Installation instructions

MEA Drainage systems

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Channel	Loading classes to EN 1433					
	A10	B80	C150	D210	E 400	F 900
						
Z 1000	•	•	•			
S 1000	•	•	•			
C 1000	•	•	•	•*	•	•
C 2000	•	•	•	•*	•	•
C 3000	•	•	•	•*	•	•
LZ 1000	•	•	•			
LS 1000	•	•	•			

* Class D 400 not suitable for cross-drainage of high speed roads and motorways.

General installation instructions

Our installation instructions are general suggestions only. The planners must ascertain whether site conditions necessitate special requirements as regards channel installation.

1. The loading class and installation position, for the respective area where installation is to take place, needs to be taken into account.

2. The adjoining floor slab or pavement surface must be laid so as to be 3-5mm higher than upper surface of the channel.

3. Horizontal forces on the channel line-from adjoining concrete areas or reinforced concrete constructions are to be eliminated by the use of effective expansion and contraction joints in both longitudinal and transverse directions.

4. During concreting and laying of the adjoining floor slabs or pavement surface, the gratings are to be inserted in the channel groove, alternatively, channels must be sufficiently braced to counteract any compression.

5. Channels must not suffer any mechanical damage during installation, e.g. during compaction of the adjoining surfaces.

6. The installation of silt boxes and gullies is similar to the installation examples for channels.

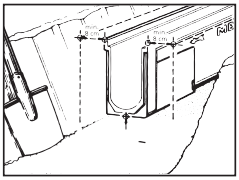
7. EN 1433 specifies the mandatory, traffic-proof securement of gratings for loading class C 250 and upwards.

Installation instructions

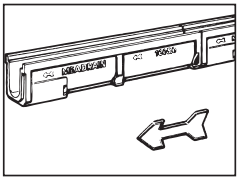
MEA Drainage systems

Installation instructions MEADRAIN Drainage Channels

1. Excavate a trench with a sufficient width; ensure at least 80 cm (Class A 15) of bedding concrete can be placed under and alongside the channel. For higher loadings, refer to the MEADRAIN installation examples. The carrying capacity of the subsoil must also be taken into account, or respectively, the carrying capacity of the trench floor must be established.

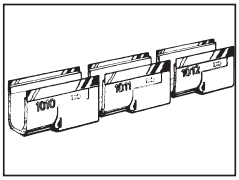


2. The direction of flow is marked on every channel element by directional arrows on both sides of the channel body. The arrows point in the direction of the outlet.

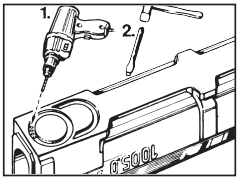


3. The number visible on the channel body shows the position of the channel within the drainage line, e.g. channel no. 10**10** 10**11** 10**12**.

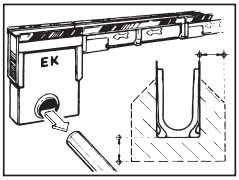
4. Lay out channel elements in the planned sequence alongside the excavated trench (as per installation plan, if available).



5. Remove preformed knockouts form the channel or silt box for the discharge from the outlet end (see instructions on next page).



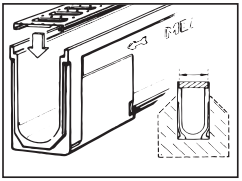
6. Stretch a stringline, pour concrete into the trench and place the channels in the concrete, starting at the outlet end. Embed silt boxes and gullies equivalent to the installation examples for channels (thickness of concrete surround). When laying channels, ensure that directional arrows point towards the outlet. Fit the respective end caps at the start/end of the channel line. Connect the discharge point to the utilities system.



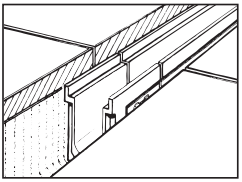
The adjacent concrete linings are to be executed in such a way that no horizontal forces affect the channel items.

Installation instructions
MEA Drainage systems

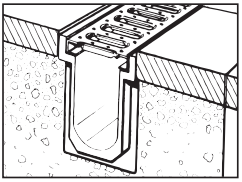
7. Brace channel elements to counteract lateral compression, or insert gratings in the channel groove. Protect the gratings from any concrete spillage, by placing upside down or wrapping.



8. Ensure the concrete surround is equal on both sides of channels. Where installation takes place in concrete slabs, provide for expansion/contraction joints, or respectively, do not let the drainage line interrupt existing expansion/contraction joints.

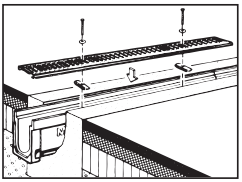


9. Lay the ground surface which directly adjoins the channel side to be 3-5mm higher than the upper channel surface.

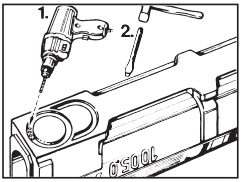


10. Clean any spilled concrete from gratings, channels and outlet points, insert and secure gratings to channel body using the grating locking system (EN 1433 specifies the bolting of gratings for loading class C 250 and upwards).

11. Flush channel to ensure no blockages have occurred.

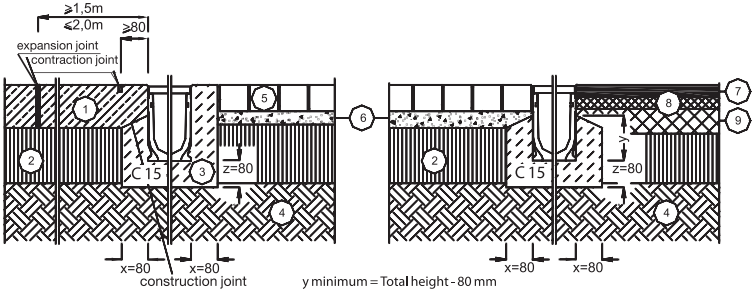


Note:
Preformed knockouts in silt boxes and gullies for the connection of channel elements, and knockouts for channel, silt box and gully outlets must only be removed with the aid of suitable tools (e.g. rough-drill the predetmined breaking point, then remove the knockout using a flat chisel).

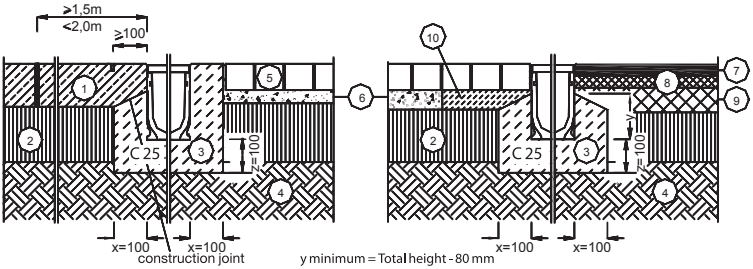


Installation instructions
MEA Drainage systems

Loading class A 15



Loading class B 125



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

The adjacent surfaces to the channels are to be constructed in such a way that no horizontal forces affect the channel items. Please allow for an overbuild of 3-5 mm above the grating surface.

A 10

- Pedestrians
- pedal cyclists
- lawned areas

Areas exclusively used by pedestrians and pedal cyclists and comparable areas, e.g. lawned areas

B 80

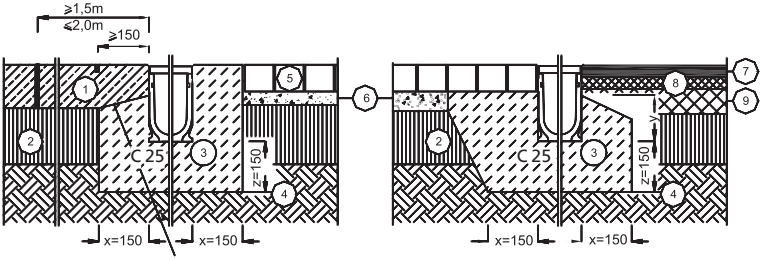
- Car parks and parking decks
- Delivery

Footways, pedestrian zones[1] and comparable areas, private car parks and parking decks.

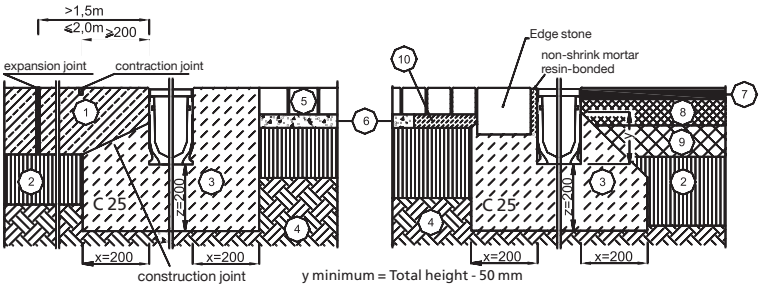
1) Designated area for pedestrians that only for cleaning purposes or emergencies will be driven on.

Installation instructions
MEA Drainage systems

Loading class C 250



Loading class D 400*



y minimum = Total height - 50 mm

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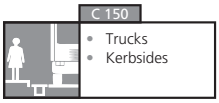
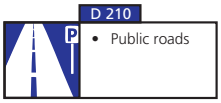
④ Earth
⑤ Block paving
⑥ Sand layer
⑦ Asphalt
⑧ Base course
⑨ Bituminous base course
⑩ Mortar

The adjacent surfaces to the channels are to be constructed in such a way that no horizontal forces affect the channel items. Please allow for an overbuild of 3-5 mm above the grating surface. *D 400 unsuitable for cross drainage of high speed roads and motorways.



Kerbside drainage of public roads.[2)]

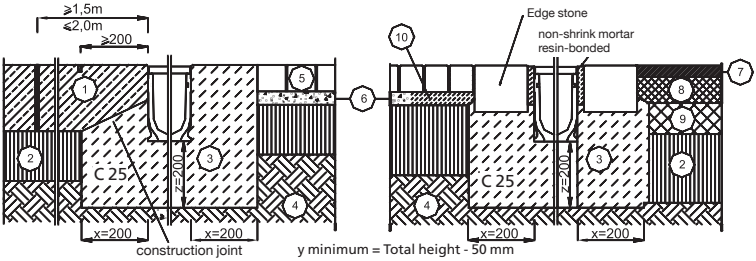


Public roads (including pedestrian streets[2)]), motorways and parking areas for all types of road vehicles.

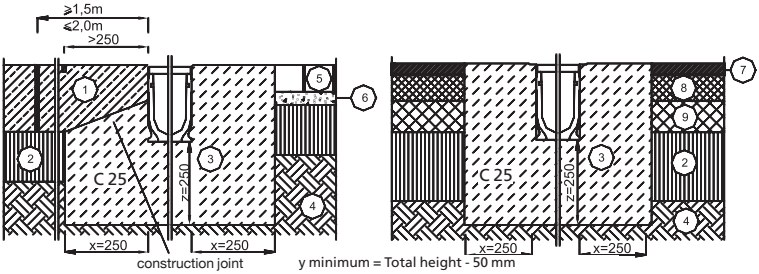
2) Area where vehicular traffic at certain times if forbidden (e.g. pedestrian streets during store opning hours, otherwise normal traffic).

Installation instructions
MEA Drainage systems

Loading class E 600

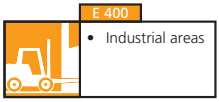


Loading class F 900



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

The adjacent surfaces to the channels are to be constructed in such a way that no horizontal forces affect the channel items. Please allow for an overbuild of 3-5 mm above the grating surface.



Industrial areas imposing heavy wheel loads, fork lift trucks, heavy slow moving commercial vehicles.

Areas imposing particulary high wheel loads, e.g. Airport runways.