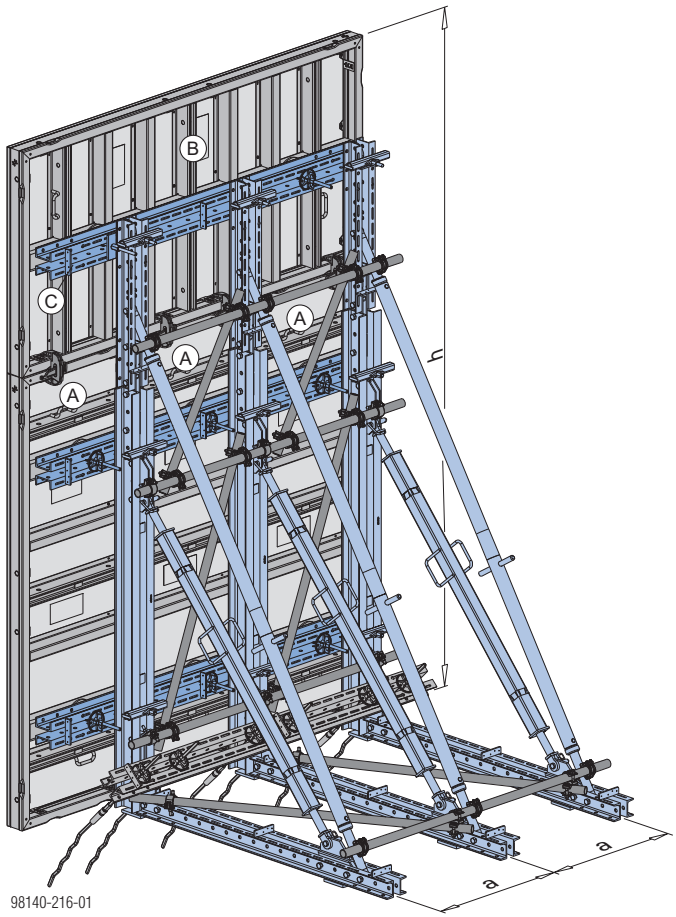
Pour height h	Framax Xlife plus panel (A)	Multi-purpose waling WU12 Top50 (C)
3.30 m	2.70x**3.30m***)	3 units

*) Alternatively 2 units of width 1.35m (centre-to-centre distance a ... 1.65 m)

- Panel heights are highlighted in the table.

Pour heights of up to 4.05 m

- SC-frame type **B**
- Influence width 0.90 m



Centre-to-centre distance 'a' ... 0.90 m

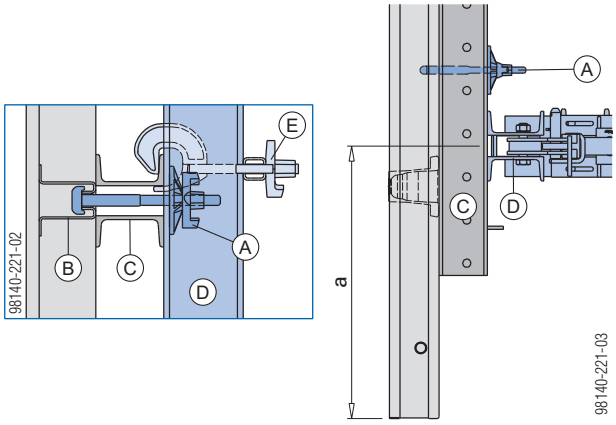
Pour height h	Framax Xlife plus panel		Multi-purpose waling WU12 Top50 (C)
	(A)	(B)	
3.45 m	0.90x**2.70m**	**0.75**x2.70m	3 units
3.60 m	0.90x**2.70m**	**0.90**x2.70m	
3.60 m	0.90x**3.30m**	**0.30**x2.70m	
3.75 m		**0.45**x2.70m	
3.90 m		**0.60**x2.70m	4 units
4.05 m	0.90x**2.70m**	**1.35**x2.70m	3 units

- Panel heights are highlighted in the table.

with multi-purpose walings at waling profile levels

- The multi-purpose waling is fastened in the waling profile of the formwork panel using the **Framax universal fixing bolt 10-16cm**.
- The girderframe unit's Waling WU14 for supporting construction frame is secured to the multi-purpose waling with **Waling-to-bracket holders 9-15cm**.

Plan view:



a ... 67.5 cm

A	Framax universal fixing bolt 10-16cm
B	Waling profile of the Framax Xlife plus panel
C	Multi-purpose waling WU12 Top50
D	Waling WU14 for supporting construction frame
E	Waling-to-bracket holder 9-15cm

Lengths of the Multi-purpose walings WU12 Top50:

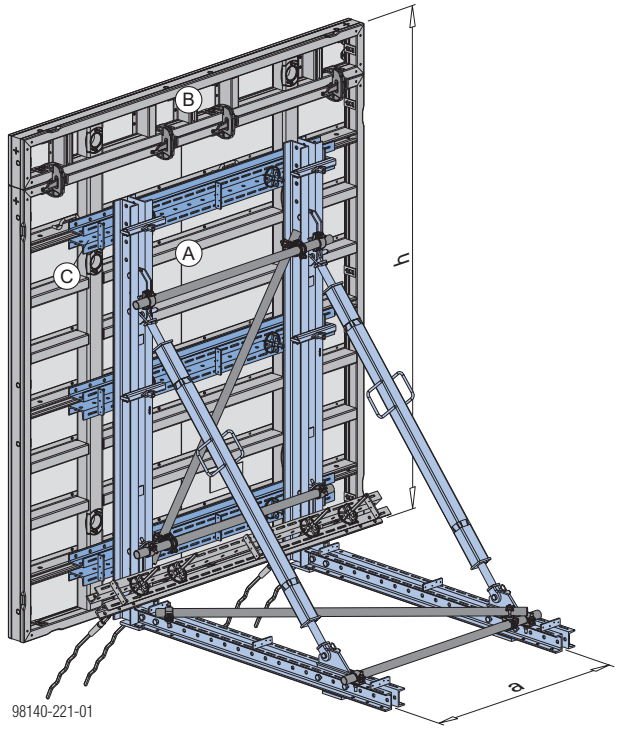
- on upright panels: 2.00 m
- On panels turned longside horizontal (or 3 girderframe units): 2.50 m

Number of Multi-purpose walings WU12 Top50:

- Panel height 2.70m: 3
- Panel height 3.30m: 4
- Panel height 1.35m: 1

Pour heights of up to 3.15 m

- SC-frame type **A**
- Influence width 1.35 m



Centre-to-centre distance 'a' ... 1.35 m

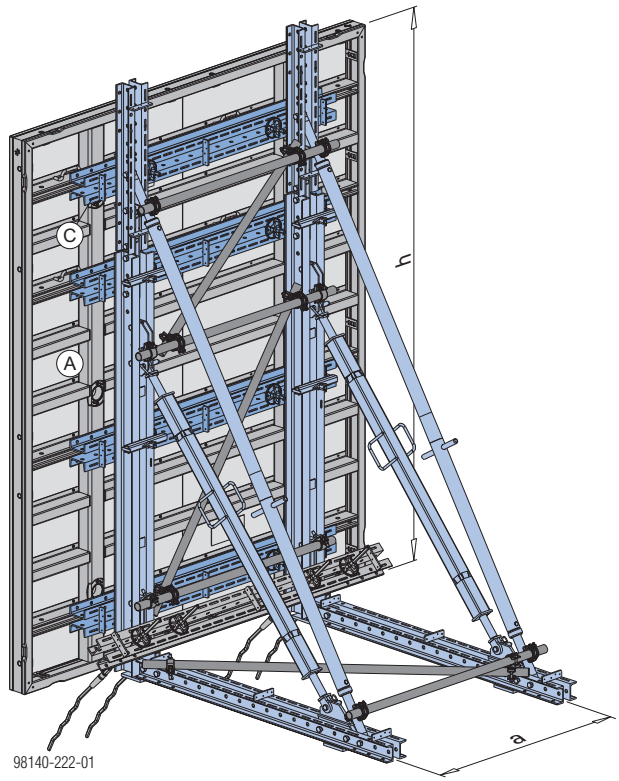
Pour height h	Framax Xlife plus panel (A)	Framax Xlife plus panel (B)	Multi-purpose waling WU12 Top50 (C)
2.70 m	2.70x**2.70m***)	—	3 units
3.00 m		**0.30**x2.70m	
3.15 m		**0.45**x2.70m	

*) Alternatively 2 units of width 1.35m

- Panel heights are highlighted in the table.

For pour heights of up to 3.30 m

- SC-frame type **B**
- Influence width 1.35 m



Centre-to-centre distance 'a' ... 1.35 m

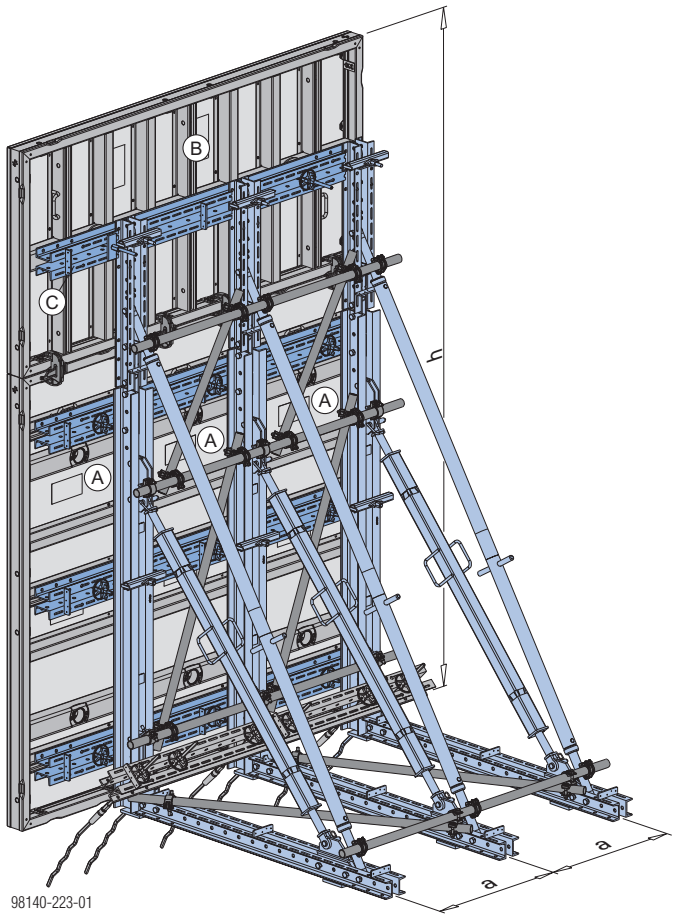
Pour height h	Framax Xlife plus panel (A)	Multi-purpose waling WU12 Top50 (C)
3.30 m	2.70x**3.30m***)	4 units

*) Alternatively 2 units of width 1.35m

- Panel heights are highlighted in the table.

Pour heights of up to 4.05 m

- SC-frame type **B**
- Influence width 0.90 m



Centre-to-centre distance 'a' ... 0.90 m

Pour height h	Framax Xlife plus panel		Multi-purpose waling WU12 Top50 (C)
	(A)	(B)	
3.45 m	0.90x**2.70m**	**0.75**x2.70m	4 units*)
3.60 m	0.90x**2.70m**	**0.90**x2.70m	
3.60 m	0.90x**3.30m**	**0.30**x2.70m	4 units
3.75 m		**0.45**x2.70m	
3.90 m		**0.60**x2.70m	5 units*)
4.05 m	0.90x**2.70m**	**1.35**x2.70m	4 units*)

*) Vertical stacking: Multi-purpose walings secured in form-tie sleeve (see the section headed 'with multi-purpose walings at the tying levels')

- Panel heights are highlighted in the table.

Structural design

The values given in the table are only applicable to forming situations where there is no kicker. In cases with large kickers, the overall stability of the SC-frame must be reviewed.

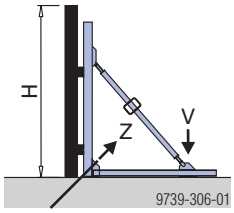
The loading data is stated per girderframe unit for an anchor inclination of 45°.

Pour heights of up to 3.15 m

SC-frame type

A

Supporting construction frame "Variable"



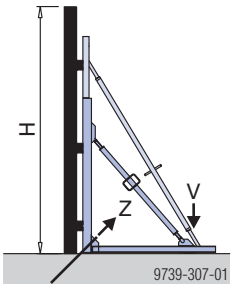
Influence width 1.35 m				
Permitted fresh-concrete pressure:	Pour height **H** [m]	Anchor force Z_k [kN]	Shoring force V_k [kN]	Deformation top [mm]
40 kN/m²	2.70	145	57	3
	3.00	168	76	4
	3.15	179	86	5
50 kN/m²	2.70	162	60	3
	3.00	191	81	5
	3.15	205	93	6

Pour heights of up to 3.30 m

SC-frame type

B

Vertically extended Supporting construction frame "Variable"



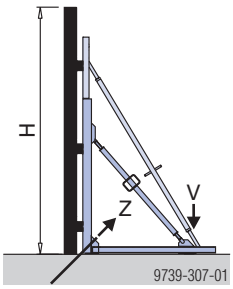
Influence width 1.35 m				
Permitted fresh-concrete pressure:	Pour height **H** [m]	Anchor force Z_k [kN]	Shoring force V_k [kN]	Deformation top [mm]
40 kN/m²	3.15	179	86	2
	3.30	191	97	2
50 kN/m²	3.15	205	93	2
	3.30	220	105	3

Pour heights of up to 4.05 m

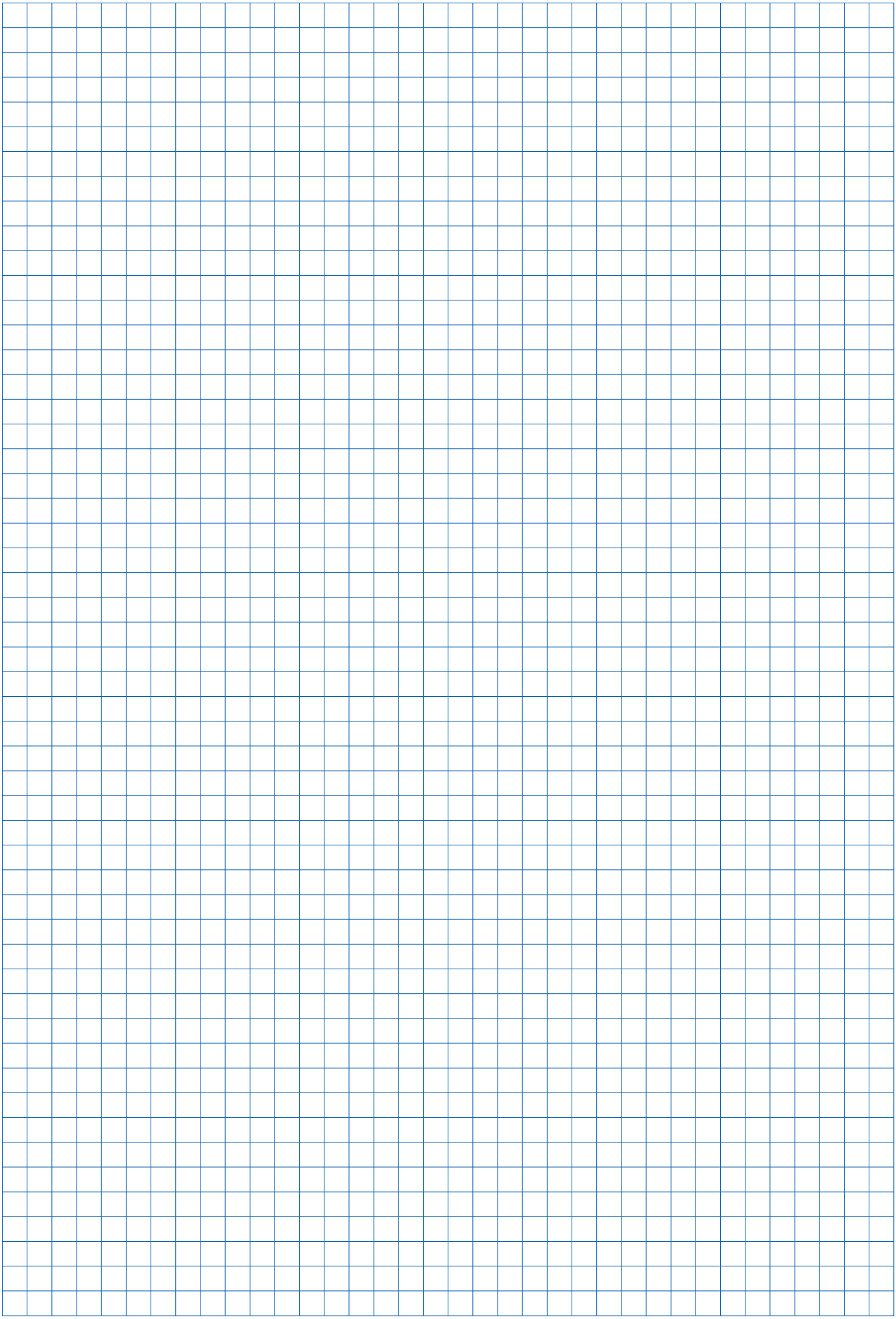
SC-frame type

B

Vertically extended Supporting construction frame "Variable"



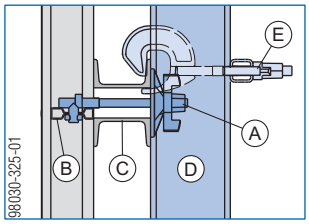
Influence width 0.90 m				
Permitted fresh-concrete pressure:	Pour height **H** [m]	Anchor force Z_k [kN]	Shoring force V_k [kN]	Deformation top [mm]
40 kN/m²	3.45	135	73	2
	3.60	143	81	2
	3.75	150	89	3
	3.90	158	98	4
	4.05	165	108	4
50 kN/m²	3.45	156	80	3
	3.60	165	89	3
	3.75	175	99	3
	3.90	185	109	4
	4.05	194	120	5



Used with Framed formwork Frami Xlife

with multi-purpose waling

- The multi-purpose waling is fastened in the cross profile of the formwork panel using the **Frami universal fixing bolt 5-12cm**.
- The girderframe unit's Waling WU14 for supporting construction frame is secured to the multi-purpose waling with **Waling-to-bracket holders 9-15cm**.



A	Frami universal fixing bolt 5-12cm + Super plate 15.0
B	Cross profile of the Frami Xlife panel
C	Multi-purpose waling WS10 Top50
D	Waling WU14 for supporting construction frame
E	Waling-to-bracket holder 9-15cm

Lengths of the Multi-purpose walings WS10 Top50:

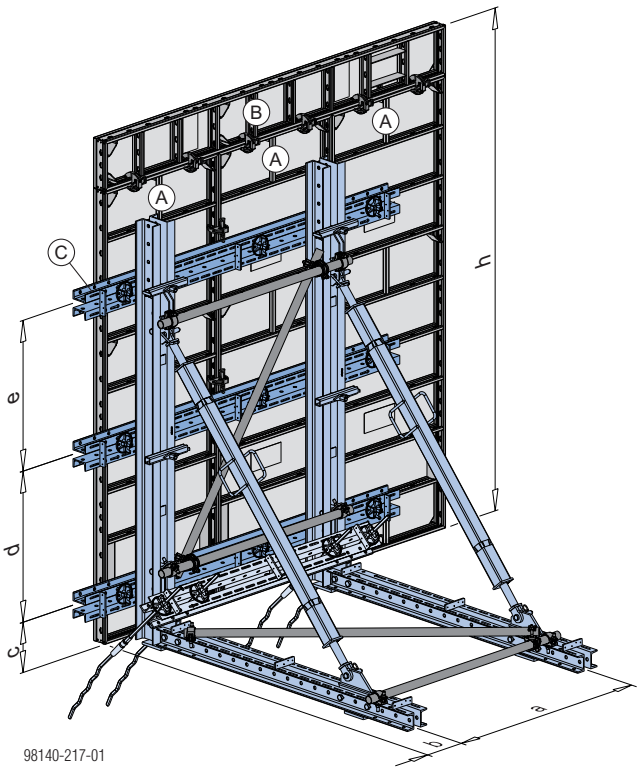
Width of the supporting construction frame unit + 2 x 28 cm (excess width on either side)

Number of Multi-purpose walings WS10 Top50:

- Panel height up to 3.00m: 3
- Panel height 0.90m: 1

For pour heights of up to 3.00 m

- SC-frame type **A**
- Influence width 1.35 m



Centre-to-centre distance 'a' ... 1.35 m
b ...22.5 cm
c ... 30 cm

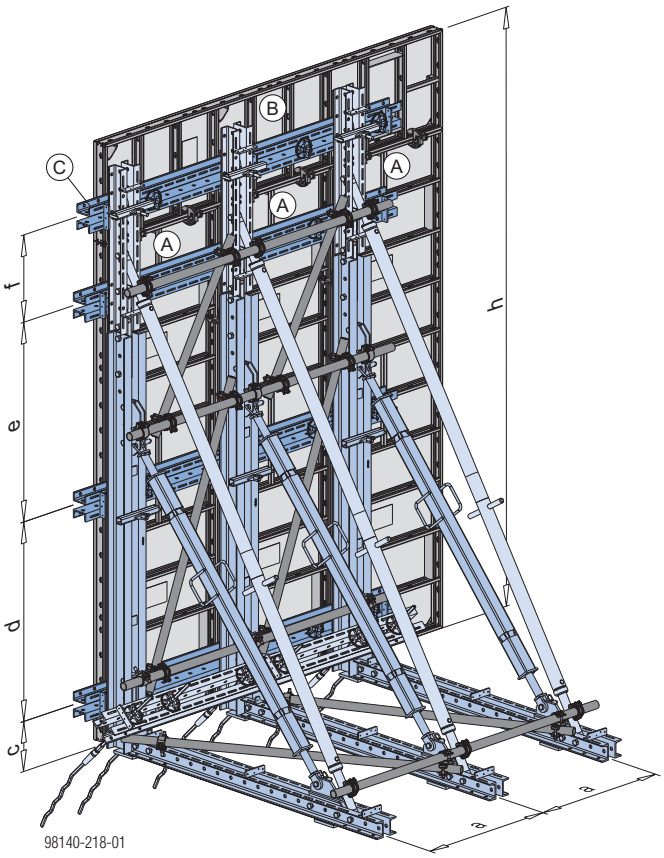
Pour height h [cm]	Frami Xlife panel		Multi-purpose waling WS10 Top50 (C)		
				Spacing [cm]	
	(A)	(B)		d	e
270	0,90x**2.70m***)	—	3 units	90	90
300		**0.30**x2.70m		120	
	0.90x**3.00m***)	—			

*) Alternatively 1 extra large panel of width 2.40m

- Panel heights are highlighted in the table.

For pour heights of up to 3.60 m

- SC-frame type **B**
- Influence width 0.90 m



Centre-to-centre distance 'a' ... 0.90m
c ... 30 cm

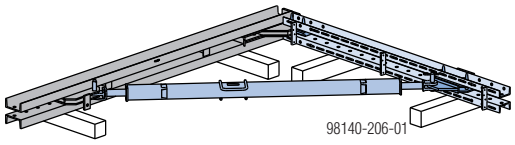
Pour height h [cm]	Frami Xlife panel		Multi-purpose waling WS10 Top50 (C)			
				Spacing [cm]		
	(A)	(B)		d	e	f
315	0.90x**2.70m**	**0.45**x2.70m	4 units	90	90	82.5
330		**0.60**x2.70m				
	0.90x**3.00m**	**0.30**x2.70m	3 units		120	—
345		**0.45**x2.70m	4 units	120		52.5
360		**0.60**x2.70m				
	0.90x**2.70m**	**0.90**x2.70m		90		

- Panel heights are highlighted in the table.

Assembly

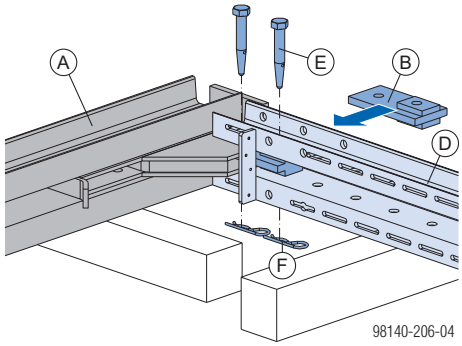
Assembly of girderframe unit

➤ Lay the components for one girderframe unit of the Supporting construction frame Variable 3.30m on hardwood blocking and connect them together.

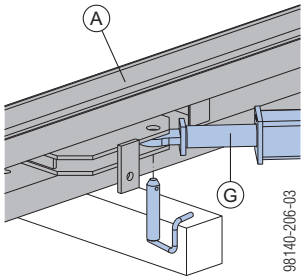


Connection details:

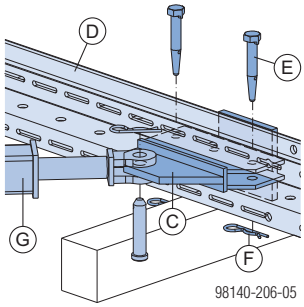
Bottom waling for supporting construction frame



Top waling for supporting construction frame



Supporting shoe

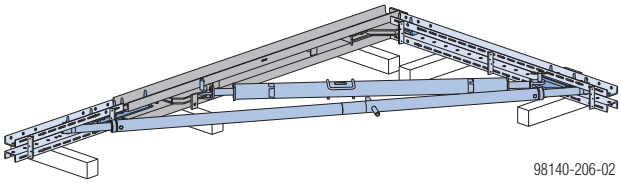


A	Waling WU14 for supporting construction frame
B	Tension plate
C	Supporting shoe
D	Multi-purpose waling WS10 Top50 2.00m
E	Connecting pin 10cm
F	Spring cotter 5mm
G	Spindle strut 12 3.00m

SC-frame type B: Vertical stacking

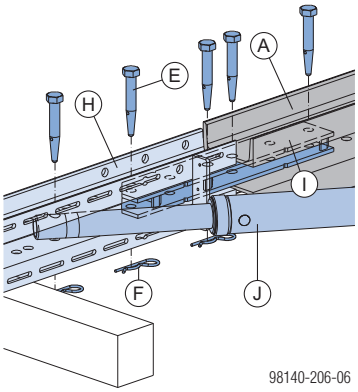
➤ Pin Multi-purpose waling WS 10 Top50 1.00m to waling for SC frame with formwork element connectors.

➤ Pin additional Spindle strut T7 into position.

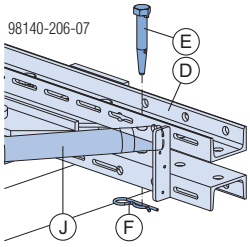


Connection details:

Vertical stacking, spindle strut, top



Spindle strut, bottom

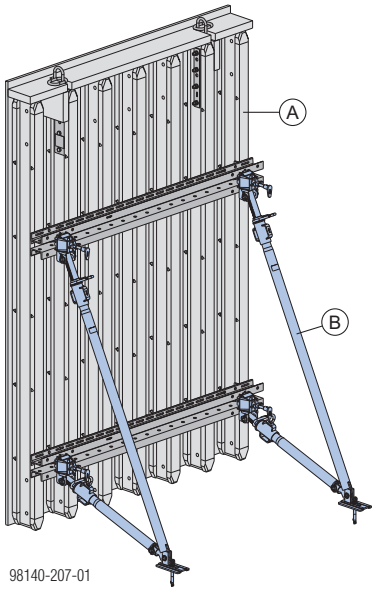


A	Waling WU14 for supporting construction frame
D	Multi-purpose waling WS10 Top50 2.00m
E	Connecting pin 10cm
F	Spring cotter 5mm
H	Multi-purpose waling WS10 Top50 1.00m
I	Formwork element connector FF20/50 Z
J	Spindle strut T7 305/355cm

Assembly of unit for repositioning

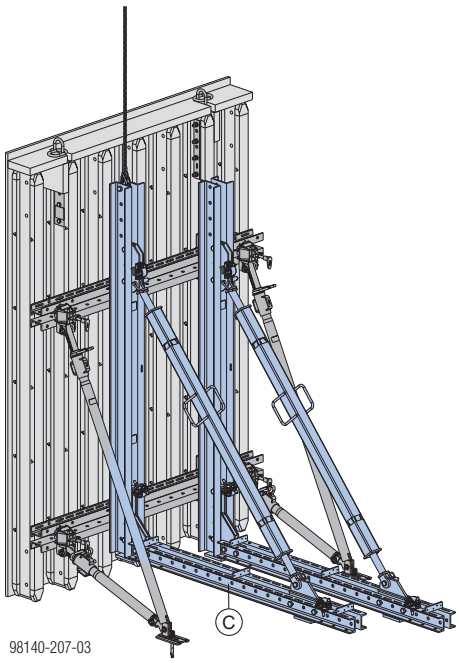
The supporting construction distancers or multi-purpose walings for the girderframe unit are pre-installed while the formwork panel is still lying flat (see the section applicable to the formwork system used).

➤ Lift the pre-assembled formwork element into the upright, and use panel struts to safely stabilise it in the upright position.



A Formwork element
B Panel strut

➤ Fix the pre-assembled girderframe units to the upright formwork at the appropriate centre-to-centre distances.

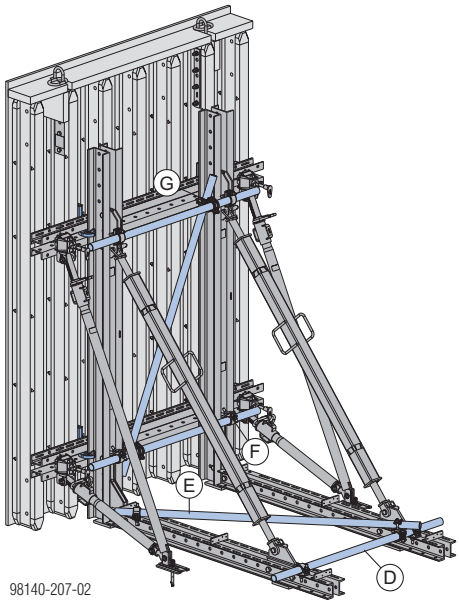


C Supporting construction frame Variable 3.30m (pre-assembled girderframe units)

For positioning of the girderframe units and securing to the formwork panel see the section applicable to the formwork system used.

➤ Brace the SC-frame with scaffold tubes.

Example with 2 girderframe units:



D Scaffold tube 48.3mm 1.50m
E Scaffold tube 48.3mm 2.00m
F Screw-on coupler 48mm 50
G Swivel coupler 48mm

- Tightening torque of the couplers for the bracing tubes: 50 Nm
- Distance between swivel coupler and screw-on coupler: max. 160 mm.

Tools needed for assembly:

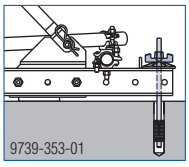
- Fork wrench 22/24, width-across 22mm

➤ Remove the panel struts.

➤ Crane-lift the entire unit to the usage location (see the section headed 'Resetting by crane').

For more exact plumbing and aligning of the formwork, secure the horizontal multi-purpose walings against accidental lift-out.

- with Rock anchor spreader unit 15.0, Tie rod 15.0 and Super plate 15.0



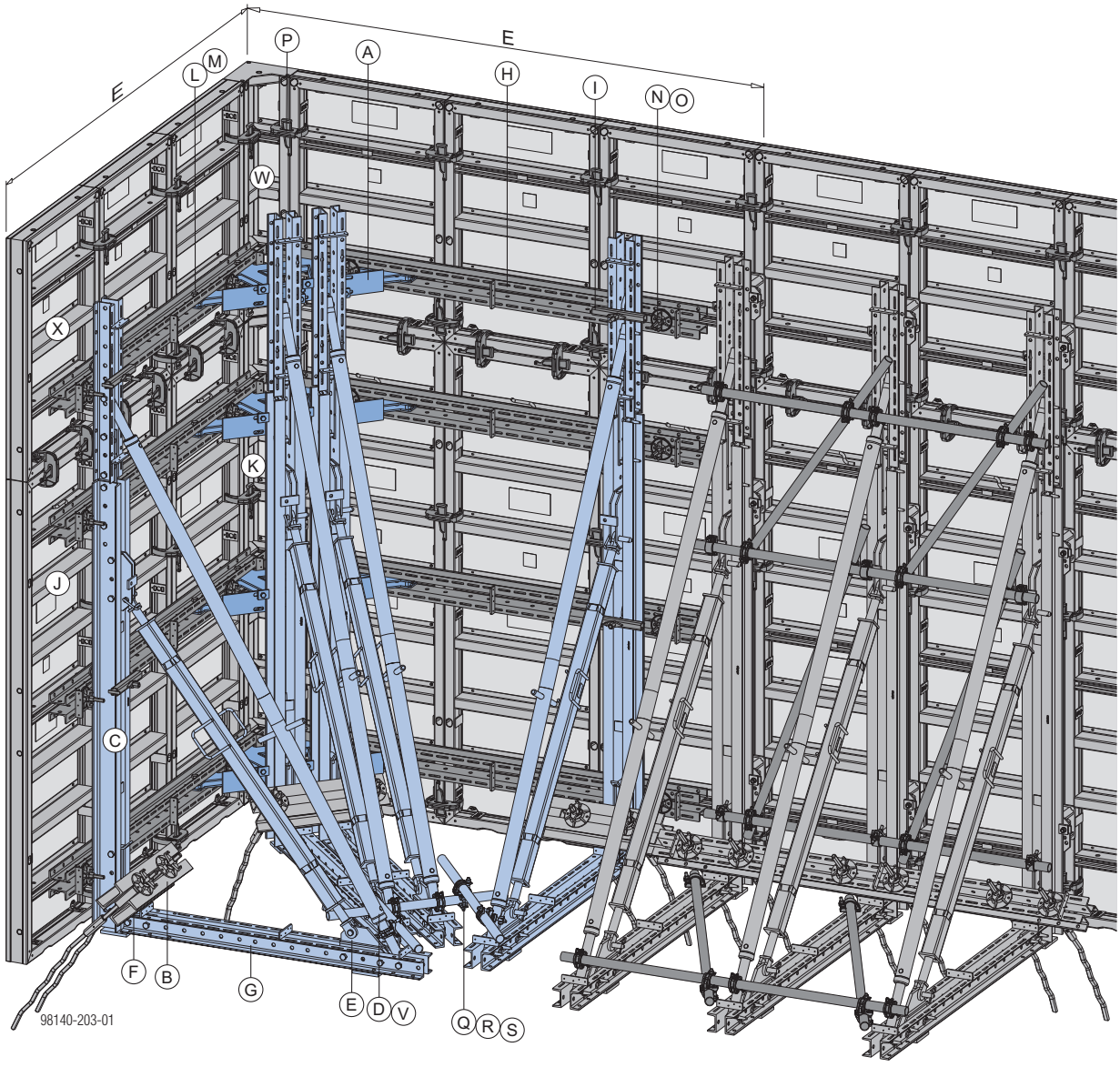
- or with a ballast

General

Inside corner configurations

NOTICE

In the corner at least two Supporting construction frames "Variable" are needed and at least one Multi-purpose waling WU12 Top50 has to be used as anchor waling.



E ... 3.00 m

On account of the supporting construction frame's geometry, the influence widths are as follows:

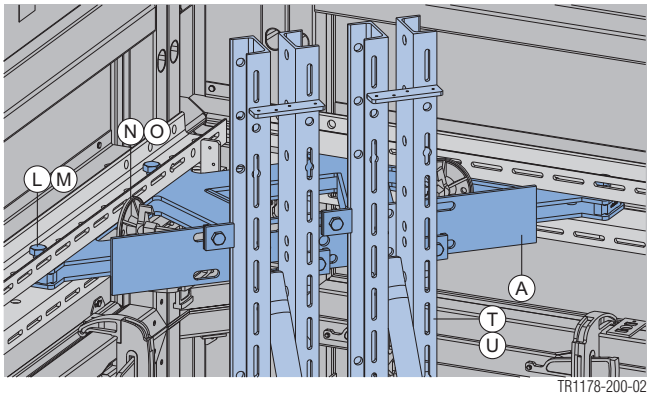
	Influence width per SC-frame / pair of anchors
Supporting construction frame at the corner plate	2.50 m
Both outside SC frames	0.80 m

Permitted fresh-concrete pressure:	Pour height **H** [m]	Anchor force Z_k [kN]
50 kN/m²	3.15	190
	3.30	205
35 kN/m²	3.60	165
	3.75	175
	3.90	185
	4.05	194

NOTICE

Anchor force Z_k is the force acting on **one** anchor!

Close-up of Corner plate for SC frame



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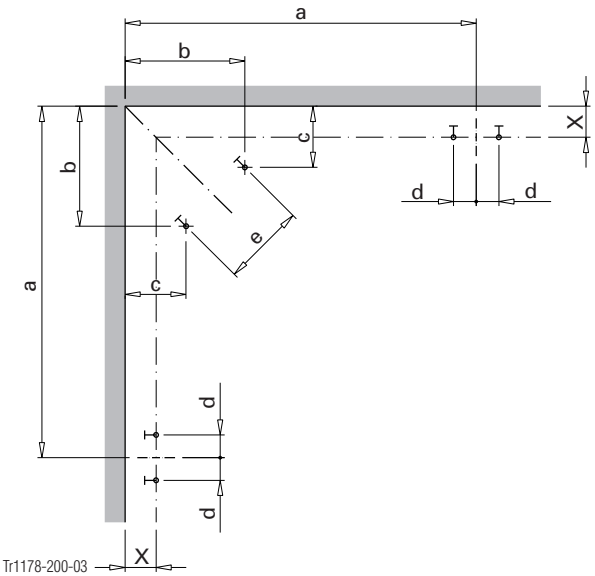
Items needed for corner zone 3.00 x 3.00 m

		Formwork height 2.70 m	Formwork height 4.05 m
(A)	Corner plate for SC frame	3	4
(B)	Anchor waling 0.70m	3	3
(C)	Waling WU14 for supporting construction frame	4	4
(D)	Spindle strut 12 3.00m	4	4
(E)	Supporting shoe	4	4
(F)	Tension plate	4	4
(G)	Multi-purpose waling WS10 Top50 1.75m	4	4
(H)	Multi-purpose waling WS10 Top50 2.50m	6	8
(I)	Waling-to-bracket holder 9-15cm	4	4
(J)	Framax Xlife panel 0.90x2.70m	6	6
(K)	Framax Xlife inside corner 2.70m	1	1
(L)	Connecting pin 10cm	28	48
(M)	Spring cotter 5mm	28	48
(N)	Framax universal fixing bolt 10-16cm	12	16
(O)	Super plate 15.0	12	16
(P)	Framax quick acting clamp RU	14	40
(Q)	Scaffold tube 48mm 1.00m	3	3
(R)	Swivel coupler 48mm	4	4
(S)	Normal coupler 48mm	2	2
(T)	Formwork element connector FF20/50 Z	—	4
(U)	Multi-purpose waling WS10 Top50 1.00m	—	4
(V)	Spindle strut T7 305/355cm	—	4
(W)	Framax Xlife inside corner 1.35m	—	1
	Total weight [kg] - rounded	2190	3130

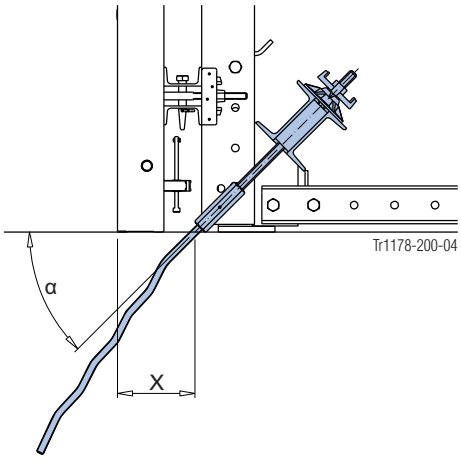
The table also takes account of the components needed to connect to the adjacent element on one side.

Location of anchoring points

Plan view



View



The dimensions given here apply to framed formwork Framax Xlife and Alu-Framax Xlife and anchor inclination α **= 45**°
a ... 232.0 cm
b ... 79.0 cm
c ... 40.0 cm
d ... 15.0 cm
e ... 55.0 cm
X ... 20.0 cm

Pouring platforms

NOTICE

Because of the great flexibility with which SC-frame units can be set up and combined with different formwork systems and heights, consideration should be given at the planning stage to which platform configuration is most suitable for the intended application (collision test, maximum drops etc.).

Also consider the situation applying during lifting of the SC-frame units, particularly when the platforms are above the crane hoisting points.

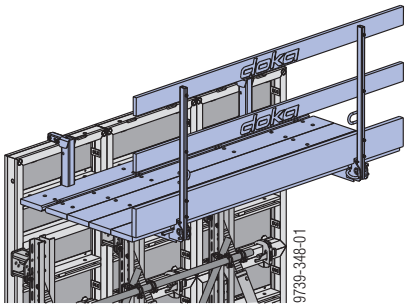
Observe all applicable safety regulations.

Formwork-dependent platforms

The pouring platforms and brackets belonging to the formwork system in use can continue to be used. As with normal wall formwork, these are mounted directly onto the formwork.

Follow the directions in the relevant User Information booklet!

Example: Framax pouring platform U 1.25/2.70m

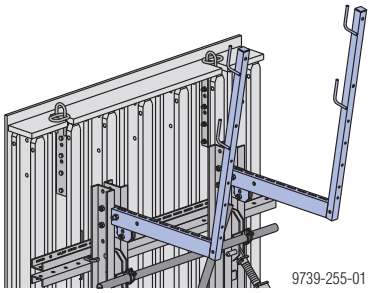


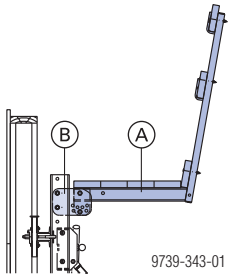
Non-formwork dependent platforms

Screw-on access bracket MF75

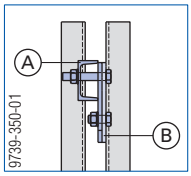
Features:

- a universal working bracket
- platform width 75 cm.
- is fastened to the Waling WU14 for SC-frame of the Supporting construction frame "Variable" using the Swivel plate MF
- is independent of which type of formwork system is being used





Close-up of screwed joint



A Screw-on access bracket MF75
B Swivel plate MF

Permitted service load: 1.5 kN/m² (150 kg/m²)
Load Class 2 to EN 12811-1:2003
Max. influence width: 2.00 m

Deck-boards and guardrail boards: Per 1 metre length of platform, 0.75 m² of deck-boards and 0.6 m² of guardrail boards are needed (site-provided).

Board thicknesses for centre-to-centre spans up to 2.50 m:

- Deck-boards min. 20/5 cm
- Guardrail boards min. 15/3 cm

Note:

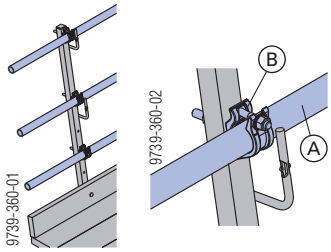
The plank and board thicknesses given here comply with the C24 category to EN 338.

Observe all national regulations applying to deck-boards and guardrail boards.

Fastening the deck-boards: with 4 square bolts M10x70 and 1 square bolt M10x180 per bracket (not included in scope of supply).

Fastening the guardrail boards: with nails

Using scaffold tubes



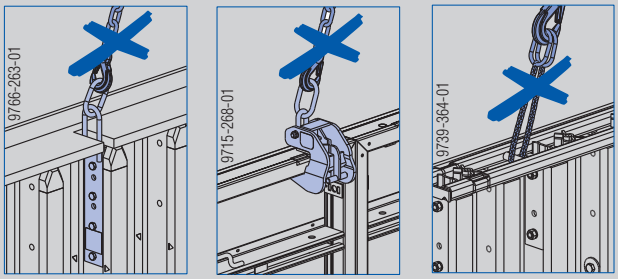
Tools: Fork wrench 22 for mounting the couplers and scaffold tubes.

A Scaffold tube 48.3mm
B Screw-on coupler 48mm 95

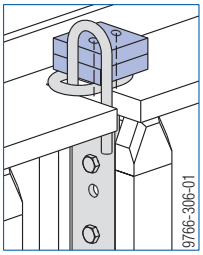
Lifting by crane

WARNING

➤ Any **crane slinging points on the formwork element or panel** must **not** be used for lifting the unit (SC-frame + formwork) in one piece.



➤ e.g. nail on a board in such a way that the crane suspension tackle cannot be hung into place in the lifting bracket.



NOTICE

- When lifting and resetting SC-frames, do **not attach the crane to the formwork element or to other components** such as multi-purpose walings.
- Permitted lift-in-one unit: Supporting construction frame unit with **max. 3 girderframe units**.
- **Only lift/reposition units that have been correctly braced.**
- Before repositioning, **check** that the formwork element/panel is **correctly fixed** onto the Supporting construction frame (Waling-to-bracket holder, Supporting construction distancer 20cm, Framax supporting construct. frame bolt 36cm).
- Before repositioning, check that the **Adjusting spindles are in the correct position** (to transfer the load from the weight of the formwork).
- Lifting the SC-frames with the formwork attached is **only permitted at near-ground level**.
- Make sure that the **crane suspension tackle is sufficiently long** (oblique pull).
- **Never use the crane to break concrete cohesion!**

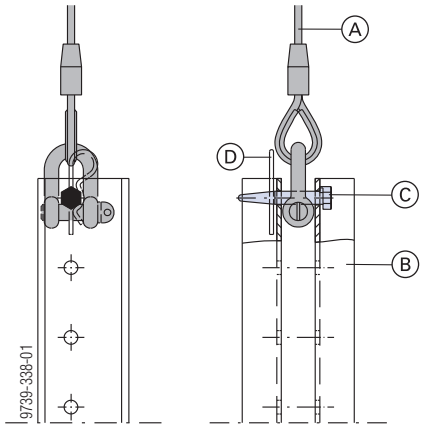
WARNING

➤ In all phases of the work, ensure sufficient stability when setting down the SC-frame-units! (Where necessary, provide ballast, tie-backs or extra shoring.)

Attach the crane sling directly to the Waling for supporting construction frame:

➤ Bolt in place with a Connecting pin 10cm

➤ Secure the pin with a Spring cotter 5mm



A	Crane sling
B	Waling for supporting construction frame
C	Connecting pin 10cm
D	Spring cotter 5mm

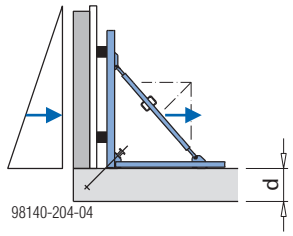
Max. load-bearing capacity:
1000 kg per crane-hoisting point

Transferring the forces which occur

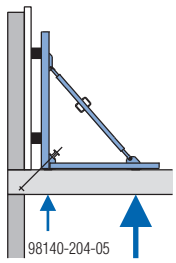
NOTICE

The high anchoring and reaction forces which occur when SC-frames are used necessitate a number of additional **safety precautions**.

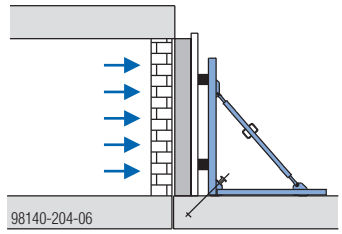
- For tension anchoring, choose the Doka tie rod system – 15.0, 20.0 or 26.5 – that is most suitable for the tensile forces occurring.
- Reinforce all structure members sufficiently.
- The forces can only be transferred safely into the anchorage foundation where the concrete slab (d) is sufficiently thick.



- Verify the stability of each of the structure members – and, if necessary, of the entire structure.
- Setting up SC-frames on floor-slabs: Use adequately dimensioned supports to transfer the loads to the floors below, and ultimately to the foundations, to the extent necessary to enable all floor slabs to withstand the load imposed on them by the SC-frames.



- Perform a calculation for punching, if necessary.
- Verify the capacity of the 'opposing side' (walls, rock) and secure with separate shoring if necessary.



- Separate statical calculations are required for any versions deviating from those outlined in this booklet.

Anchoring solutions for the supporting construction frames

The loads from the diagonal anchors are transferred via anchor walings.

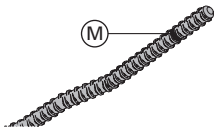
For each SC-frame, an anchor is placed 15 cm either side of the vertical axis of the SC-frame (i.e. 2 in all).

Exception: If the load-bearing capacity is sufficient for 1 anchor per SC-frame, the anchors on each unit must be placed symmetrically.

General

In each anchoring system, there are two variants to choose between:

- **With pigtail anchor**
  This is **the** anchorage method that can best transfer the high tensile forces from SC-frames into the foundation slabs.



M The depth mark must always be at the end fitted into the she-bolt

- **With stop anchor**

CAUTION

- ➤ It is forbidden to mix suspension components that have different depths of concrete cover!
- ➤ Always screw in components until they are fully engaged. When correctly fitted, there will still be 1 cm of thread visible between the part and the depth mark on the stop anchor or pigtail anchor.

WARNING

Sensitive rod steel!

- ➤ Never weld or heat tie rods.
- ➤ Tie rods that are damaged or have been weakened by corrosion or wear must be withdrawn from use.

Permitted loads for anchor walings

Anchor waling	Permitted anchor force Z
Multi-purpose waling WS10 Top50	151 kN
Multi-purpose waling WU12 Top50	215 kN
Top100 tec waling WU14	285 kN
Multi-purpose waling SL-1 WU16	322 kN
Anchor waling 1.95m and 2.95	402 kN
Anchoring profile 0.55m	700 kN

NOTICE

The tensile forces that can be sustained only apply where the anchor is positioned exactly as required, i.e. 15 cm either side of the vertical axis of the SC-frame.

Dimensioning the anchorages

The required **cube compressive strength** of the concrete at the time of loading must be specified separately for each project **by the structural designer**. It will depend on the following factors:

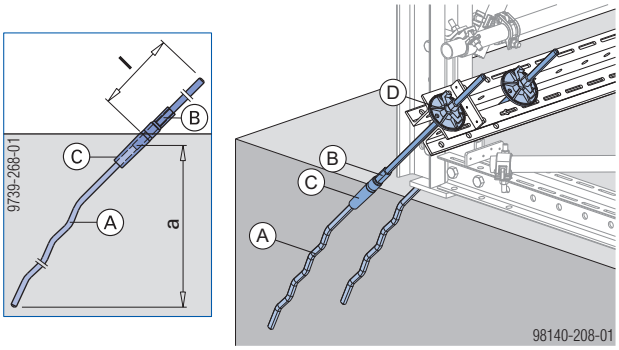
- load actually occurring
- length of stop anchor or pigtail anchor
- reinforcement / extra reinforcement steel
- distance from edge

The introduction of the forces, the transfer of these forces into the structure, and the stability of the overall construction, must all be verified by the structural designer.

Follow the directions in the Calculation Guide entitled 'Load-bearing capacity of anchorages in concrete', and/or ask your Doka technician!

Tie rod system 15.0

Variant using pigtail anchor



a ... min. 39.5 cm - max. 52 cm

A Pigtail anchor 15.0 (expendable anchoring component)

B She-bolt 15.0 5cm (nominal length l=65 cm) incl. **(C)**
She-bolt 15.0 5cm 1.20m (nominal length l=120 cm) incl. **(C)**

C Sealing sleeve 15.0 5cm (expendable anchoring component)

D Super plate 15.0

Note:

She-bolts are supplied with sealing sleeves. Before every re-use, fit a new sealing sleeve to facilitate removal.

Tools for removing she-bolts:

- Tie-rod wrench 15.0/20.0 or
- Fork wrench 24

Alternative method of preparing the positioning-point

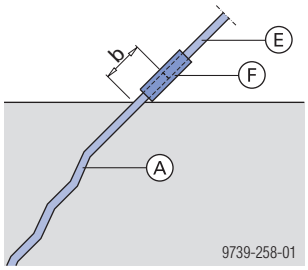
- Positioning cone 15.0 5cm with Sealing sleeve 15.0 5cm[1)]
- Tie rod 15.0mm (length as required)

Dismantling tools:

- for the Positioning cone: Positioning cone spanner 15.0 DK
- for turning the tie rod: Tie rod wrench 15.0/20.0

Another alternative:

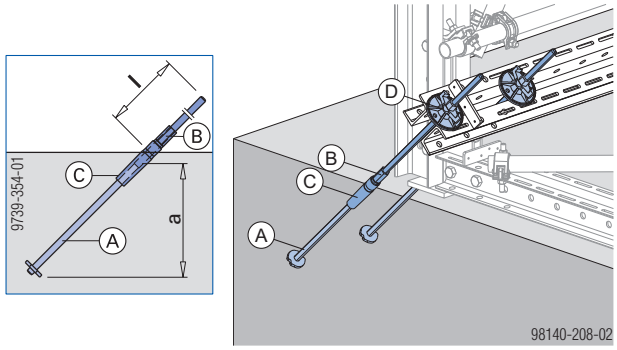
Pigtail anchor protrudes from concrete:
Instead of the she-bolt, fasten a Tie rod 15.0mm to the pigtail anchor using a Rod connector 15.0.



b ... min. 8.0 cm - max. 10.0 cm

A	Pigtail anchor 15.0
E	Tie rod 15.0mm
F	Rod connector 15.0

Variant using stop anchor



	a
Stop anchor 15.0 40cm 55	30 cm
Stop anchor 15.0 16cm 55	13 cm

A	Stop anchor 15.0 (expendable anchoring component)
B	She-bolt 15.0 5cm (nominal length l=65 cm) incl. **(C)** or She-bolt 15.0 5cm 1.20m (nominal length l=120 cm) incl. **(C)**
C	Sealing sleeve 15.0 5cm (expendable anchoring component)
D	Super plate 15.0

Note:
She-bolts are supplied with sealing sleeves. Before every re-use, fit a new sealing sleeve to facilitate removal.

Tools for removing she-bolts:

- Tie-rod wrench 15.0/20.0 or
- Fork wrench 24

Alternative method of preparing the positioning-point

- Positioning cone 15.0 5cm with Sealing sleeve 15.0 5cm[1)]
- Tie rod 15.0mm (length as required)

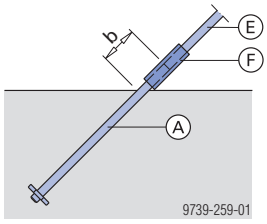
Dismantling tools:

- for the Positioning cone: Positioning cone spanner 15.0 DK
- for turning the tie rod: Tie rod wrench 15.0/20.0

Another alternative:

Stop anchor protrudes from concrete:
Instead of the she-bolt, fasten a Tie rod 15.0mm to the stop anchor using a Rod connector 15.0.

➤ The Stop anchor 15.0 16cm 55 is not suitable here!
Placement depth is too shallow!



b ... min. 8.0 cm - max. 10.0 cm

A	Stop anchor 15.0 40cm 55
E	Tie rod 15.0mm
F	Rod connector 15.0

Retrofitting anchorages in the concrete

Follow the directions in the ‘Rock-anchor spreader unit 15.0’ Fitting Instructions!

- Tie rod 15.0mm
- Rock anchor spreader unit 15.0 [1)]

[1)] Expendable anchoring component

Extra components needed for preparing the anchoring point:

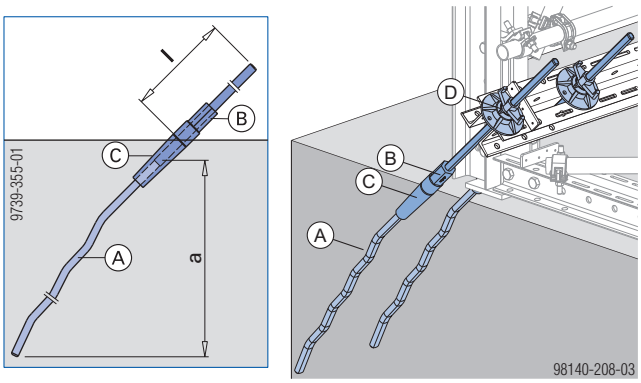
- Tensioning instrument 300kN, consisting of
  - 1 hollow-piston cylinder
  - 1 hydraulic hand pump
  - 1 pressure support
  - 1 carrying case
  - 1 Rock anchor installation tube
- Tie-rod wrench 15.0/20.0
- Super plate 15.0
- Rock drill-bits diam. 37 or 38 mm

Observe load-bearing capacity as stated in the section headed ‘Carrying out the acceptance test’ in the ‘Rock anchor spreader unit 15.0’ Fitting Instructions!

Note:
Also, a slip-proof support surface must be provided so that the Tensioning instrument B can be used at a 45° angle.

Tie rod system 20.0

Variant using pigtail anchor



a ... min. 48 cm - max. 65 cm

A	Pigtail anchor 20.0[1)]
B	She-bolt 20.0 (nominal length l=125 cm) incl. **(C)**
C	Sealing sleeve 20.0[1)]
D	Super plate 20.0 B

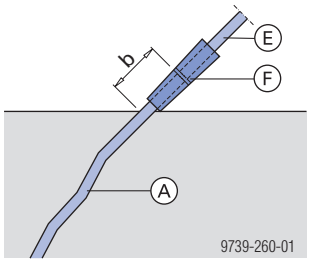
[1)] Expendable anchoring component

Note:
She-bolts are supplied with sealing sleeves. Before every re-use, fit a new sealing sleeve to facilitate removal.

Tools for removing she-bolts:
- Tie-rod wrench 15.0/20.0 or 20.0/26.5
  or
- Fork wrench 36/41

Another alternative:

Pigtail anchor protrudes from concrete:
Instead of the she-bolt, fasten a Tie rod 20.0mm to the pigtail anchor using an Anchoring cone 20.0.

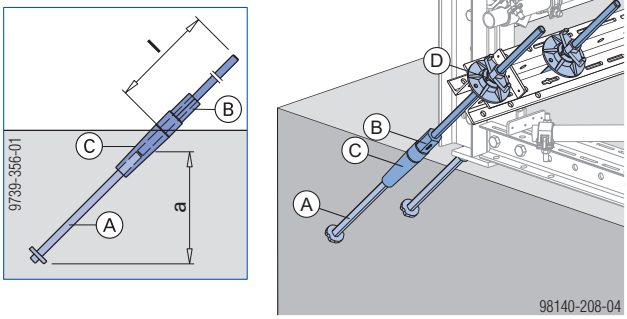


b ... min. 10.0 cm

A	Pigtail anchor 20.0
E	Tie rod 20.0mm
F	Anchoring cone 20.0

Tool for removing Anchoring cone 20.0:
- Cone spanner 20.0

Variant using stop anchor



	a
Stop anchor 20.0 40cm 55	30 cm
Stop anchor 20.0 17.5cm 55	14 cm

A	Stop anchor 20.0 17.5cm 55[1)] or Stop anchor 20.0 40cm 55[1)]
B	She-bolt 20.0 (nominal length l=125 cm) incl. **(C)**
C	Sealing sleeve 20.0[1)]
D	Super plate 20.0 B

[1)] Expendable anchoring component

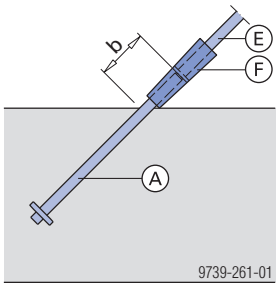
Note:
She-bolts are supplied with sealing sleeves. Before every re-use, fit a new sealing sleeve to facilitate removal.

Tools for removing she-bolts:
- Tie-rod wrench 15.0/20.0 or 20.0/26.5
  or
- Fork wrench 36/41

Another alternative:

Stop anchor protrudes from concrete:
Instead of the she-bolt, fasten a Tie rod 20.0mm to the Stop anchor 20.0 40cm 55 using an Anchoring cone 20.0.

➤ The Stop anchor 20.0 17.5cm 55 is not suitable here!
Placement depth is too shallow!



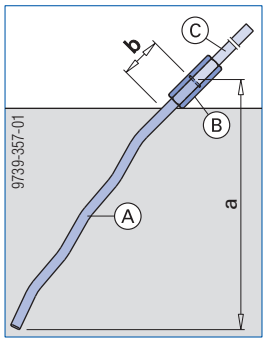
b ... min. 10.0 cm

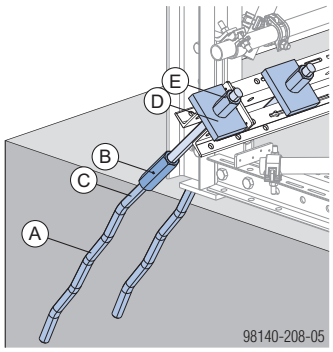
A	Stop anchor 20.0 40cm 55
E	Tie rod 20.0mm
F	Anchoring cone 20.0

Tool for removing Anchoring cone 20.0:
- Cone spanner 20.0

Tie rod system 26.5

Variant using pigtail anchor



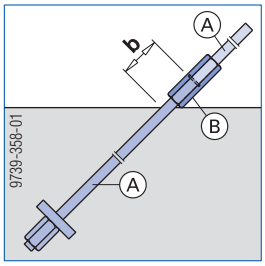


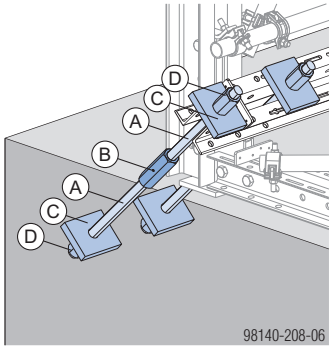
a ... min. 41.5 cm - max. 58.5 cm
b ... min. 11.5 cm

A	Pigtail anchor 26.5[1)]
B	Rod connector 26.5
C	Tie rod 26.5mm
D	Anchor plate 26.5
E	Hexagon nut 26.5

[1)] Expendable anchoring component

Variant using stop anchor





b ... min. 11.5 cm

A	Tie rod 26.5mm[1)]
B	Rod connector 26.5
C	Anchor plate 26.5[1)]
D	Hexagon nut 26.5[1)]

[1)] The combination of
- Tie rod 26.5mm
- Anchor plate 26.5
- Hexagon nut 26.5

together serves as a substitute for a stop anchor. For this reason it counts as an expendable anchoring component.

Fitting diagonal anchors

In everyday site practice, there are various different ways of preparing positioning points for diagonal anchors at a precise angle (usually 45°), depending on the site situation.

The following examples show several possible and effective variants. These apply equally to the use of either pigtail anchors or stop anchors.

NOTICE

Fit the anchors at a 45° angle!

Fitting a diagonal anchor at a steeper angle than this increases the load!

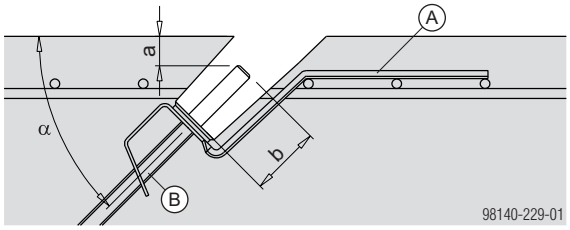
If the angle is increased by 10° (to 55°), this increases the load on the tie rod by over 20% and may thus lead to serious overloading.

Anchor holders and clearance cones

For precise location and directionally stable fitting of anchoring components at a 45° angle.

Follow the directions in the 'Clearance cones' Fitting Instructions!

Fitting dimensions



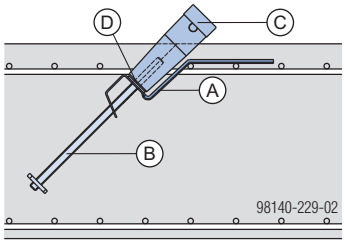
a ... Placement depth 30 mm (=concrete cover)
b ... Screw-in depth 70 mm
α ... 45°

A	Anchor holder
B	Stop anchor or pigtail anchor

Assembly:

➤ Mount an anchor holder on the tie rod and fasten it to the top reinforcement.

➤ Insert a sealing disk and install the clearance cone.



A	Anchor holder
B	Stop anchor or pigtail anchor
C	Clearance cone
D	Sealing disk 15.0 (Anchor holder 15.0) Sealing disk 43 (Anchor holder 20.0 and 26.5)

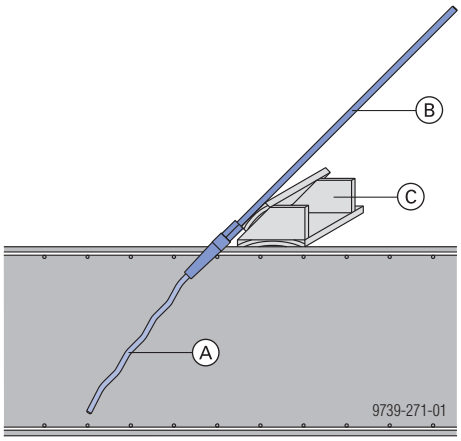
➤ After pouring, replace the clearance cone with a shebolt.

Wooden template

This method permits variable distribution of the positioning points, and can therefore be re-used in any situation.

Alternatively, a clear, fixed arrangement of the positioning points can be made with nailed-on wedges of square-sawn timber.

Many variations are possible on this theme, meaning that this example can be optimised for the case in hand.



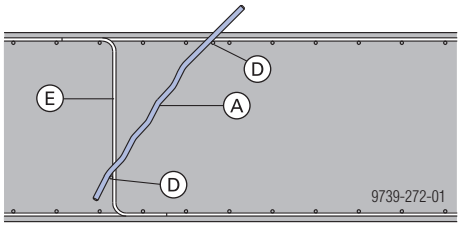
A Pigtail anchor or stop anchor
B She-bolt with sealing sleeve
C Wooden template

Fixing to reinforcements

Variant 1

By using two extra longitudinally-placed reinforcement rods, the anchor can be firmly fixed so that it safely withstands pouring.

The extra hoop means that the bottom reinforcement rod can be fitted in a relatively exact position.

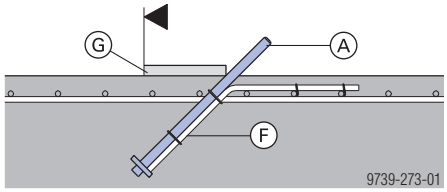


A Pigtail anchor or stop anchor
D Extra reinforcement rod
E Extra hoop

Variant 2

The stop anchor or pigtail anchor can be fixed to the longitudinal reinforcements with the aid of an extra hoop.

A suitably wide spacer board makes it easier to achieve exact positioning.



▲ ... Inside line of wall

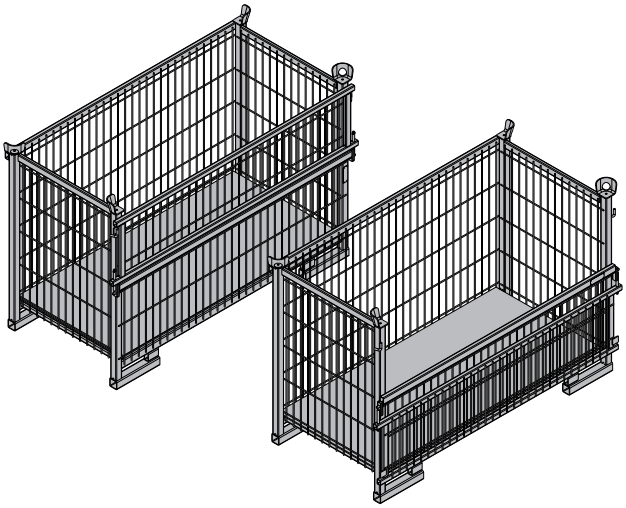
A Stop anchor 15.0 40cm 55 or 20.0 40cm 55
F Hoop with stop anchor, fastened to reinforcement
G Spacer board

Transporting, stacking and storing

Utilise the benefits of Doka multi-trip packaging on your site.
Multi-trip packaging such as containers, stacking pallets and skeleton transport boxes keep everything in place on the site, minimise time wasted searching for parts, and streamline the storage and transport of system components, small items and accessories.

Doka skeleton transport box 1.70x0.80m

Storage and transport device for small items



Max. carrying capacity: 700 kg (1540 lbs)
Permitted imposed load: 3150 kg (6950 lbs)

To make the Doka skeleton transport box easier to load and unload, one of its sidewalls can be opened.

Using Doka skeleton transport boxes 1.70x0.80m as storage units

Max. n° of units on top of one another

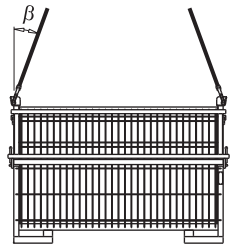
Outdoors (on the site) Floor gradients up to 3%	Indoors Floor gradients up to 1%
2	5
It is not allowed to stack empty pallets on top of one another!	

NOTICE
Stacked multi-trip boxes or pallets must have the heaviest boxes at the bottom and the lightest at the top.

Using Doka skeleton transport boxes 1.70x0.80m as transport devices

Lifting by crane

NOTICE
- Multi-trip packaging items may only be lifted one at a time.
- Only lift the boxes when their sidewalls are closed!
- Use a suitable crane suspension tackle (e.g. Doka 4-part chain 3.20m).
  Do not exceed the permitted load-bearing capacity.
- Spread angle β max. 30°!



9234-203-01

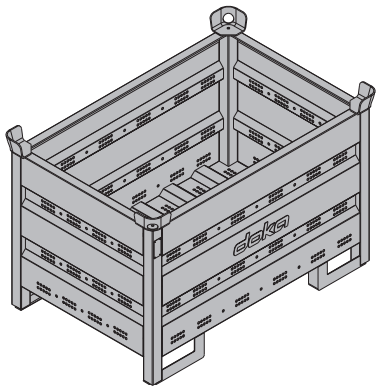
Repositioning by forklift truck or pallet stacking truck

The forks can be inserted under either the broadside or the narrowside of the containers.

Doka multi-trip transport box

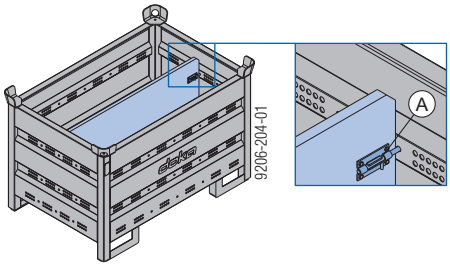
Storage and transport device for small items

Doka multi-trip transport box 1.20x0.80m



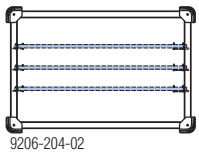
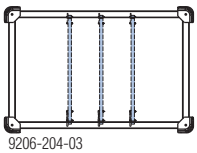
Max. carrying capacity: 1500 kg (3300 lbs)
Permitted imposed load: 7850 kg (17300 lbs)

Different items in the Doka multi-trip transport box can be kept separate with the **Multi-trip transport box partitions 1.20m or 0.80m**.

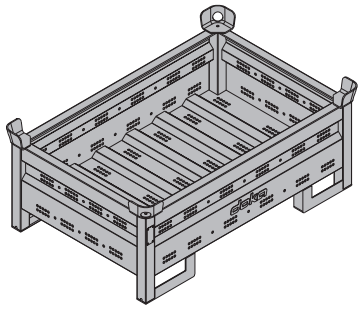


A Slide-bolt for fixing the partition

Possible ways of dividing the box

Multi-trip transport box partition	in the longitudinal direction	in the transverse direction
1.20m	max. 3 partitions	-
0.80m	-	max. 3 partitions
	 9206-204-02	 9206-204-03

Doka multi-trip transport box 1.20x0.80mx0.41m



Max. carrying capacity: 750 kg (1650 lbs)
Permitted imposed load: 7200 kg (15870 lbs)

Using Doka multi-trip transport boxes as storage units

Max. n° of units on top of one another

Outdoors (on the site) Floor gradients up to 3%		Indoors Floor gradients up to 1%	
Doka multi-trip transport box		Doka multi-trip transport box	
1.20x0.80m	1.20x0.80x0.41m	1.20x0.80m	1.20x0.80x0.41m
3	5	6	10
It is not allowed to stack empty pallets on top of one another!			

NOTICE

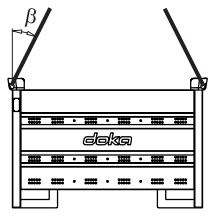
Stacked multi-trip boxes or pallets must have the heaviest boxes at the bottom and the lightest at the top.

Using Doka multi-trip transport boxes as transport devices

Lifting by crane

NOTICE

- Multi-trip packaging items must be lifted individually.
- Use a suitable crane lifting tackle (e.g. Doka 4-part chain 3.20m). Do not exceed the permitted load-bearing capacity.
- Spread angle β max. 30°!



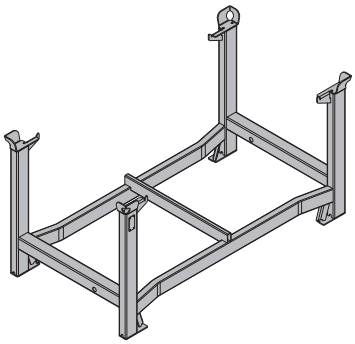
9206-202-01

Repositioning by forklift truck or pallet stacking truck

The forks can be inserted under either the broadside or the narrowside of the containers.

Doka stacking pallet 1.55x0.85m and 1.20x0.80m

Storage and transport devices for long items.



Max. carrying capacity: 1100 kg (2420 lbs)
Permitted imposed load: 5900 kg (12980 lbs)

Using Doka stacking pallets as storage units

Max. n° of units on top of one another

Outdoors (on the site) Floor gradients up to 3%	Indoors Floor gradients up to 1%
2	6
It is not allowed to stack empty pallets on top of one another!	

NOTICE

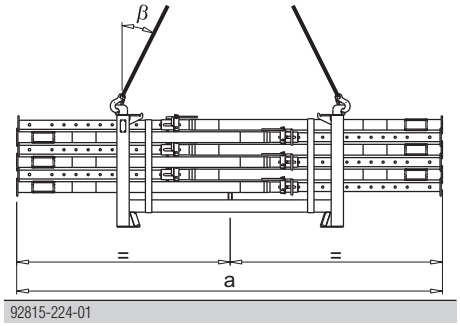
- Stacked multi-trip boxes or pallets must have the heaviest boxes at the bottom and the lightest at the top.
- **How to use with Bolt-on castor set B:**
  - Always apply the fixing brake when the container is "parked".
  - When Doka stacking pallets are stacked, the bottom pallet must NOT be one with a bolt-on caster set mounted to it.

Using Doka stacking pallets as transport devices

Lifting by crane

NOTICE

- Multi-trip packaging items may only be lifted one at a time.
- Use a suitable crane suspension tackle (e.g. Doka 4-part chain 3.20m).
  Do not exceed the permitted load-bearing capacity.
- Load the items centrically.
- Fasten the load to the stacking pallet so that it cannot slide or tip out.
- Spread angle β max. 30°!



	a
Doka stacking pallet 1.55x0.85m	max. 4.5 m
Doka stacking pallet 1.20x0.80m	max. 3.0 m

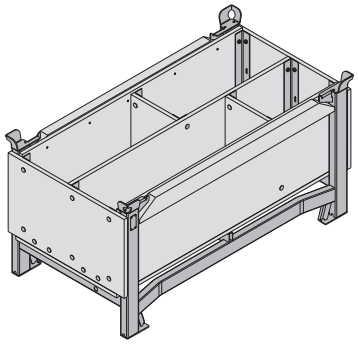
Repositioning by forklift truck or pallet stacking truck

NOTICE

- Load the items centrically.
- Fasten the load to the stacking pallet so that it cannot slide or tip out.

Doka accessory box

Storage and transport device for small items



Max. carrying capacity: 1000 kg (2200 lbs)
Permitted imposed load: 5530 kg (12191 lbs)

Doka accessory boxes as storage units

Max. n° of units on top of one another

Outdoors (on the site) Floor gradients up to 3%	Indoors Floor gradients up to 1%
3	6
It is not allowed to stack empty pallets on top of one another!	

NOTICE

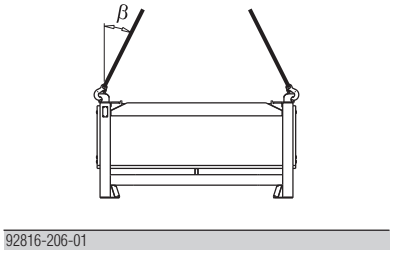
- Stacked multi-trip boxes or pallets must have the heaviest boxes at the bottom and the lightest at the top.
- **How to use with Bolt-on castor set B:**
  - Always apply the fixing brake when the container is "parked".
  - When Doka stacking pallets are stacked, the bottom pallet must NOT be one with a bolt-on caster set mounted to it.

Doka accessory box as transport devices

Lifting by crane

NOTICE

- Multi-trip packaging items may only be lifted one at a time.
- Use a suitable crane suspension tackle (e.g. Doka 4-part chain 3.20m).
  Do not exceed the permitted load-bearing capacity.
- Spread angle β max. 30°!

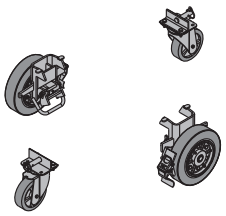


Repositioning by forklift truck or pallet stacking truck

The forks can be inserted under either the broadside or the narrowside of the containers.

Bolt-on castor set B

The Bolt-on caster set B turns the stacking pallet into a fast and manoeuvrable transport device.
Suitable for drive-through access openings > 90 cm.



The Bolt-on caster set B can be mounted to the following multi-trip packaging items:

- Doka accessory box
- Doka stacking pallets

Follow the directions in the 'Bolt-on castor set B' Operating Instructions!

Formwork planning with Tipos-Doka

Tipos-Doka helps you to form even more efficiently

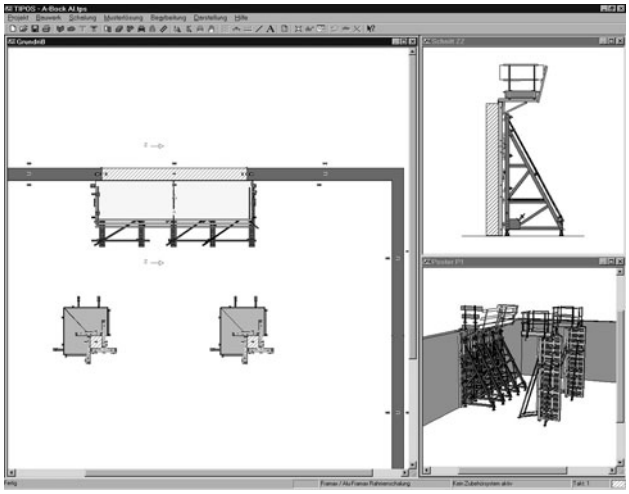
Tipos-Doka has been developed to assist you in planning the use of your Doka formwork. For wall formwork, floor formwork and platforms, it puts the same tools into your hands that we at Doka use ourselves for formwork planning.

Easy to use, fast and accurate results

The easy-to-use interface makes for very fast working. From when you input your layout (with the "Schal-Igel"® on-screen assistant), all the way through to when you manually put the finishing touches to the formwork solution the program gives you. All this saves time - yours.

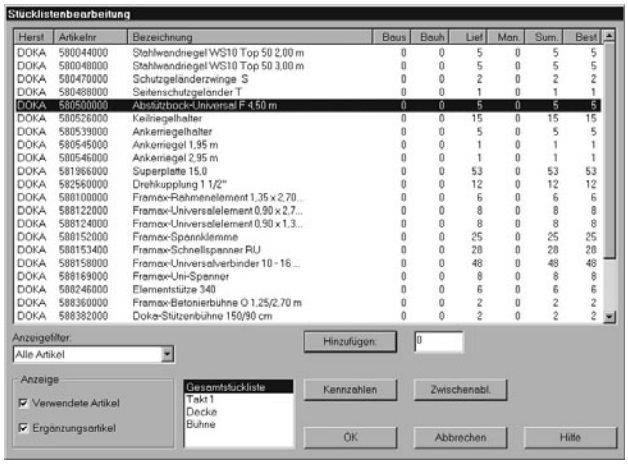
The program contains a large number of templates and wizards, so you can be sure of always getting the optimum technical and economical solution to your formwork task. This makes for greater operational reliability, and cuts costs.

You can get to work right away with the piece-lists, plans, views, sections and perspective drawings that the program gives you. Operational reliability is also enhanced by the high level of detail of the plans.



Drawings of formwork and platforms really can be this detailed! Both for the layout and for spatial representations, Tipos-Doka sets an impressive new standard of visual presentation.

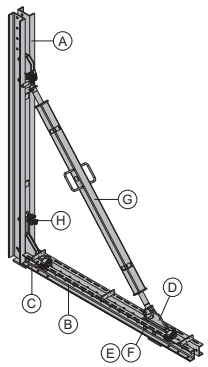
Always the right quantities of formwork and accessories



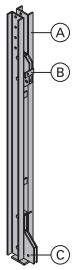
You can import the automatically generated piece-lists into many other programs for further processing.

Formwork components and accessories that have to be organised at short notice, or replaced by improvisation, are the ones that cost the most. This is why Tipos-Doka offers complete piece-lists that leave no room for improvisation. Planning with Tipos-Doka eliminates costs before they have a chance to even arise. And your depot can make the best possible use of its stocks.

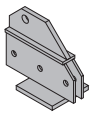
	[kg]	Article n°
Supporting constr. frame "Variable" 3.30m	**187.8**	**580516000**
Abstützbock Variabel 3,30m		
consisting of:		
(A) **Waling WU14 for supporting construction frame**	**99.0**	**580510000**
Painted blue		
Height: 252 cm		
(B) **Multi-purpose waling WS10 Top50 2.00m**	**38.9**	**580007000**
Painted blue		
(C) **Tension plate**	**2.5**	**580534000**
Painted blue		
Length: 19 cm		
(D) **Supporting shoe**	**9.5**	**580532000**
Painted blue		
Length: 28 cm		
(E) **Connecting pin 10cm**	**0.34**	**580201000**
Galvanised		
Length: 14 cm		
(F) **Spring cotter 5mm**	**0.03**	**580204000**
Galvanised		
Length: 13 cm		
(G) **Spindle strut 12 3.00m**	**32.0**	**580521000**
Painted blue		
Length: 201 - 234 cm		
(H) **Screw-on coupler 48mm 50**	**0.84**	**682002000**
Galvanised		
Width-across: 22 mm		
Follow the directions in the "Fitting instructions"!		
Painted blue		



Waling WU14 for supporting construction frame	**99.0**	**580510000**
Abstützbockriegel WU14		
consisting of:		
(A) **Steel section WU14 f. supp. constr. frame**	**81.0**	**580509000**
Painted blue		
Height: 250 cm		
(B) **Pressure shoe**	**6.2**	**580531000**
Painted blue		
Height: 32 cm		
(C) **Anchoring shoe**	**12.0**	**580533000**
Painted blue		
Height: 51 cm		
Painted blue		
Height: 252 cm		

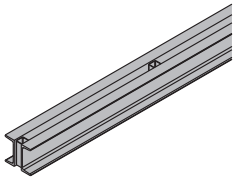


Supporting shoe	**9.5**	**580532000**
Stützschuh		
Painted blue		
Length: 28 cm		

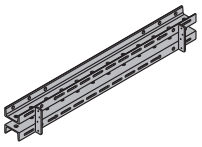


	[kg]	Article n°
Tension plate	**2.5**	**580534000**
Zuglasche		
Painted blue		
Length: 19 cm		

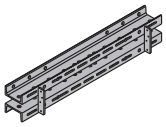
Anchor waling 0.70m	**27.0**	**580517000**
Anchor waling 1.95m	**76.3**	**580545000**
Anchor waling 2.95m	**110.0**	**580546000**
Ankerriegel		
Painted blue		



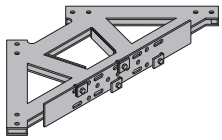
Multi-purpose waling WS10 Top50 1.00m	**19.6**	**580003000**
Multi-purpose waling WS10 Top50 1.75m	**35.0**	**580006000**
Multi-purpose waling WS10 Top50 2.00m	**38.9**	**580007000**
Multi-purpose waling WS10 Top50 2.50m	**48.7**	**580009000**
Multi-purpose waling WS10 Top50 2.75m	**54.2**	**580010000**
Multi-purpose waling WS10 Top50 3.00m	**60.2**	**580011000**
Multi-purpose waling WS10 Top50 3.50m	**68.4**	**580012000**
Multi-purpose waling WS10 Top50 4.00m	**79.4**	**580013000**
Mehrzweckriegel WS10 Top50		
Painted blue		



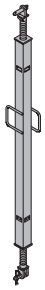
Multi-purpose waling WU12 Top50 1.00m	**25.3**	**580018000**
Multi-purpose waling WU12 Top50 1.25m	**32.0**	**580019000**
Multi-purpose waling WU12 Top50 1.50m	**37.5**	**580020000**
Multi-purpose waling WU12 Top50 1.75m	**44.2**	**580021000**
Multi-purpose waling WU12 Top50 2.00m	**50.0**	**580022000**
Multi-purpose waling WU12 Top50 2.50m	**63.1**	**580023000**
Multi-purpose waling WU12 Top50 3.00m	**75.7**	**580024000**
Multi-purpose waling WU12 Top50 3.50m	**90.7**	**580025000**
Multi-purpose waling WU12 Top50 4.00m	**103.4**	**580026000**
Mehrzweckriegel WU12 Top50		
Painted blue		



Corner plate supporting constr. frame	**44.4**	**580518000**
Ecklasche Abstützbock		
Painted blue		
Length: 92 cm		
Width: 92 cm		



Spindle strut 12 3.00m	**32.0**	**580521000**
Spindelstrebe 12 3,00m		
Painted blue		
Length: 201 - 234 cm		



	[kg]	Article n°
Spindle strut T7 305/355cm Spindelstrebe T7 305/355cm Galvanised	**35.0**	**584327000**
Formwork element connector FF20/50 Z Elementverbinder FF20/50 Z Painted blue Length: 55 cm	**6.0**	**587533000**
Connecting pin 10cm Verbindungsbolzen 10cm Galvanised Length: 14 cm	**0.34**	**580201000**
Spring cotter 5mm Federvorstecker 5mm Galvanised Length: 13 cm	**0.03**	**580204000**
Supporting construction distancer 20cm Bockdistanz 20cm Galvanised Length: 25 cm Width: 19 cm Height: 20 cm	**9.4**	**580519000**
Framax Xlife plus supp.-frame distancer 12cm Framax Xlife plus-Bockdistanz 12cm Galvanised Length: 29 cm Width: 19 cm Height: 14 cm	**8.4**	**582938000**
Waling-to-bracket holder 9-15cm Riegelhalter 9-15cm Galvanised	**2.7**	**580625000**

	[kg]	Article n°
Waling-to-bracket holder Keilriegelhalter Galvanised Length: 26 cm Height: 31 cm	**2.5**	**580526000**
Framax universal fixing bolt 10-16cm Framax-Universalverbinder 10-16cm Galvanised Length: 26 cm	**0.60**	**588158000**
Framax universal fixing bolt 10-25cm Framax-Universalverbinder 10-25cm Galvanised Length: 36 cm	**0.69**	**583002000**
Frami universal fixing bolt 5-12cm Frami-Universalverbinder 5-12cm Galvanised Length: 23 cm	**0.43**	**588479000**
Framax wedge clamp Framax-Spannklemme Galvanised Length: 21 cm	**1.5**	**588152000**
Framax supporting construct. frame bolt 36cm Framax-Bockschraube 36cm Galvanised	**0.62**	**580505000**
Framax Xlife plus supporting-frame bolt Framax Xlife plus-Bockschraube Galvanised Length: 40.5 cm	**3.5**	**582937000**
Screw-on coupler 48mm 50 **Screw-on coupler 48mm 95** Anschraubkupplung Galvanised Width-across: 22 mm Follow the directions in the "Fitting instructions"!	**0.84** **0.88**	**682002000** **586013000**
Swivel coupler 48mm Drehkupplung 48mm Galvanised Width-across: 22 mm Follow the directions in the "Fitting instructions"!	**1.5**	**582560000**

	[kg]	Article n°
Normal coupler 48mm Normalkupplung 48mm Galvanised Width-across: 22 mm Follow the directions in the "Fitting instructions"!	**1.2**	**682004000**
Scaffold tube 48.3mm 0.50m	**1.7**	**682026000**
Scaffold tube 48.3mm 1.00m	**3.6**	**682014000**
Scaffold tube 48.3mm 1.50m	**5.4**	**682015000**
Scaffold tube 48.3mm 2.00m	**7.2**	**682016000**
Scaffold tube 48.3mm 2.50m	**9.0**	**682017000**
Scaffold tube 48.3mm 3.00m	**10.8**	**682018000**
Scaffold tube 48.3mm 3.50m	**12.6**	**682019000**
Scaffold tube 48.3mm 4.00m	**14.4**	**682021000**
Scaffold tube 48.3mm 4.50m	**16.2**	**682022000**
Scaffold tube 48.3mm 5.00m	**18.0**	**682023000**
Scaffold tube 48.3mm 5.50m	**19.8**	**682024000**
Scaffold tube 48.3mm 6.00m	**21.6**	**682025000**
Scaffold tube 48.3mm .....m Gerüstrohr 48,3mm Galvanised	**3.6**	**682001000**
Screw-on access bracket MF75 Anschraubbühne MF75 Galvanised Length: 113 cm Height: 152 cm	**19.0**	**580669000**
Swivel plate MF Schwenkplatte MF Galvanised Length: 29 cm Height: 20 cm Width-across: 30 mm	**4.5**	**580672000**
Testing truss for diagonal anchors 15.0/20.0 Prüfbock für Schräganker 15,0/20,0 Galvanised Length: 32 cm Width: 25 cm Height: 19 cm	**13.5**	**580514000**

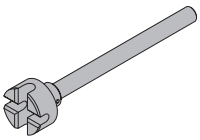
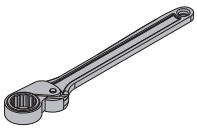
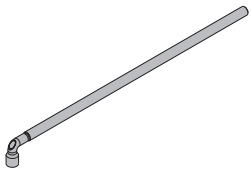
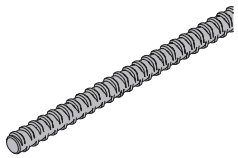
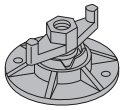
	[kg]	Article n°
Universal tool box 15.0 Universal-Werkzeugbox 15,0 included in scope of supply:	**9.1**	**580392000**
(A) **Reversible ratchet 1/2"** Galvanised Length: 30 cm	**0.73**	**580580000**
(B) **Fork wrench 13/17**	**0.08**	**580577000**
(C) **Fork wrench 22/24**	**0.22**	**580587000**
(D) **Fork wrench 30/32**	**0.80**	**580897000**
(E) **Fork wrench 36/41**	**1.0**	**580586000**
(F) **Ring spanner 17/19**	**0.27**	**580590000**
(G) **Square nut 22**	**0.31**	**580589000**
(H) **Box spanner 41**	**0.99**	**580585000**
(I) **Extension 11cm 1/2"**	**0.20**	**580581000**
(J) **Extension 22cm 1/2"**	**0.31**	**580582000**
(K) **Universal joint coupling 1/2"**	**0.16**	**580583000**
(L) **Box nut 19 1/2" L**	**0.16**	**580598000**
(M) **Box nut 13 1/2"**	**0.06**	**580576000**
(N) **Box nut 24 1/2"**	**0.12**	**580584000**
(O) **Box nut 30 1/2"**	**0.20**	**580575000**
(P) **Positioning cone spanner 15.0 DK** Galvanised Length: 8 cm Width-across: 30 mm	**0.30**	**580579000**

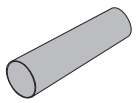
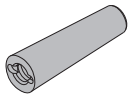
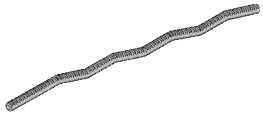
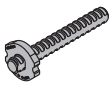
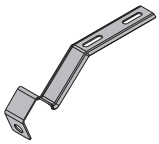
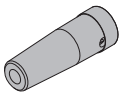
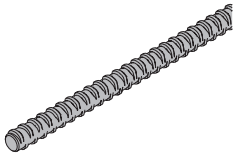
Tie rod system 15.0

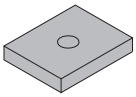
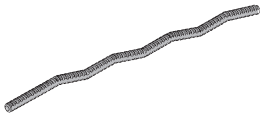
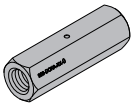
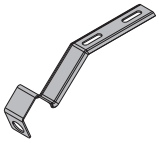
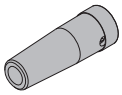
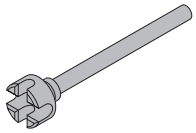
Tie rod 15.0mm galvanised 0.50m	**0.72**	**581821000**
Tie rod 15.0mm galvanised 0.75m	**1.1**	**581822000**
Tie rod 15.0mm galvanised 1.00m	**1.4**	**581823000**
Tie rod 15.0mm galvanised 1.25m	**1.8**	**581826000**
Tie rod 15.0mm galvanised 1.50m	**2.2**	**581827000**
Tie rod 15.0mm galvanised 1.75m	**2.5**	**581828000**
Tie rod 15.0mm galvanised 2.00m	**2.9**	**581829000**
Tie rod 15.0mm galvanised 2.50m	**3.6**	**581852000**
Tie rod 15.0mm galvanised .....m	**1.4**	**581824000**
Tie rod 15.0mm non-treated 0.50m	**0.73**	**581870000**
Tie rod 15.0mm non-treated 0.75m	**1.1**	**581871000**
Tie rod 15.0mm non-treated 1.00m	**1.4**	**581874000**
Tie rod 15.0mm non-treated 1.25m	**1.8**	**581886000**
Tie rod 15.0mm non-treated 1.50m	**2.1**	**581876000**
Tie rod 15.0mm non-treated 1.75m	**2.5**	**581887000**
Tie rod 15.0mm non-treated 2.00m	**2.9**	**581875000**
Tie rod 15.0mm non-treated 2.50m	**3.6**	**581877000**
Tie rod 15.0mm non-treated 3.00m	**4.3**	**581878000**
Tie rod 15.0mm non-treated 3.50m	**5.0**	**581888000**
Tie rod 15.0mm non-treated 4.00m	**5.7**	**581879000**
Tie rod 15.0mm non-treated 5.00m	**7.2**	**581880000**
Tie rod 15.0mm non-treated 6.00m	**8.6**	**581881000**
Tie rod 15.0mm non-treated 7.50m	**10.7**	**581882000**
Tie rod 15.0mm non-treated .....m Ankerstab 15,0mm	**1.4**	**581873000**
Super plate 15.0 Superplatte 15,0 Galvanised Height: 6 cm Diameter: 12 cm Width-across: 27 mm	**1.1**	**581966000**

	[kg]	Article n°
Hexagon nut 15.0 Sechskantmutter 15,0 Galvanised Length: 5 cm Width-across: 30 mm DIN 18216	**0.23**	**581964000**
Framax pressure plate 6/15 Framax-Druckplatte 6/15 Galvanised	**0.80**	**588183000**
Wing nut 15.0 Flügelmutter 15,0 Galvanised Length: 10 cm Height: 5 cm Width-across: 27 mm DIN 18216	**0.31**	**581961000**
Anchor plate 15/20 Ankerplatte 15/20 Galvanised DIN 18216	**1.8**	**581929000**
She-bolt 15.0 5cm 1.20m Ankerkopf 15,0 5cm 1,20m Galvanised Length: 131 cm Width-across: 24 mm Follow the directions in the "Fitting instructions"! DIN 18216	**2.5**	**581832000**
She-bolt 15.0 5cm Ankerkopf 15,0 5cm Galvanised Length: 76 cm Width-across: 24 mm Follow the directions in the "Fitting instructions"! DIN 18216	**1.7**	**581972000**
Positioning cone 15.0 5cm Vorlaufkonus 15,0 5cm Galvanised Length: 11 cm Diameter: 3 cm Follow the directions in the "Fitting instructions"!	**0.43**	**581969000**
Sealing sleeve 15.0 5cm Dichtungshülse 15,0 5cm Orange Length: 10 cm Diameter: 3 cm	**0.008**	**581990000**
Rod connector 15.0 Verbindungsmuffe 15,0 Non-treated Length: 10.5 cm Diameter: 3.2 cm DIN 18216	**0.49**	**581981000**
Pigtail anchor 15.0 Wellenanker 15,0 Non-treated Length: 67 cm	**0.92**	**581984000**

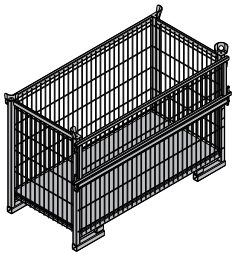
	[kg]	Article n°
Stop anchor 15.0 A40 Sperranker 15,0 A40 Non-treated	**0.71**	**581999000**
Stop anchor 15.0 A16 Sperranker 15,0 A16 Non-treated	**0.38**	**581997000**
Anchor holder 15.0 Ankerhalter 15,0 Non-treated	**0.43**	**581835000**
Sealing disc 15.0 Dichtscheibe 15,0 Black Diameter: 4.2 cm	**0.002**	**581885000**
Clearance cone 15.0 Freistellkonus 15,0 Black Blue Length: 20.6 cm Diameter: 7 cm Follow the directions in the "Fitting instructions"!	**0.51**	**581865000**
Rock anchor spreader unit 15.0 Felsanker-Spreizeinheit 15,0 Galvanised Length: 9 cm Diameter: 4 cm Follow the directions in the "Fitting instructions"!	**0.41**	**581120000**
Rock anchor installation tube Felsanker-Einbaurohr Galvanised Length: 50 cm Diameter: 3 cm	**0.85**	**581123000**
Tensioning instrument 300kN Vorspanngerät 300kN Galvanised	**32.0**	**581815000**
Tensioning instrument B Vorspanngerät B Galvanised	**34.5**	**580570000**

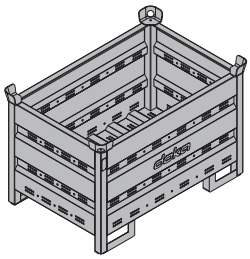
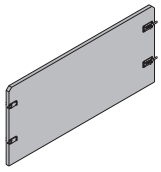
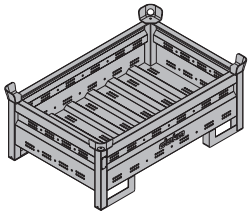
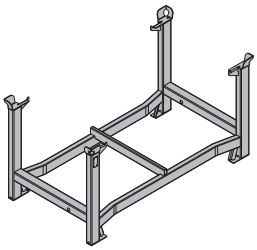
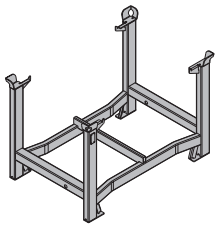
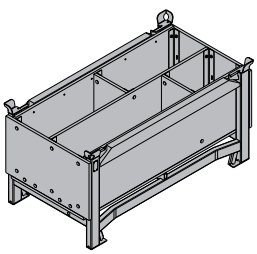
	[kg]	Article n°
Protective cap 15.0/20.0 Schutzkappe 15,0/20,0 Yellow Length: 6 cm Diameter: 6.7 cm 	**0.03**	**581858000**
Tie-rod wrench 15.0/20.0 Ankerstabschlüssel 15,0/20,0 Galvanised Length: 37 cm Diameter: 8 cm 	**1.9**	**580594000**
Friction type ratchet SW27 Freilaufknarre SW27 Manganese-phosphated Length: 30 cm 	**0.49**	**581855000**
Box spanner 27 0.65m Steckschlüssel 27 0,65m Galvanised 	**1.9**	**581854000**
Tie rod system 20.0		
Tie rod 20.0mm galvanised 0.50m	**1.3**	**581411000**
Tie rod 20.0mm galvanised 0.75m	**1.9**	**581417000**
Tie rod 20.0mm galvanised 1.00m	**2.5**	**581412000**
Tie rod 20.0mm galvanised 1.25m	**3.2**	**581418000**
Tie rod 20.0mm galvanised 1.50m	**3.8**	**581413000**
Tie rod 20.0mm galvanised 2.00m	**5.0**	**581414000**
Tie rod 20.0mm galvanised 2.50m	**6.3**	**581430000**
Tie rod 20.0mm galvanised .....m	**2.5**	**581410000**
Tie rod 20.0mm non-treated 0.50m	**1.3**	**581405000**
Tie rod 20.0mm non-treated 0.75m	**1.9**	**581416000**
Tie rod 20.0mm non-treated 1.00m	**2.5**	**581406000**
Tie rod 20.0mm non-treated 1.50m	**3.8**	**581407000**
Tie rod 20.0mm non-treated 2.00m	**5.0**	**581408000**
Tie rod 20.0mm non-treated .....m	**2.5**	**581403000**
Ankerstab 20,0mm 		DIN 18216
Super plate 20.0 B Superplatte 20,0 B Galvanised Height: 7 cm Diameter: 14 cm Width-across: 34 mm 	**2.0**	**581424000** DIN 18216
She-bolt 20.0 Ankerkopf 20,0 Galvanised Length: 140 cm Diameter: 5 cm Width-across: 41 mm 	**5.6**	**581435000** DIN 18216

	[kg]	Article n°
Sealing sleeve 20.0 Dichtungshülse 20,0 Grey Length: 16 cm Diameter: 5 cm 	**0.03**	**581441000**
Anchoring cone 20.0 Ankerkonus 20,0 Galvanised Length: 15 cm Diameter: 5 cm 	**1.0**	**581437000** DIN 18216
Pigtail anchor 20.0 Wellenanker 20,0 Non-treated Length: 76 cm 	**2.0**	**581450000**
Stop anchor 20.0 C40 Sperranker 20,0 C40 Non-treated 	**1.2**	**581458000**
Stop anchor 20.0 C17 Sperranker 20,0 C17 Non-treated 	**0.62**	**581457000**
Anchor holder 20.0 Ankerhalter 20,0 Non-treated 	**0.43**	**581427000**
Sealing disc 43 Dichtscheibe 43 Black 	**0.002**	**581836000**
Clearance cone 20.0 Freistellkonus 20,0 Black Yellow Length: 20.6 cm Diameter: 7 cm Follow the directions in the "Fitting instructions"! 	**0.49**	**581866000**
Tie rod system 26.5		
Tie rod 26.5mm non-treated .....m Ankerstab 26,5mm unbehandelt .....m 	**4.5**	**581883000** DIN 18216

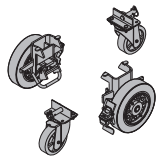
	[kg]	Article n°
Hexagon nut 26.5 Sechskantmutter 26,5  Galvanised Length: 8 cm Width-across: 46 mm DIN 18216	**0.73**	**581985000**
Anchor plate 26.5 Ankerplatte 26,5  Galvanised Length: 15 cm Width: 12 cm DIN 18216	**3.4**	**581986000**
Pigtail anchor 26.5 Wellenanker 26,5  Non-treated Length: 80 cm	**3.6**	**581900000**
Rod connector 26.5 Verbindungsmuffe 26,5  Non-treated Length: 15 cm Width-across: 46 mm DIN 18216	**1.4**	**581988000**
Anchor holder 26.5 Ankerhalter 26,5  Non-treated	**0.43**	**581943000**
Clearance cone 26.5 Freistellkonus 26,5  Black Grey Length: 20.6 cm Diameter: 7 cm Follow the directions in the "Fitting instructions"!	**0.46**	**581867000**
Tie-rod wrench 20.0/26.5 Ankerstabschlüssel 20,0/26,5  Galvanised Length: 37 cm Diameter: 8 cm	**1.7**	**580593000**

Multi-trip packaging

Doka skeleton transport box 1.70x0.80m Doka-Gitterbox 1,70x0,80m  Galvanised Height: 113 cm	**87.0**	**583012000**

	[kg]	Article n°
Doka multi-trip transport box 1.20x0.80m Doka-Mehrwegcontainer 1,20x0,80m  Galvanised Height: 78 cm	**70.0**	**583011000**
Multi-trip transport box partition 0.80m **Multi-trip transport box partition 1.20m** Mehrwegcontainer Unterteilung  Steel parts galvanised Timber parts varnished yellow	**3.7** **5.5**	**583018000** **583017000**
Doka multi-trip transport box 1.20x0.80x0.41m Doka-Mehrwegcontainer 1,20x0,80x0,41m  Galvanised	**42.5**	**583009000**
Doka stacking pallet 1.55x0.85m Doka-Stapelpalette 1,55x0,85m  Galvanised Height: 77 cm	**41.0**	**586151000**
Doka stacking pallet 1.20x0.80m Doka-Stapelpalette 1,20x0,80m  Galvanised Height: 77 cm	**38.0**	**583016000**
Doka accessory box Doka-Kleinteilebox  Timber parts varnished yellow Steel parts galvanised Length: 154 cm Width: 83 cm Height: 77 cm	**106.4**	**583010000**

	[kg]	Article n°
Bolt-on castor set B Anklemm-Radsatz B Painted blue	**33.6**	**586168000**



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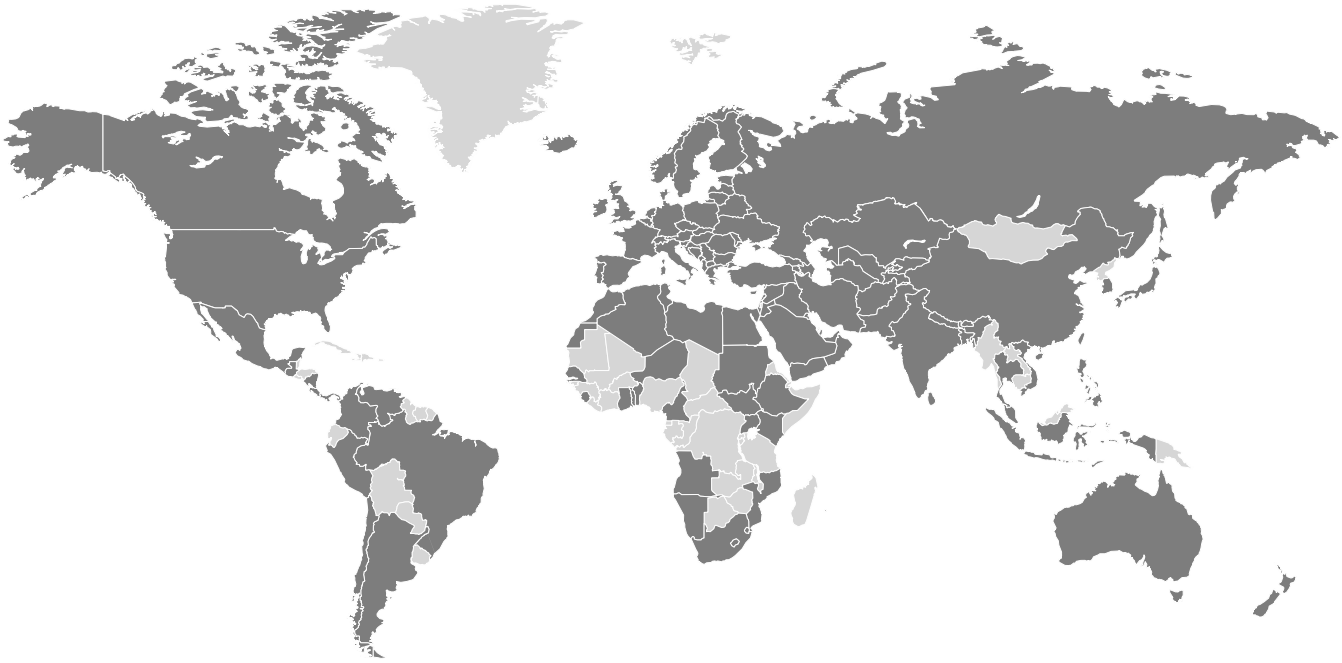

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