

Installation instructions

MEA Drainage systems



Installation instructions

MEA Drainage systems

Preliminary remarks

The installation instructions given here are to be understood as general information for the proper installation and operation of MEA channel systems. It is recommended that professional advice is always sought concerning installation, as this will, for example, also be able to take particular account of special local conditions or requirements. MEA too will be able to assist you here.

Information is provided on our website, but you can also contact our sales support at tel +31 314 627762. This applies in particular for non-standard designs that will need to be specified by planners in consultation with our application engineering department. A warranty by the manufacturer is extended on the premise of professional installation, taking into account valid engineering rules and these installation instructions.

The specifications concerning the performance characteristics of channels presume, on the one hand, unimpeded, backpressure-free runout at the channel end (i.e. gullies), as well as a thoroughly maintained channel system, and a sufficiently dimensioned pipeline and sewer system.

The surface covering abutting channel elements and their haunch is to be instated in a way that precludes any horizontally-acting loads, (for example as the result of temperature-related expansion, and/or braking and acceleration forces).

The same applies for horizontal forces during concreting. Here, the channel elements will need to be sufficiently braced, or concreting will be need to be carried out in stages, in order to prevent a deformation of the channel side walls.

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The provision of a sufficient number of correctly positioned and designed expansion joints must be ensured. Expansion joints running at right angles to the channel run may only cross the channel run at the joint between two channel elements. In such cases the expansion joint width is to be reproduced by a suitable execution of the channel joint.

Drainage facilities comprising MEA channel systems are primarily intended for the collection and removal of rain water. Where channels are to be used in liquid-tight constructions such as storage, filling and transshipment facilities, we recommend our systems that have received “general building-inspectorate approval” from the Deutsche Institut für Bautechnik, DIBT (German Institute of Structural Engineering). Special installation instructions for systems with DIBT approval, information concerning sealing as well as the approval itself will be made available to you by our application engineering department on request.

The division of load classes as well as information concerning requirements of materials and the installation of channel elements are given in the respective valid version of EN 1433. An awareness and understanding of the applicable regulations by the professional company carrying out the installation is presumed.

Please also observe the following “General installation instructions”.

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Overview of our product-range and summary of loading classes

Loading classes to EN 1433 and EN 124

Product description	CW mm	Edge protection	A15 	B125 	C250 	D400 	E600 	F900 
Product-range MEA®RIN Plus/Expert drainage channels made of glass fibre reinforced polyester (GRP)								
MEA®RIN Plus 100	100	GRP	car*	●	●	●**		
MEA®RIN Expert 100	100	Galv. steel	●	●	●	●**	●**	
MEA®RIN Plus 100 BLACK	100	GRP	●	●	●			
MEA®RIN Plus 150	150	GRP	●	●	●	●**		
MEA®RIN Expert 150	150	Galv. steel	●	●	●	●**	●**	
MEA®RIN Plus 200	200	GRP	●	●	●	●**		
MEA®RIN Expert 200	200	Galv. steel	●	●	●	●**	●**	
MEA®RIN Plus 300	300	GRP	●	●	●	●**		
MEA®RIN Expert 300	300	Galv. steel	●	●	●	●**	●**	
Product-range MEA®DRAIN Supreme - Polymer concrete channels								
MEA®DRAIN Z 1000	100	Galv. steel	●	●	●			
MEA®DRAIN Z 1500	150	Galv. steel	●	●	●			
MEA®DRAIN Z 2000	200	Galv. steel	●	●	●			
MEA®DRAIN S 1000	100	Stainl. steel	●	●	●			
MEA®DRAIN SV 1000	100	Galv. steel	●	●	●	●**	●**	
MEA®DRAIN EN 1000	100	Ductile iron	●	●	●	●**	●**	●**
MEA®DRAIN EN 1500	150	Ductile iron	●	●	●	●**	●**	●**
MEA®DRAIN EN 2000	200	Ductile iron	●	●	●	●**	●**	●**
MEA®DRAIN EN 3000	300	Ductile iron	●	●	●	●**	●**	●**
MEA®DRAIN ENS 2000	200	Ductile iron	●	●	●	●**	●**	●**
MEA®DRAIN ENS 3000	300	Ductile iron	●	●	●	●**	●**	●**
MEA®DRAIN ENS 3070	300	Ductile iron	●	●	●	●**	●**	●**
MEA®DRAIN ENS 4000	400	Ductile iron	●	●	●	●**	●**	●**

Remark

** From loading class D400 unsuitable for cross drainage of high speed roads and motorways.

*Channel covers loading class A15 to DIN EN 1433

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Overview of our product-range and summary of loading classes

Loading classes to EN 1433 and EN 124

Product description	CW mm	Edge protection	A15 	B125 	C250 	D400 	E600 	F900 
Product-range MEA®DRAIN Solution - Polymer concrete channels								
MEA®DRAIN LZ 1000 Shallow channel	100	Galv. steel	●	●	●			
MEA®DRAIN LS 1000 Shallow channel	100	Stainl. steel	●	●	●			
MEA®DRAIN SVF 1000 Shallow channel	100	Galv. steel	●	●	●	●**	●**	
MEA®DRAIN SVF 1500 Shallow channel	150	Galv. steel	●	●	●	●**	●**	
MEA®DRAIN ENF 2000 Shallow channel	200	Ductile iron	●	●	●	●**	●**	●**
MEA®DRAIN PG 1000 Parking garage channel	100	Polymer concrete	●	●	●			
MEA®DRAIN PG 1500 Parking garage channel	150	Polymer concrete	●	●	●			
MEA®DRAIN PG 3000 Parking garage channel	300	Polymer concrete	●	●	●			
MEA®DRAIN TopSlot 1000 slot riser frame	100	Galvanized stainl. steel	●	●	●			
MEA®DRAIN TL 1000 drainage channel for TopSlot	100		●	●	●			
MEA®DRAIN TopSlot 1500 slot riser frame	150	Galvanized stainl. steel	●	●	●			
MEA®DRAIN TL 1500 drainage channel for TopSlot	150		●	●	●			
Product-range MEA®DRAIN Special ACCESS								
MEA®DRAIN Special ACCESS 1500	150	Polymer concrete	●	●	●	●**		
MEA®DRAIN Special ACCESS 2000	200	Polymer concrete	●	●	●	●**		
MEA®DRAIN Special ACCESS 3000	300	Polymer concrete	●	●	●	●**		

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Overview of our product-range and summary of loading classes

Loading classes to EN 1433 and EN 124

Product description	CW mm	Edge protection	A15 	B125 	C250 	D400 	E600 	F900
Product-range MEA®DRAIN Traffic - Polymer concrete channels								
MEA®DRAIN ENS 2000 Tram	200	Ductile iron	●	●	●	●	●	●
Product-range MEA®DRAIN Traffic - opA drainage system								
MEA®DRAIN opA drainage system	200	Polymer concrete	●	●	●	●		
Product-range MEA®DRAIN Traffic - DM 2000								
MEA®DRAIN DM 2000	200	Polymer concrete	●	●	●	●		
Product-range MEA®DRAIN Traffic - D 1000								
MEA®DRAIN D 1000 D400	100	Polymer concrete	●	●	●	●		
MEA®DRAIN D 1000 F900	100	Polymer concrete	●	●	●	●	●	●
Product-range MEA®DRAIN Traffic - D 2000								
MEA®DRAIN D 2000	200	Polymer concrete	●	●	●	●	●	●
Product-range MEA®KERB channels for kerbstone								
MEA®KERB	100	Polymer concrete	●	●	●	●**		

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Overview of our product-range and summary of loading classes

Loading classes to EN 1433 and EN 124

Product description	CW mm	Edge protection	A15	B125	C250	D400	E600	F900
								
Product-range MEA® DRAIN Classic concrete channels								
MEA®DRAIN BGU 100	100	Galv. steel	●	●	●			
MEA®DRAIN BGU-Z V 100	100	Galv. steel	●	●	●	●**		
MEA®DRAIN BGU-Z G 100	100	Ductile iron	●	●	●	●**	●**	
MEA®DRAIN BGU-Z E 100	100	Stainl.steel	●	●	●	●**		
MEA®DRAIN BGU-Z V 150	150	Galv. steel	●	●	●	●**		
MEA®DRAIN BGU-Z G 150	150	Ductile iron	●	●	●	●**	●**	
MEA®DRAIN BGU-Z E 150	150	Stainl.steel	●	●	●	●**		
MEA®DRAIN BGU-Z V 200	200	Galv. steel	●	●	●	●**		
MEA®DRAIN BGU-Z G 200	200	Ductile iron	●	●	●	●**	●**	
MEA®DRAIN BGU-Z E 200	200	Stainl.steel	●	●	●	●**		
MEA®DRAIN BGZ-S 100	100	Ductile iron	●	●	●	●**	●**	●**
MEA®DRAIN BGZ-S 150	150	Ductile iron	●	●	●	●**	●**	●**
MEA®DRAIN BGZ-S 200	200	Ductile iron	●	●	●	●**	●**	●**
MEA®DRAIN BGZ-S 300	300	Ductile iron	●	●	●	●**	●**	●**
MEA®DRAIN BGZ-S 400	400	Ductile iron	●	●	●	●**	●**	●**
MEA®DRAIN BGZ-S 500	500	Ductile iron	●	●	●	●**	●**	
Securitychannel	100/ 500	Galv. steel	●	●	●	●**	●**	●**

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Overview of our product-range and summary of loading classes

Loading classes to EN 1433 and EN 124

Product description	CW mm	Edge protection	A15	B125	C250	D400	E600	F900
								
Product-range MEA® DRAIN Classic concrete channels								
MEA®DRAIN BGF-Z V 100 Shallow channel	100	Galv. steel	●	●	●	●**		
MEA®DRAIN BGF-Z G 100 Shallow channel	100	Ductile iron	●	●	●	●**	●**	
MEA®DRAIN BGF-Z E 100 Shallow channel	100	Stainl.steel	●	●	●	●**		
MEA®DRAIN BGF-Z V 150 Shallow channel	150	Galv. steel	●	●	●	●**		
MEA®DRAIN BGF-Z G 150 Shallow channel	150	Ductile iron	●	●	●	●**	●**	
MEA®DRAIN BGF-Z E 150 Shallow channel	150	Stainl.steel	●	●	●	●**		
MEA®DRAIN BGF-Z V 200 Shallow channel	200	Galv. steel	●	●	●	●**		
MEA®DRAIN BGF-Z G 200 Shallow channel	200	Ductile iron	●	●	●	●**	●**	
MEA®DRAIN BGF-Z E 200 Shallow channel	200	Stainl.steel	●	●	●	●**		
Product-range MEA®TEC - Façade and terrace drainage								
MEA®TEC V 130	125	Galvanized stainl. steel	●					
MEA®TEC E 130	125	Galvanized stainl. steel	●					
MEA®TEC V/E top sections 400 x 400		Galvanized stainl. steel	●					
MEA®TEC V 230	225	Galvanized stainl. steel	●					
MEA®TEC E 230	225	Galvanized stainl. steel	●					

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Overview of our product-range and summary of loading classes

Loading classes to EN 1433 and EN 124

Garden - and landscaping DIY

Product description	CW mm	Edge protection	A15	B125	C250	D400	E600	F900
								
Product-range MEA® EASY Domestic drainage channels made of glass fibre reinforced polyester (GRP)								
MEA®EASY 100	100	Galv. steel	car*					
MEA®BEAUTY Design gratings		Galv. steel	car*					
Product-range MEA® LINE S Polymer concrete channels								
MEA®LINE S, G	100	Galv. steel	car*					
Product-range MEA® GARD II Polymer concrete channels								
MEA®GARD II S, G, M und E	100	Galv. steel	car*	●				
MEA®BEAUTY Design gratings		Galv. steel	car*					
Product-range MEA® GARD Polymer concrete channels								
MEA®GARD 100	100	Galv. steel	●	●	●			
MEA®GARD 165	140	Galv. steel	car*					
MEA®GARD 200	150	Galv. steel ductile iron	●	●				
MEA®GARD II Point of sale display								
MEA®GARD Point drainage		Galv. steel ductile iron	car*	●				
Product-range MEA® DRIVE - Domestic PE/PP drainage channels								
MEA®DRIVE	100	PE/PP	car*					
Product-range MEA® RIN doormat trays of glass fibre reinforced polyester (GRP)								
MEA®RIN doormat trays, accessible		GRP						
Product-range MEA® GARD doormat trays of polymer concrete								
MEA®GARD doormat trays, accessible		Galv. steel						

for the cross drainage of areas with high traffic and dynamical loads, please contact our technical engineers.
For the inquiries in the UK and Ireland: For all other enquiries:

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Remark

*Channel covers loading class A15 to DIN EN 1433

Installation instructions

MEA Drainage systems

General installation instructions

Our installation instructions are generally applicable suggestions. Any special requirements for channel installation stemming from local conditions must be evaluated and defined by the planners.

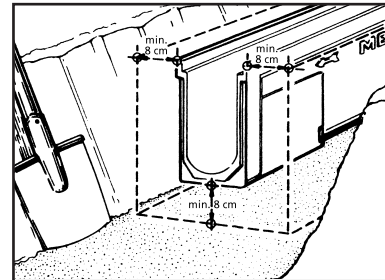
1. Observe the correct class and installation position, as dictated by the respective local installation conditions.
2. Adjoining surfaces (pavements, slabs etc.) are to be installed 3-5mm higher than the channel upper surface.
3. Horizontal forces on the channel run – stemming from adjoining concrete areas or reinforced concrete structures – must be excluded by installing effective longitudinal and transverse expansion joints.
4. When applying the concrete haunch and laying lateral surface coverings, the gratings are to be inserted in the channel rebate, or the channels sufficiently braced to counteract compression.
5. Ensure that channels sustain no mechanical damage whatsoever during installation, e.g. during compaction/sealing of adjacent surfaces.
6. Install silt boxes and gullies similarly, in accordance with the installation examples for channels.
7. EN 1433 stipulates the mandatory, traffic-proof securement of cover gratings for class C250 and above.

Installation instructions: MEA Drainage channels

1. Excavate a trench of sufficient width; ensure that at least 8 cm (class A15) of bedding concrete can be placed under and alongside the channel.

For higher loadings, please refer to the MEADRAIN installation examples. Similarly, the load-bearing capacity of the subsoil must be taken account, or a trench base with adequate load-bearing capacity must be instated.

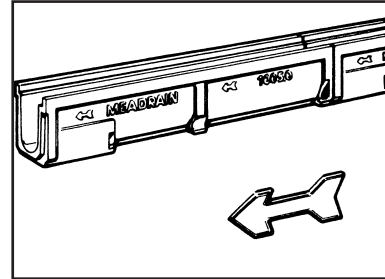
The minimum concrete quality, as specified in the installation instructions for the applicable loading class, must be used.



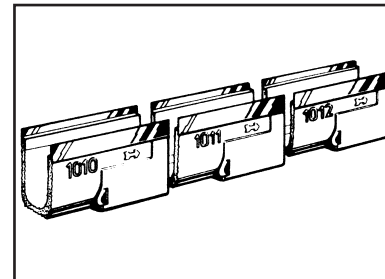
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MEA Drainage systems

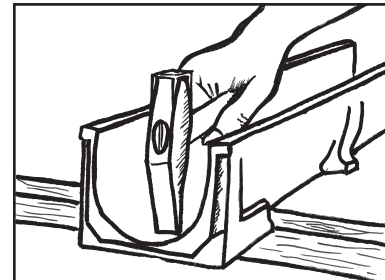
- The flow direction is indicated by directional arrows on both sides of the channel body. The arrows point in the direction of the outlet.



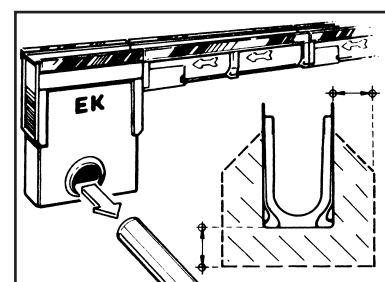
- On channels with a fall, the numbers that are visible on the channel body indicate the position of the channel in the channel run. e.g. no. 1010 1011 1012.
- Lay out the channel elements in the planned sequence alongside the excavated trench (following an installation plan, where available).



- If necessary, the preformed outlet in the channel can be knocked out. To do this, support the channel on a batten and tap out the outlet carefully from the inside using a hammer. In GRP channels, use a jigsaw to remove the preformed outlet.



- Stretch a string line, pour concrete into the trench and lay the channels in the trench starting from the outlet (e.g. silt box). Embed silt boxes and gullies similarly in accordance with the installation examples for channels (thickness of concrete haunch). When inserting the channels, ensure that the arrows point toward the outlet. Fit the respective end caps at the start and end of the channel run. Connect the outlet point to the sewer.

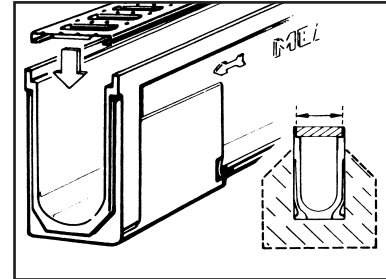


The adjacent pavement must be installed in such a way that no horizontal forces act on channel elements. Gratings must be secured into the channel body immediately after the final cleaning process has taken place. This action will prevent the installed system from being adversely affected by horizontal forces

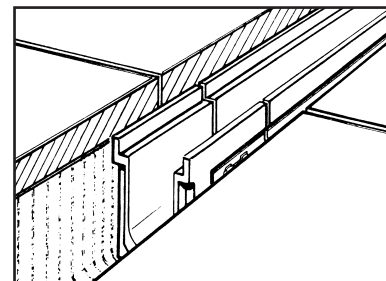
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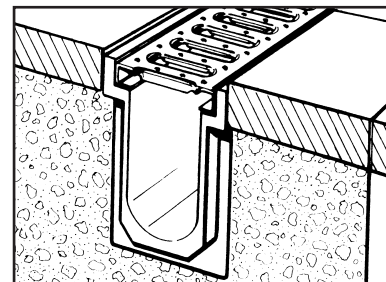
7. Brace the channel bodies against lateral compression; alternatively, place the gratings in the channel rebate. Protect gratings against soiling by concrete.



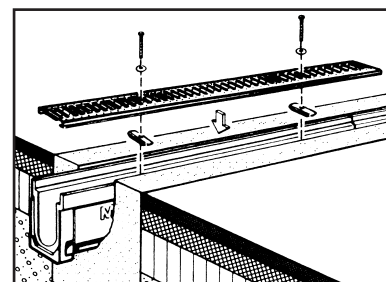
8. Apply an equal concrete surround on both sides of the channels. When installing channels in concreted surfaces, ensure expansion joints are also provided; alternatively do not allow existing expansion joints to be broken by the channel run.



9. Lay lateral pavements that directly abut the channel to be 3-5mm higher than the channel upper surface.



10. Clean gratings, channels and outlets of any soiling, insert and secure gratings to channel bodies using gating locking systems (EN 1433 specifies the mandatory installation of grating securing systems for class C250 and above).



The adjacent pavement must be installed in such a way that no horizontal forces act on channel elements. Gratings must be secured into the channel body immediately after the final cleaning process has taken place. This action will prevent the installed system from being adversely affected by horizontal forces

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MEA Drainage systems

Sealing of channel systems

Use in storage, filling and transshipment facilities:

To seal EN channel systems against substances hazardous to waters in storage, filling and transshipment facilities, please refer to the installation instructions for DIBt Approval Z-74.4-28, or the respective approvals for the sealants to be used (SABA Sealer MBT Approval Number Z-74.6-27).

Use in areas not subject to approvals:

We recommend the use of the sealant SABA ECOSEAL BIO HM for sealing channels in areas that are not subject to approvals.

The undercoat SABA Primer 9102 as well as SABA Cleaner 22, the cleaner for the adhesive surfaces, are formulated for use with this sealant.

or

MEARIN Plus/Expert sealing material in channel color RAL7044 as well as Otto-Cleaner T and Otto-Primer 110UV.

Unsuitable for use in storage, filling or transshipment facilities,

Application SABA ECOSEAL BIO HM and MEARIN Plus/Expert sealing material - RAL 7044 :

Sealing of MEADRAIN Supreme / MEARIN channel system joints in areas not covered by approvals. Unsuitable for use in storage, filling or transshipment facilities.

Particular characteristics:

Resistant to:

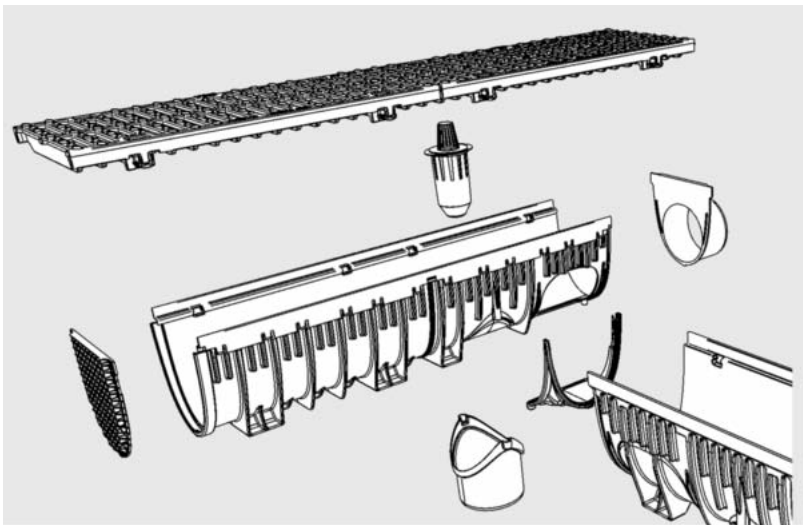
- Weathering and aging
- Foul water
- Manure and faeces
- Watertight to sea- and freshwater
- Outstanding UV resistance
- Contains no solvents, isocyanates, silicones or PVC

Method of use:

- SABA ECOSEAL BIO HM
Substrate must be clean, stable and free of grease.
Clean adhesive faces with SABA Cleaner 22.
Undercoat with SABA Primer 9102.
- MEARIN Plus/Expert Sealing material - RAL 7044
Substrate must be clean, stable and free of grease.
Clean adhesive faces with Otto-cleaner T.
Undercoat with Otto-Primer 110 UV

Installation instructions

MEA®RIN Plus and Expert



Step 1

Excavate a trench, prepare a mortar bed in accordance with MEA's specifications for the respective loading classes.

Step 2

Cut out the pre-formed outlet opening using a jigsaw; attach the discharge connector.

Step 3

Connect the channel section with inserted grating to the underground drainage pipe and place channel onto the mortar bed.

Step 4

Install the remaining channel sections and put the end caps into position.

Step 5

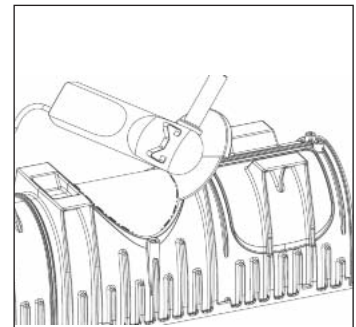
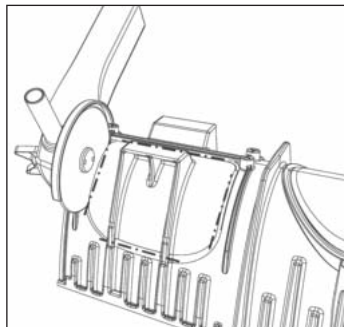
Fill in with concrete on both sides and compact.

Step 6

Lay the adjoining surfaces to be 2-3 mm higher than the grating upper surface.

And the job's complete.

MEARIN Plus/Expert is now ready to provide superlative drainage.



Form the lateral or lower opening by cutting along the cutting edges using an angle grinder, jigsaw or similar. If necessary, separate the rounded areas using well-aimed hammer blows. Smooth the edges using sandpaper.

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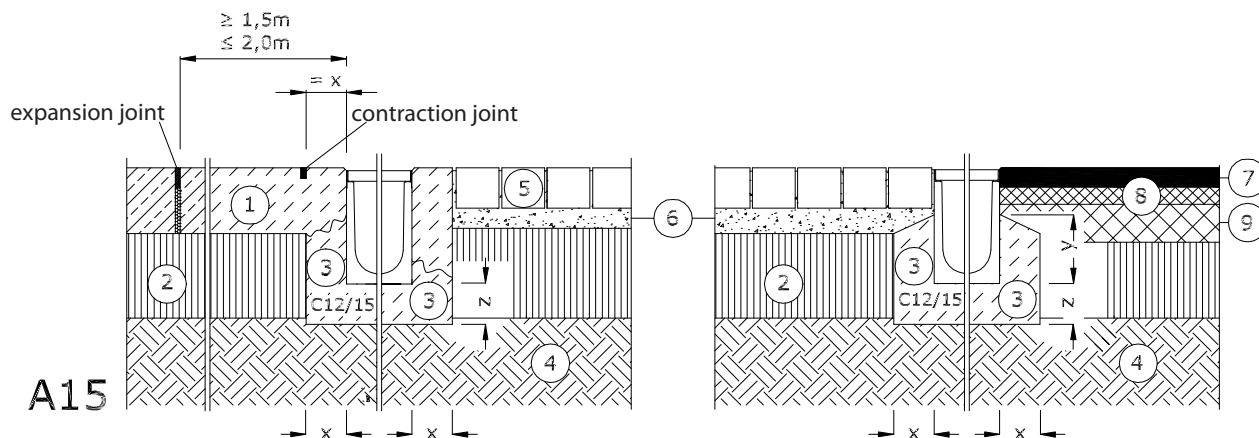
MEA Drainage systems



A15

- Pedestrians
- Cyclists
- Lawned areas

Traffic areas that can only be used by pedestrians and pedal cyclists and comparable areas, i.e. lawned areas. **(Test load 15 kN)**



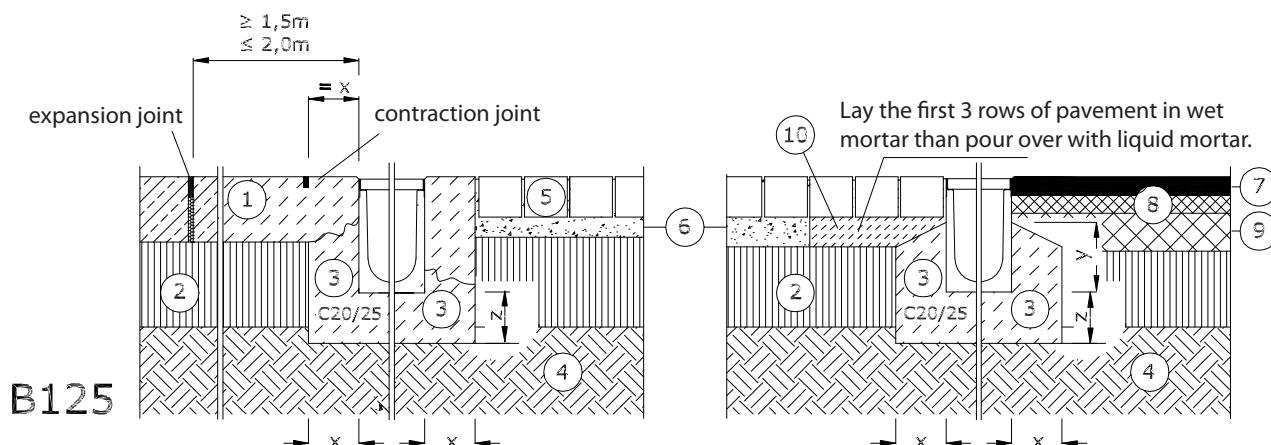
- ① Free of settling and frost free-resisting base layers are to be accomplished in accordance with the German RStO road pavement design manual for different traffic loading classes.



B125

- Car parking spaces and decks
- Delivery vans

Footways, pedestrian zones¹⁾ and comparable areas, car parking spaces and decks. **(Test load 125 kN)**



- ① Free of settling and frost free-resisting base layers are to be accomplished in accordance with the German RStO road pavement design manual for different traffic loading classes.

- | | | |
|-------------------|----------------|--------------------------|
| ① Concrete | ⑤ Block paving | ⑨ Bituminous base course |
| ② Sub-base | ⑥ Sand layer | ⑩ Mortar |
| ③ Concrete haunch | ⑦ Asphalt | |
| ④ Earth | ⑧ Base course | |

The adjacent pavement must be installed in such a way that no horizontal forces act on channel elements. Gratings must be secured into the channel body immediately after the final cleaning process has taken place. This action will prevent the installed system from being adversely affected by horizontal forces

1) Zone reserved for pedestrian traffic, with vehicles crossing only occasionally for supply or cleaning purposes, or in emergencies.

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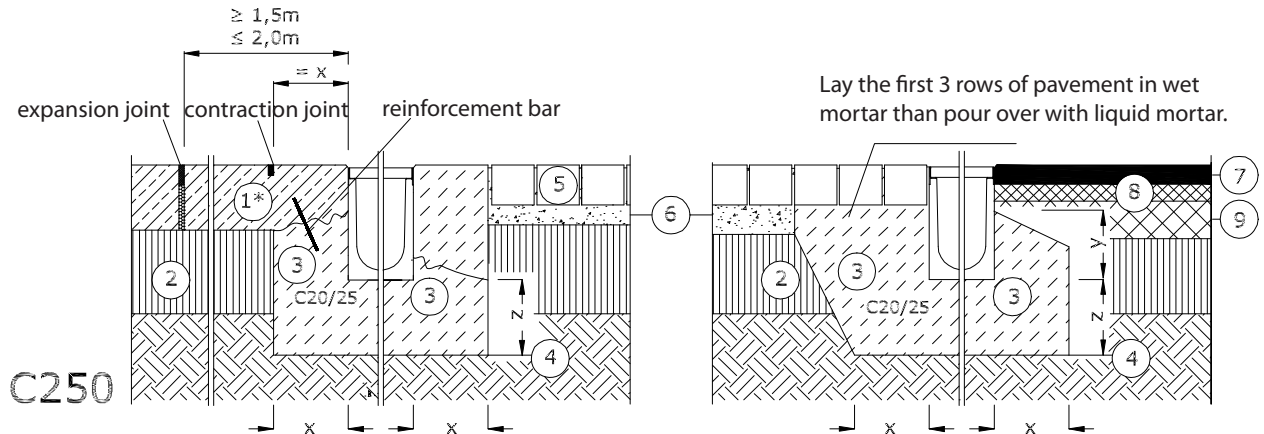
MEA Drainage systems



C250

- Heavy goods vehicles
- Roadsides
- Verges

Kerbsides of roads and pedestrian roads²⁾, verges and marginal strips, parking areas. (Test load 250 kN)



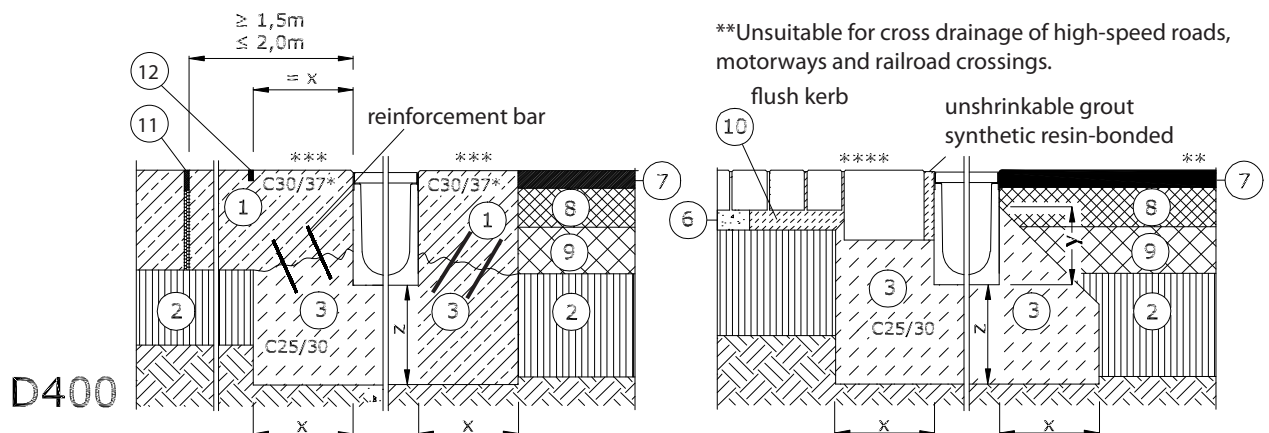
- ① Free of settling and frost free-resisting base layers are to be accomplished according to the German RStO road pavement design manual for different traffic loading classes.
- ② Y min. = channel height - 50 mm
- * Reinforcement and exposure classes under specification of the responsible designer.



D400

- Carriageways

Carriageways of roads, also pedestrian roads²⁾, parking areas and comparable paved surfaces. (Test load 400 kN)



- ① Free of settling and frost free-resisting base layers are to be accomplished according to the German RStO road pavement design manual for different traffic loading classes.
- ② Y min. = channel height - 50 mm
- * Reinforcement and exposure classes under specification of the responsible designer.

- | | | |
|-------------------|----------------|--------------------------|
| ① Concrete | ⑤ Block paving | ⑨ Bituminous base course |
| ② Sub-base | ⑥ Sand layer | ⑩ Mortar |
| ③ Concrete haunch | ⑦ Asphalt | ⑪ Expansion joint |
| ④ Earth | ⑧ Base course | ⑫ Construction joint |

- ④ *** Cross drainage of high-speed roads, motorways and railroad crossings, is only possible by installation of our D 1000, D 2000 and DM 2000 drainage systems and after advice of our technical engineers.

*** Cross drainage of pedestrian walkways²⁾, entrances to parking lots and similar paved areas.

The adjacent pavement must be installed in such a way that no horizontal forces act on channel elements. Gratings must be secured into the channel body immediately after the final cleaning process has taken place. This action will prevent the installed system from being adversely affected by horizontal force.

2) Zone in which vehicular traffic is prohibited between certain times (i.e. a pedestrian zone during shop opening hours, (otherwise normal vehicular traffic).

Installation instructions

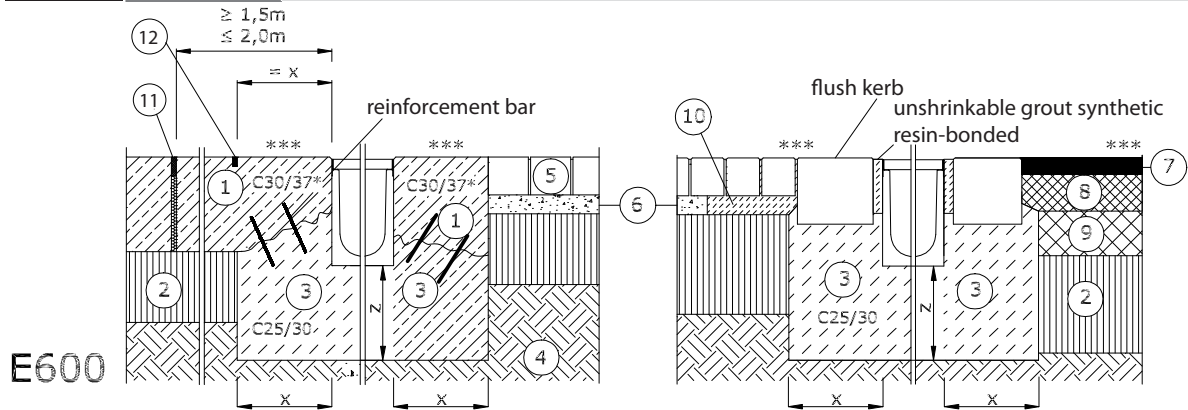
MEA Drainage systems



E600

- Industrial zones

Non-public traffic areas that are subjected to particularly high wheel loads, e.g. traffic routes in industrial complexes. **(Test load 600 kN)**



E600

Free of settling and frost free-resisting base layers are to be accomplished according to the German RStO road pavement design manual for different traffic loading classes.

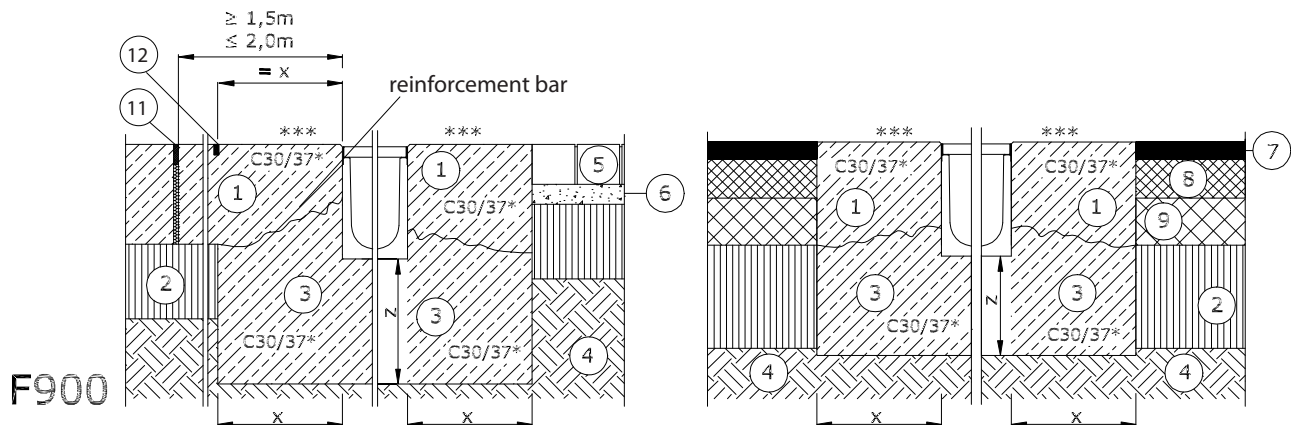
- ① Y min. = channel height
- ② * Reinforcement and exposure classes under specification of the responsible designer.
*** For cross drainage of areas with high traffic and dynamic loads, please contact our MEA engineering department. Cross drainage of dynamically loaded areas, cross over ridden, is only possible by installing our D 1000, D 2000, opA , DM 2000 and EN/ENS 1000-4000 channel systems and after consulting of MEA engineering department.



F900

- Special areas like aprons, taxiways

Special areas, such as certain aircraft operational surfaces of commercial airports. **(Test load 900 kN)**



F900

Free of settling and frost free-resisting base layers are to be accomplished according to the German RStO road pavement design manual for different traffic loading classes.

- ① Y min. = channel height
- ② * Reinforcement and exposure classes under specification of the responsible designer.
*** Cross drainage of dynamically loaded areas, cross over ridden, is only possible by installing our D 1000, D 2000, opA , DM 2000 and EN/ENS 1000-4000 channel systems and after consulting of MEA engineering department.

- | | | |
|-------------------|----------------|--------------------------|
| ① Concrete | ⑤ Block paving | ⑨ Bituminous base course |
| ② Sub-base | ⑥ Sand layer | ⑩ Mortar |
| ③ Concrete haunch | ⑦ Asphalt | ⑪ Expansion joint |
| ④ Earth | ⑧ Base course | ⑫ Construction joint |

The adjacent pavement must be installed in such a way that no horizontal forces act on channel elements. Gratings must be secured into the channel body immediately after the final cleaning process has taken place. This action will prevent the installed system from being adversely affected by horizontal force.

Installation instructions

MEA Drainage systems

The requirements of the concrete regarding durability versus environmental influences, have to be provided by the designer at the definition of the accordant exposure class.

E.g.: Exposure class for road concrete at cross drainage of high speed roads and motorways

– C30/37 (LP), XF4, XM2

(Source: Zement-Merkblatt Betontechnik B9 3.2006, www.beton.org)

MEA®DRAIN Polymer concrete channels

The maximum loading class for the selected channel system is given in the product brochures, data sheets and prices lists and may not be exceeded.

Loading class to EN 1433	A15 kN	B125 kN	C250 kN	D400 kN	E600 kN	F900 kN
Concrete haunch measurement X (mm)	> 80	> 100	> 150	> 200	> 200	> 250
Concrete haunch measurement Z (mm)	> 80	> 100	> 150	> 200	> 200	> 250
Reinforcement bars	no	no	yes	yes	yes	yes
Min. concrete quality for haunch	C 12/15	C 20/25	C 20/25	C 25/30	C 25/30	C 30/37*

* Reinforcement as specified by the engineer responsible.

MEA®DRAIN Concrete channels

The maximum loading class for the selected channel system is given in the product brochures, data sheets and prices lists and may not be exceeded.

Loading class to EN 1433	A15 kN	B125 kN	C250 kN	D400 kN	E600 kN	F900 kN
Concrete haunch measurement X (mm)	> 80	> 100	> 150	> 150	> 150	> 200
Concrete haunch measurement Z (mm)	> 80	> 100	> 150	> 200	> 200	> 250
Reinforcement bars	no	no	yes	yes	yes	yes
Min. concrete quality for haunch	C 12/15	C 20/25	C 20/25	C 25/30	C 25/30	30/37*

* Reinforcement as specified by the engineer responsible.

MEA®RIN Channels made of glassfibre reinforced polyester

The maximum loading class for the selected channel system is given in the product brochures, data sheets and prices lists and may not be exceeded.

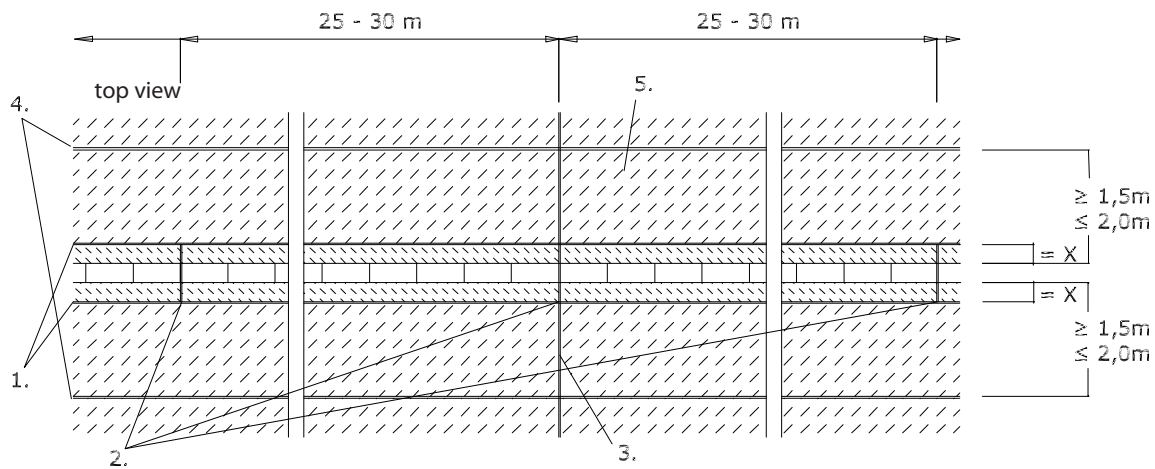
Loading class to EN 1433	A15 kN	B125 kN	C250 kN	D400 kN	E600 kN
Concrete haunch measurement X (mm)	> 80	> 100	> 150	> 200	> 200
Concrete haunch measurement Z (mm)	> 80	> 100	> 150	> 200	> 200
Reinforcement bars	no	no	yes	yes	yes
Min. concrete quality for haunch	C 12/15	C 20/25	C 20/25	C 25/30	C 25/30

* Reinforcement as specified by the engineer responsible.

Installation instructions

MEA Drainage systems

If no other guidelines are available from the designer, we recommend to comply expansion joints as described in sketch below.



1. Contraction joint
2. Expansion joints cross to the channel run into the concrete haunch.
MEA recommendation for Central-Europe: distance of expansion joints cross to the channelrun 25 to 30m.
In countries with extreme climatical conditions are the local designing specifications ruling.
3. Expansion joints in concrete are according to designers plan or site management.
These expansions joints may not interrupt the channel run, but have to be continued into the concrete haunch.
4. Expansion joint parallel to channel run.
A direct expansion joint between line drainage channel and the adjacent concrete slab is not allowed.
5. Concrete surface

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