

Installation Guidelines type M :

Generally, the compaction index below the base of the channel must be sufficient to ensure the transfer of operational loads (it must be verified by a specialized engineering office).

The dimensioning of the lateral concrete surrounding (s) must be adapted to local site conditions and equate at least 15 cm. In cases where the connection between subgrade and lateral concrete surrounding of the channel is avoided by for example by expansion joints, then dowel bars made of 48 mm reinforced steel have to be installed every 30 cm.

The concrete grades indicated are minimum values. Requirements related to the location of installation, such as resistance to freeze-thaw with de-icing salts, must be taken into account by choosing the appropriate concrete grade in accordance with local restrictions respectively.

With complete concrete surrounded channels system, BIRCO recommends a fully sealing of the channel joints, according to EN1433 so as to prevent damage through freeze – thaw conditions (see jointing information!).

It must be ensured that installation is performed expertly, taking into account concrete technology aspects.

All surfaces (except paving stones):

For optimum protection of the channel, adjacent surface coverings must protrude by 3 to 5 mm above the upper edge of the channel on a permanent basis. (During road construction, no vehicles, e.g. pavers or compactors, should come into contact with the channel or its rebate. The same applies during normal operation, with vehicles crossing the channel).

Paving-type covering :

All adjoining pavement surfaces must run permanently at a level of approximately 3 to 5 mm higher than the upper edge of the channel. In order to achieve this, we recommend laying the first two to three rows of block paving or paving slabs in a mortar bed. Because there is no concrete encasing, the surfacing can run right up to the channel. In the case of block paving or paving slabs being used as the adjoining surfacing, a durable sealing joint of some 10 mm must be established between the channel and the surfacing. The joints between the first two to three rows of the block paving or paving slabs must be sealed durably in a light and impermeable manner. It must be ensured that horizontal forces, which may result from the expansion or shifting of the pavement, have no impact on the two to three rows of pavement set in the mortar bed.

Expansion joints :

Expansion joints in the construction parts adjoining the channel must be planned on the basis of engineering considerations. BIRCO recommends arranging expansion joints parallel to the channel, at a distance of approximately 1m – 2m from the channel line. Expansion joints running transverse to the channel line must be arranged so that they run through a channel joint. We recommend arranging them every 8 to 12 metres (in accordance with DIN 18318, valid edition). The expansion joints (e.g. PE foam sheets) must cover the total cross-sectional area of the channel, as well as the full area of the concrete base and the lateral concrete encasing.

[*] Jointing Information :

You will find detailed jointing information under www.birco.de

[#] Expansion joint in accordance with current standards:

Depending on the thickness of the slabs and the site conditions (vehicles, frequency of use, etc.), the channel may be positioned at the edge of the well under the responsibility of the project manager and client. The tightening torque of the grid fixing screws must also be observed and guaranteed. Please consult our technical department.

Bolt Connection Information :

The positioning of the screws is done diagonally to optimize their adjustment and their tightening. The recommended tightening torque moments for the grid securing screws is as follows

M12 = 60 Nm.

The bolts must be re-tightened at regular intervals.

Installation instructions :

The installation direction of the channels is against the flow direction.



The installation of the channel string begins with the outlet (drain box/channel with a hole).

The highest channel is placed at the outlet, and then the channel string is formed with the respective smaller numbered channels.

Only after the installation is completed and the covers are inserted is the corresponding load class achieved.

The channels must not be driven over during the construction phase!

Additional regulations and guidelines :

Local particularities have to be examined and taken into account by the planner. Installation must comply with the latest international/local regulations and guidelines .

+ The correct load class in accordance with DIN EN 1433 Drainage channels for vehicular and pedestrian areas has to be respected.

[+]: Exception classe D 400 : ne convient pas en travers de d'autostrades et de voia rapides

Instruction de pose pour zone à forte fréquentation de poids lourds (Classe D 400 / F 600 / F 900) [+]

Logistics centers / Transshipment center / Sorting center / Airports

