

BIRCOslotted steel covers | Installation

A number of details must be observed when installing BIRCOslotted steel covers. For a comprehensive description please read [here](#).

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

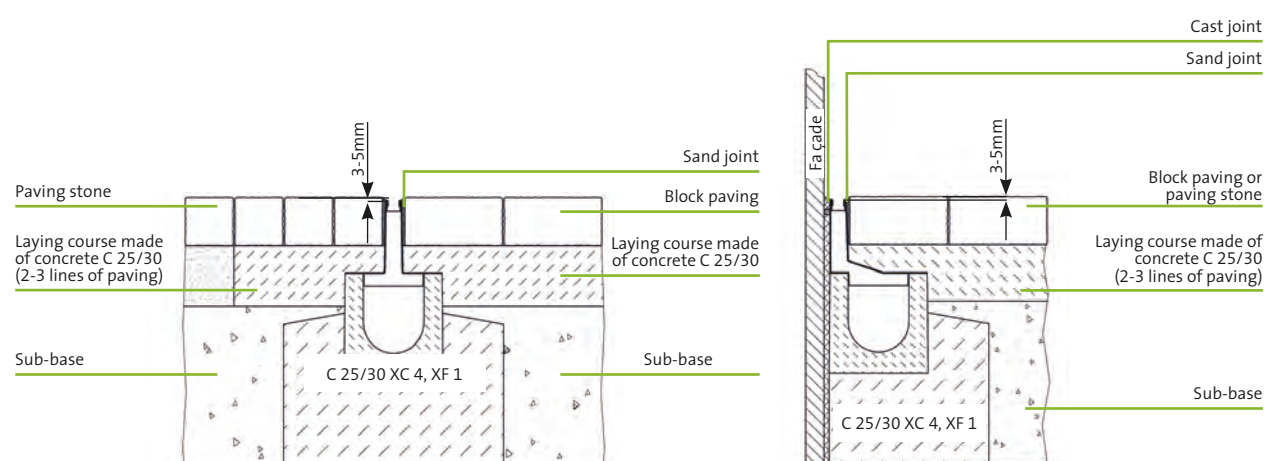
1. Prior to installation, the correct load class in accordance with DIN EN 1433 must be selected..
 2. **Thanks to the high level of stability, laying the BIRCO channels is conducted on an earth-moist C 25/30 strip of foundation concrete at least 15 cm high which must be tapered in a conical shape on both sides. Complete encasing or reinforcement on the sides is not generally required (NW 100 starting from Class D 400 is an exception).** Begin laying the channel line following the outfall unit with the highest channel at the drain and form the channel line with the next-smallest number. The structural dimensions of the attachment must be considered when establishing the height level of the channel. **We recommend inserting the slot attachment into the channel directly after the concrete units have been laid in order to protect them from soiling or to equalise the tolerances in the upper piece of the slot attachment.**
 3. All adjoining pavement surfaces must run **permanently at a level of some 3 to 5 mm higher than the upper edge of the slot channel attachment. In order to achieve this, we recommend laying the first two to three rows of pavement surfacing in the mortar bed.** Proceed analogously when installing up to load class E 600.
When pavement surfaces are being laid and pressed, it must be ensured that the pavement material is not forced against the slot attachments.
 4. For installation in concrete surfaces or reinforced concrete constructions, running 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 diagonally 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 joint.
 5. Proceed analogously when installing the outfall unit.
 6. Furthermore, when using asymmetrical slot attachments it must be ensured that the joints to the adjacent system are executed in a permanently elastic fashion.
 7. 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 sealing joint can be further treated with a plastic modified mortar or a permanently elastic sealing material (for example SF-Connect, see also page 125).
 8. 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".

Installation examples slotted steel covers – material thickness 1.5 mm

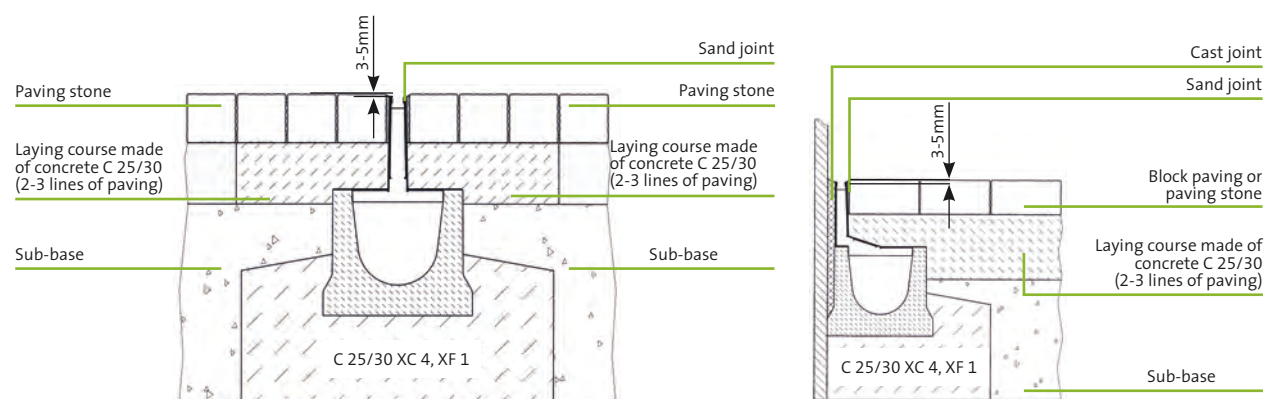
Installation instructions for traffic areas with light traffic.

Lorry parking lots | Curb areas

For NW 100, material thickness 1.5 mm, load class A 15 to C 250



For NW 150 AS, material thickness 1.5 mm, load class A 15 to C 250

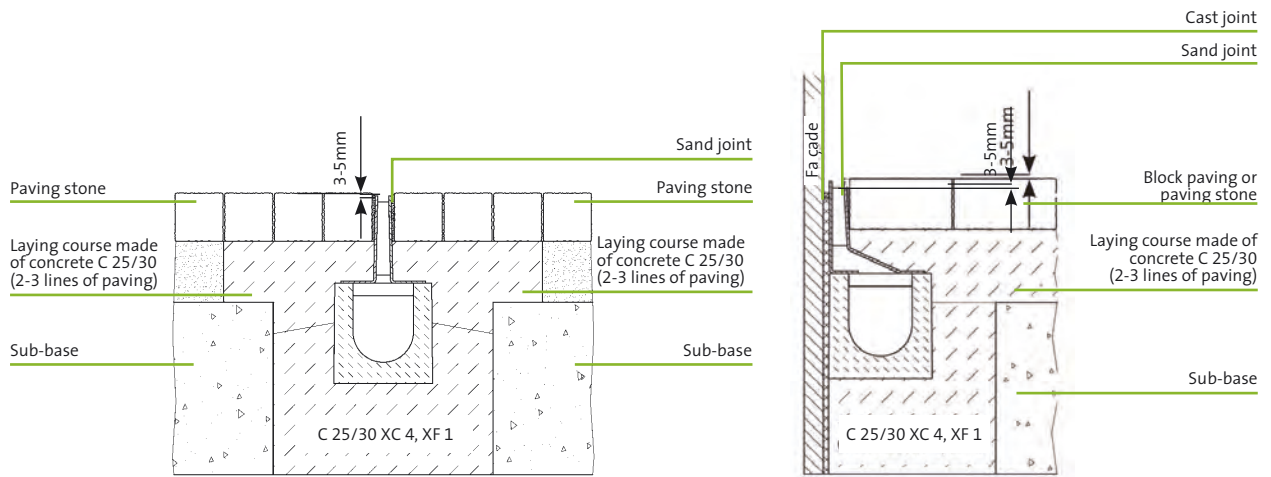


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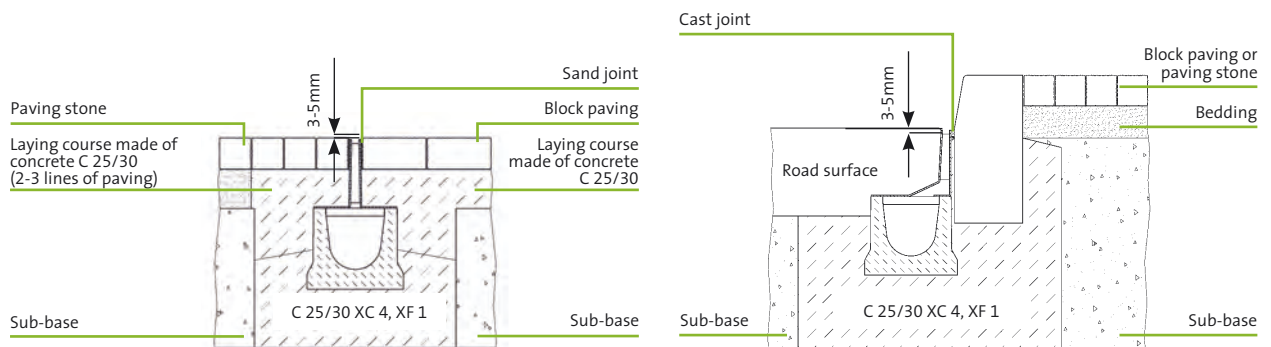
- + When laying paving stones or plates, it must be ensured that, depending on their dimensions, they are lying completely on the entire concrete bed.

Installation examples slotted steel covers – material thickness 4 mm

For NW 100, material thickness 4 mm, load class A 15 to E 600



For NW 150 AS, material thickness 4 mm, load class A 15 to E 600



Notice

- + When laying paving stones or plates, it must be ensured that, depending on their dimensions, they are laying completely on the entire concrete bed.

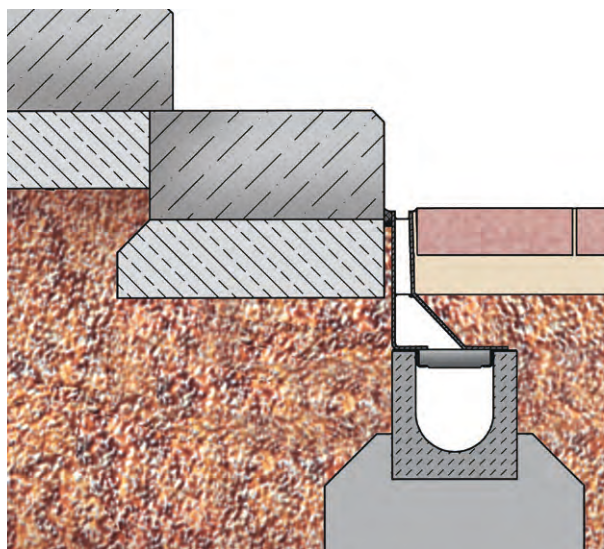
BIRCOslotted steel covers– Drainage examples

Slot attachments safety concept

Stairways drainage

A drainage system should be planned at the location of free-standing stairways in order to ensure the safety of people moving along the stairs.

In this example, the drainage system utilised was accomplished by installing an asymmetrical slot attachment with a concrete channel located beneath it at the foot of the stairs. This allows the accumulating water in the immediate vicinity of the stairs to be guided into the drainage channel and drained away. There is the optional possibility of seeping the surface water away by installing a variety of seepage pipes. This “invisible” drainage solution can be ideally integrated into any drainage concept.



Slot attachment “tripping point”

Pavement edge drainage

In this example, an asymmetrical slot attachment was installed to ensure pavement separation or the transition to a stairway.

The one-sided design of the asymmetrical slot attachment means that its higher side is used as a visible stop angle. The offset or height of the edge totals approximately 5 - 6 cm. In this way, the slot attachment’s metal band marks the “threshold” via the different look of the slot attachment as a tripping point. At the same time, the slot attachment serves in the drainage of the stairway or the water falling onto the flat surface.

