

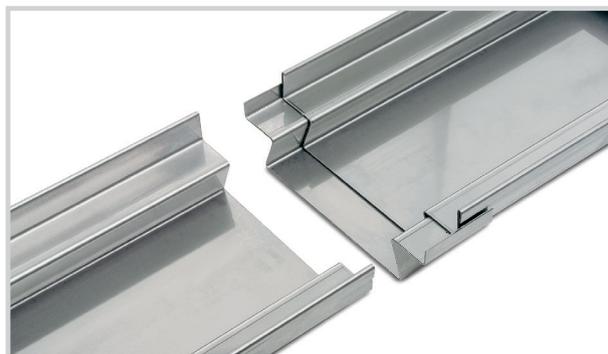
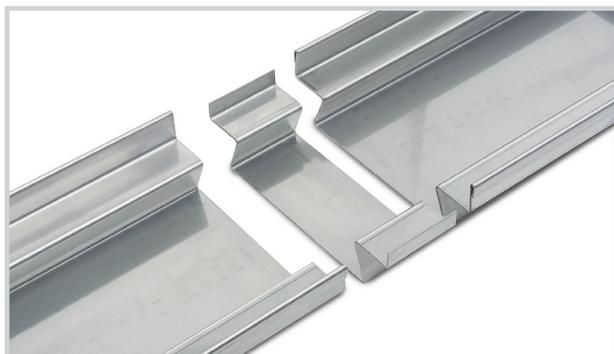
BIRCOprofil | Installation Instructions

A number of details must be observed when installing BIRCOprofil.

You will find a comprehensive description below.

- + When using drainage elements in ceilings or building parts with greater sealing tightness requirements, we recommend using stainless steel products and welding of the channel ends on the building site. A sealing tightness test (water level test) must be conducted before installation is completed.
- + When installing in concrete fittings, the transition points (where the channel meets the adjacent concrete slabs) must be grouted with a permanently elastic sealing material (for example with SF-Connect or another polyurethane-based sealant). Expansion joints must be laid out in such manner that horizontal forces do not exert pressure on the drainage unit and run through the channel end instead.
- + Mechanical processing of the drainage units on the building site must be conducted taking into consideration that, in particular with galvanized materials, the connection interfaces will be primed and subsequently galvanized. Otherwise there would be no lasting corrosion protection.
- + With drainage elements installed in areas that are subjected to being driven over permanently it must be observed that the screws are tightened with the stipulated torque moments.
- + The contact surfaces of slots in concrete ceilings must be treated in advance with a bonding course.
- + The channel must be safeguarded against “flooding” during the concrete work and secured in its position.
- + Individual requirements must be taken into account according to the on-site circumstances and considered by the planner(s).
- + When bolting the covers it must by all means be observed that the torque moment (M12) 20 Nm is not exceeded.

BIRCOprofil Jointing

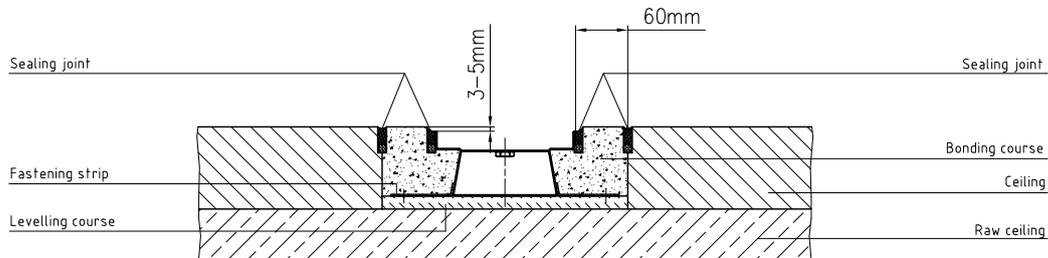


In situations with greater demands on sealing tightness, we recommend welding the channel ends and appropriately sealing the work joints.

BIRCOprofil Installation Examples

BIRCOprofil, load class A 15 – E 600

Drawing no. 14947



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

The concrete qualities indicated are minimum values. Requirements related to the installation location according to DIN 1045-2 or 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.

Channel elements made of galvanised steel that have been exposed to aggressive media (such as de-icing salt, cleaning agents, etc.) must be thoroughly rinsed straight after the exposure, so as to prevent corrosion. With V2A stainless steel as well, prevention of corrosion in the long term is only possible when aggressive media are rinsed off.

Bolting connection note:

Torque moments for screw fastening the gratings are to be set at M12 = 60 Nm.

The bolts on the gratings must be retightened at regular intervals.

The planning of expansion joints must be conducted from on the basis of engineering considerations. When laying the channel line in a full concrete casing, expansion joints at right angles to the channel line must be installed every 8 – 12 meters. Constructed in accordance with non-settling frost-free sub-bases. Exception up to D 400: Not for use across the carriage-way of highways or motorways.

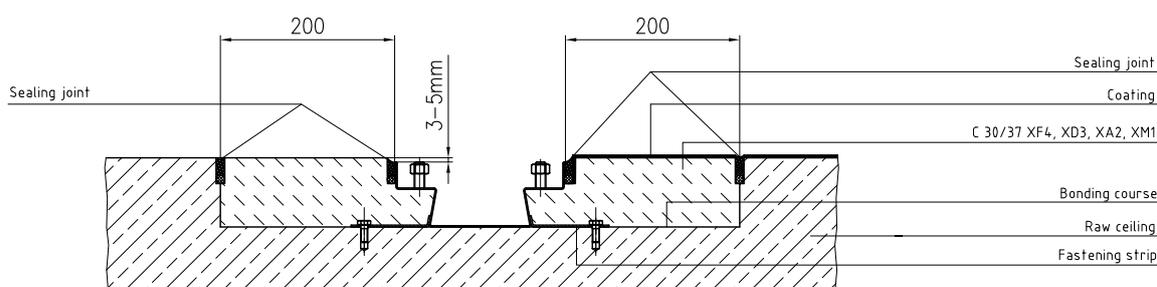
BIRCOprofil in renovation

BIRCOprofil is particularly suited for renovations due to its constructive properties and low construction heights. The channel units are fitted into the corresponding ceiling recess using mounting anchors to attach them to the base. The channel ends are mounted using the supplied connection elements. Sealing is conducted on the building site, for example with SF-Connect. Should height adaptations be required, we recommend using lumps of cement: They serve in adjusting the height on the one hand and in ensuring the stabile positioning of the channel units on the other. Prior to conducting concrete work, the existing concrete surfaces must be treated with a bonding course. It must be ensured that the down-flow of the channel

unit occurs without bubbles and that the channel is fully encased with concrete. A sealing joint must be provided in order to prevent penetration in the area of the raised edge of the channel where the material changes to concrete. In newly built structures where a corresponding surface coating is stipulated, for instance, depending on the property's needs the flanks of the steel frame connectors can be treated with an epoxy resin and sanding for better adhesion. A variety of traffic-safe bolt connections is available to ensure traffic safety or to prevent clattering of the covers.

BIRCOprofil renovation, load class A 15 – E 600

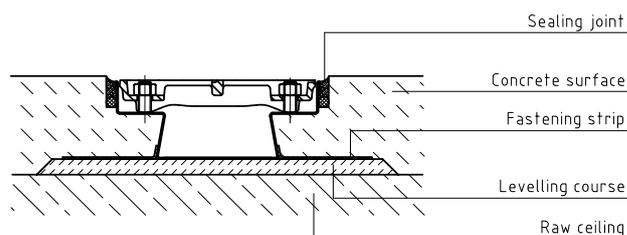
Drawing no. 14947



BIRCOprofil in double-walled ceiling construction

The drainage channel can also be integrated into the screed due to its low construction height. To do this, the unit is laid flush onto the raw ceiling levelling course and then worked directly onto the screed. When attaching the screed it must be ensured that it fully encompasses the channel unit with no bubbles. A sealing joint should be executed at the transition area of the channel's raised edge up to the screed in order to prevent the penetration of water. A prepared frame connector flank for jointing can also be executed in the area where the surface coat-

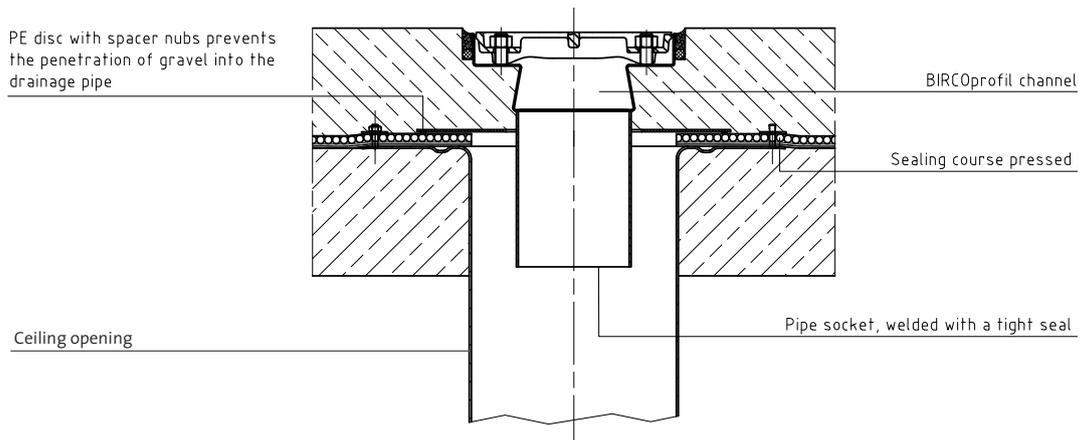
ing is conducted in order to provide better adhesion. The sealing tightness requirements for the entire system must be examined prior to installation. The channel ends of the drainage units must be connected with a sealing shoe. If a high level of seal tightness or absolute seal tightness be required, then the ends have to be additionally welded on the building site. In the event of high sealing tightness requirements, a water level inspection must be conducted in any case prior to attachment of the screed.



Second drainage level

With BIRCOprofil, a second drainage level can be installed. For this, the channel unit is fitted ex-factory with a welded, sealed pipe socket that is integrated directly into the ceiling opening. The sealing course is pressed together with the ceiling opening flange connection. The attached PE

disc with spacer nubs prevents the penetration of gravel or cement-bonded material. The formation of the nubs on the collar ensures drainage of the second level.



BIRCOprofil drainage performance

The channel systems from BIRCO provide excellent drainage performance. In addition to this table, BIRCO offers a project-specific hydraulic calculation service.

BIRCOPROFIL 196, LOAD CLASS C 250

WIDTH = 1000 MM	DRAINAGE CAPACITY AT THE CHANNEL END	CROSS-SECTIONAL AREA AT THE CHANNEL END
Hauteur 50 mm	1.05 l/sec	18.92 cm ²
Hauteur 75 mm	2.58 l/sec	46.41 cm ²

The tables can only give guidelines for the dimensioning. On-site conditions such as positions of manholes already installed, number of channels lines etc. cannot and have not been taken into account. We therefore recommend making use of our hydraulic calculation service for a draft proposal.