

BIRCOcanal | Installation Instructions

A number of details must be observed when installing BIRCOcanal. For a comprehensive description here.

To guarantee smooth operation and compliance with the requirements of DIN EN 1433, the following general installation instructions must be observed:

1. Prior to installation, the correct load class in accordance with DIN EN 1433 must be selected.
2. Thanks to the high level of stability, laying the BIRCO channels is conducted on an earth-moist C 25/30 strip of foundation concrete at least 15 cm high which must be haunched on both sides. No additional concrete surround or reinforcement on the sides is required⁽¹⁾. Large-scale products are only to be moved using the anchor sleeves designed for that purpose.
3. All adjoining pavement surfaces must run **permanently at a level of some 3 to 5 mm higher than the upper edge of the supply channel**. In order to achieve this, we recommend laying the first two to three rows of pavement surfacing in the mortar bed. Because there is no concrete surround, the surface pavement can run right up to the channel without any problems.
4. For installation in concrete surfaces or reinforced concrete constructions, movement joints must be provided on both sides to compensate horizontal forces that emerge. These joints should be planned at an interval of some 0.2 to 0.5 metres from the channel. In sealing the adjacent areas it must be ensured that there is no mechanical damage to the channel units. Joints running transverse to the channel line must be arranged every 5 – 6 metres in the adjacent concrete surfaces (in-situ concrete) so that they run through a channel end.
5. BIRCO drainage units are fitted with a safety sealing joint on the channel end. In accordance with DIN EN 1433, once laying has been completed this safety can be further treated with a plastic modified mortar or a permanently elastic sealing material (for example SF-Connect). When using reinforced concrete covers, we recommend using a flexible intermediate layer between the supply channel and the cover in order to prevent damage to the supply channel and/or the cover.
6. Local particularities can require special installation methods that have to be examined and taken into account by the planner(s). The installation must comply with the latest regulations and guidelines such as ZTVT, ZTV concrete, ZTV bit and RStO.
 - + Construction in accordance with the Construction Tendering and Contract Regulations (VOB) Part C, DIN 18318 “Transport Route Construction”.
 - + Additional technical regulations and guidelines for pavement surfaces in road construction (ZTVT-StB) and ZTV Asphalt.
 - + Additional technical regulations and guidelines for ground work in road construction (ZTVE-StB).
 - + Guidelines for the standardisation of the pavement of public thoroughfares (RStO).
 - + Preparation of the ATV DIN 18299 performance description “General Regulations for Construction Work of all Types”.
 - + The respectively correct load class in accordance with DIN EN 1433, “Drainage channels for vehicular and pedestrian areas

⁽¹⁾ Exception:

When using BIRCOcanal in heavy-duty areas with frequent traffic, it may be necessary to encase the channel with concrete on the sides to compensate for the high levels of horizontal forces that could potentially emerge.

Fast, safe installation | Efficient time & cost management

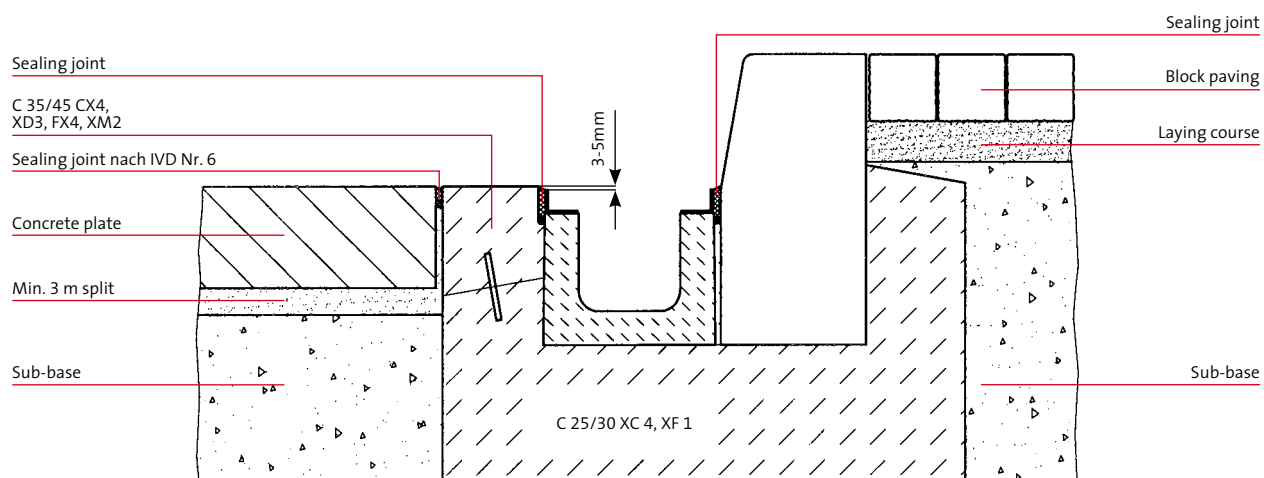
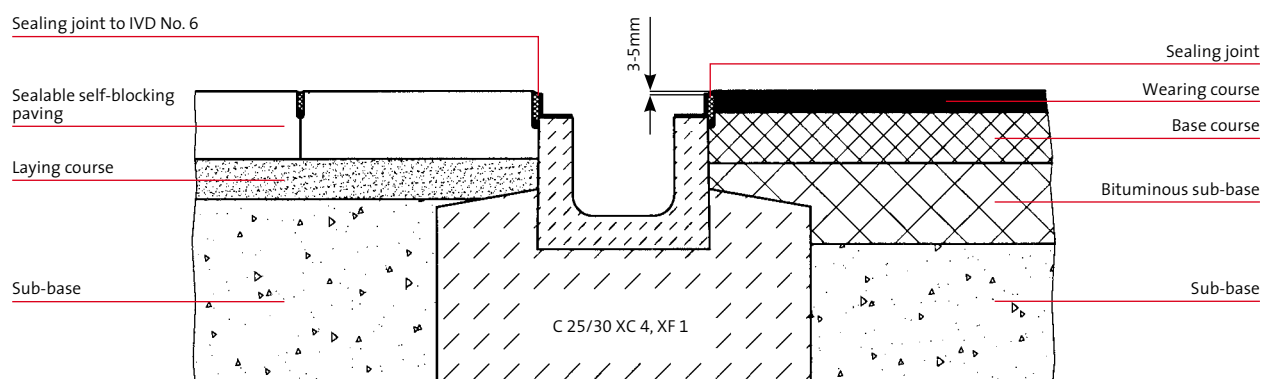
- + BIRCOcanal’s 2 metre long channel units make channel laying faster with fewer joints.
- + The one-piece channel do not require full concrete surround, reducing additional concrete and casing work.



BIRCOcanal Installation Examples


Installation instructions for traffic areas with heavy wheel loads.
Public buildings | Industrial halls and trade fair centres

Load class A 15 to E 600, Type M
Drawing-No. 6462

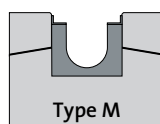


i Introduction to 2 models

- + **Type I:** Requires no load-bearing foundation and/or no full concrete surround: e.g., BIRCOmassiv.
- + **Type M:** Requires a load-bearing foundation and/or full concrete surround: e.g., BIRCOsir.



Type I



Type M

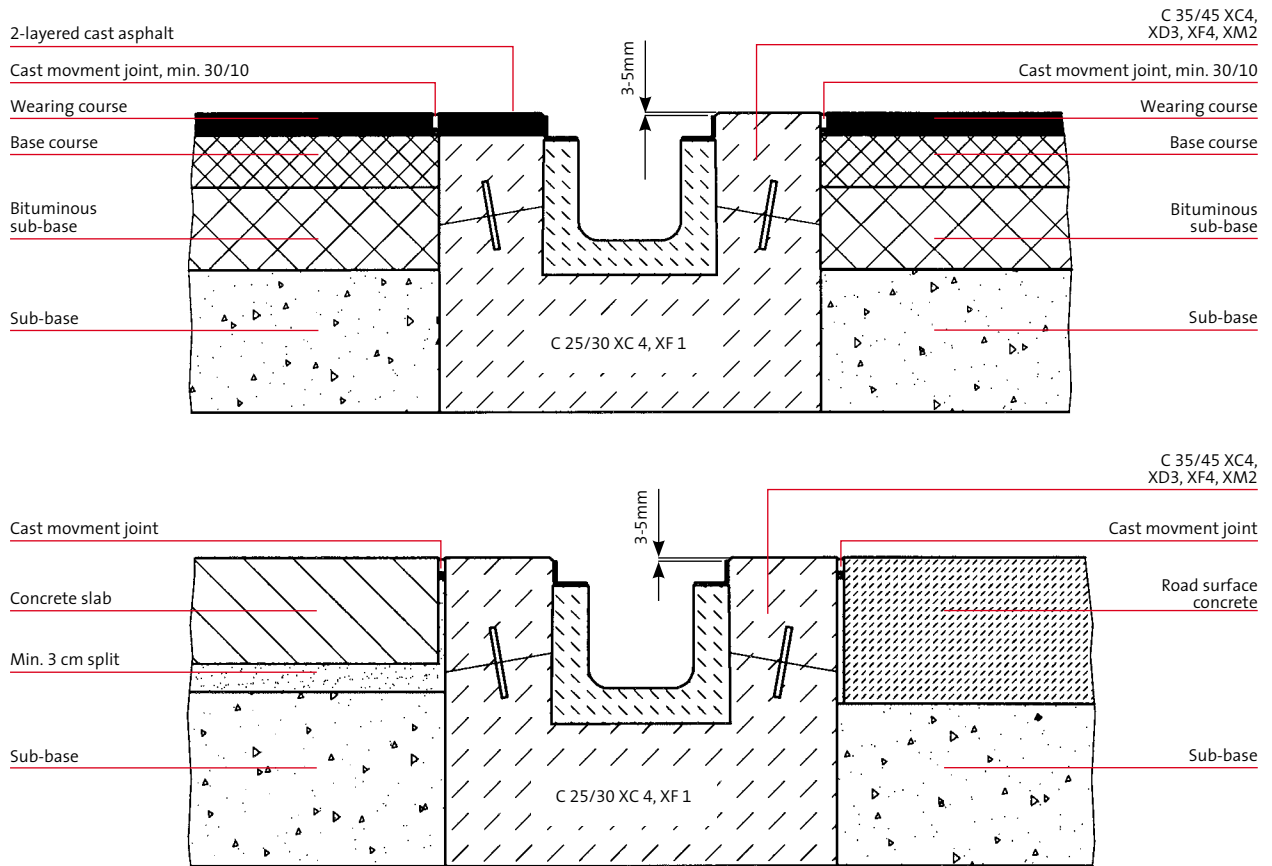
Constructed in accordance with RSTO using non-settling frost-free sub-bases.
Exception up to D 400: Not for use across the carriage-way of highways or motorways.



BIRCOcanal Installation Examples

Expanded installation instructions for heavy-duty load areas exposed to frequent use
 Ports | Freight company premises | Industrial halls and trade fair centres

Load class D 400 to F 900, Type M, and SLW 60



When pavement surfaces are being laid and pressed, it must be ensured that the pavement material is not forced against the blocks.

The dimensions of the lateral concrete surround must be adapted to the circumstances on-site and must consist of at least 15 cm. If no bond can be created between the base and the lateral concrete surround, then chisels or flotation controls made of $\varnothing 8$ mm reinforced bars are to be installed every 30 cm. The concrete qualities indicated are minimum values. Requirements related to the installation location according to DIN 1045-2 or DIN EN 206-1 regarding for instance resistance to frost and de-icing salt are to be taken into account in the choice of the concrete.

Bolt connection note:

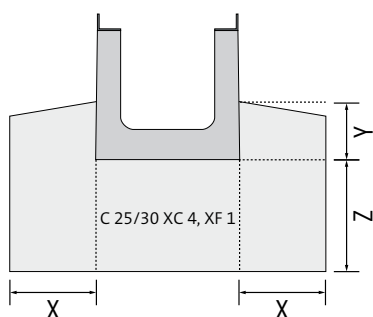
For heavy-duty load areas subjected to frequent traffic and in vehicle manoeuvring areas, we recommend using threaded bolts instead of fast connection systems (such as Easylock). Torque moments for screwing on the gratings are to be set at M12 = 60 Nm, M16 = 100 Nm. The bolts must be re-tightened at regular intervals.

Constructed in accordance with RSTO using non-settling frost-free sub-bases. Exception up to D 400: Not for use across the carriage-way of highways or motorways.

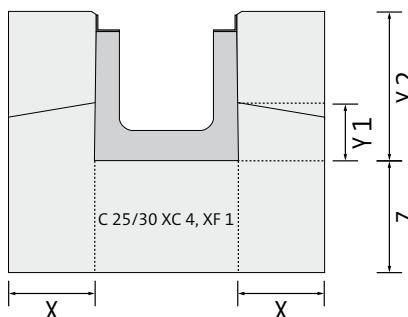


BIRCOcanal | Overview

NW	Type	Load class	X	Y/Y 1	Y 2	Z	Page
BIRCOcanal 100	M	A 15 – E 600	≥ 150	≥ 100	-	≥ 200	101
BIRCOcanal 100	M	D 400 – F 900	≥ 150	≥ 100	Construction height + 5 mm	≥ 200	102
BIRCOcanal 150	M	A 15 – E 600	≥ 150	≥ 100	-	≥ 200	101
BIRCOcanal 150	M	D 400 – F 900	≥ 150	≥ 100	Construction height + 5 mm	≥ 200	102
BIRCOcanal 200	M	A 15 – E 600	≥ 150	≥ 100	-	≥ 200	101
BIRCOcanal 200	M	D 400 – F 900	≥ 150	≥ 100	Construction height + 5 mm	≥ 200	102
BIRCOcanal 300	M	A 15 – E 600	≥ 200	≥ 100	-	≥ 200	101
BIRCOcanal 300	M	D 400 – F 900	≥ 200	≥ 100	Construction height + 5 mm	≥ 200	102
BIRCOcanal 400	M	A 15 – E 600	≥ 200	≥ 200	-	≥ 200	101
BIRCOcanal 400	M	D 400 – F 900	≥ 200	≥ 200	Construction height + 5 mm	≥ 200	102
BIRCOcanal 500	M	A 15 – E 600	≥ 200	≥ 200	-	≥ 200	101
BIRCOcanal 500	M	D 400 – F 900	≥ 200	≥ 200	Construction height + 5 mm	≥ 200	102
BIRCOcanal 700	M	A 15 – E 600	≥ 200	≥ 200	-	≥ 200	101
BIRCOcanal 700	M	D 400 – F 900	≥ 200	≥ 200	Construction height + 5 mm	≥ 200	102
BIRCOcanal 1000	M	D 400 – F 900	≥ 200	≥ 250	Construction height + 5 mm	≥ 250	102



Installation without concrete surround



Installation with concrete surround

BIRCOcanal | Bore hole horizontal and vertical

NW	Bore hole horizontal maximal	Bore hole vertical maximal
100 mm	DN 150	DN 100
150 mm	DN 200	DN 150
200 mm	DN 250	DN 200
300 mm	DN 300	DN 300
400 mm	DN 300	DN 300
500 mm	DN 300	DN 300
700 mm	DN 300	DN 300
1000 mm	DN 300	DN 300

The figures shown relate to PVC drainage pipe used in German road construction. For bore hole diameters for PEHD pipes please contact us. Bore holes must be a distance of at least 100 mm away from the end of the channel.

 BIRCOservice

+ BIRCO offers you an individual customisation and bore hole service ex-factory.



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