

considerations. Construction documentation must be prepared. The design of any facilities for storing, filling and transferring liquids hazardous to water must take the respectively applicable water legislation provisions governing drainage and the control of precipitation water into account. The requirements from other legal sectors (e.g., work safety, hazardous materials legislation, the German Ordinance on Industrial Safety and Health) remain unaffected and in full effect. The subgrade has to be compacted to an  $EV_2 > 45 \text{ MN/m}^2$ , if the concrete base has an overlap of  $> 50 \text{ cm}$  from channels end. Otherwise, it has to be compacted to an  $EV_2$  of  $> 180 \text{ MN/m}^2$ , or it must be ensured that in case of heavy trucks circulation an overlap of  $> 50\text{cm}$  from channels end is guaranteed

The dimensioning of the concrete surrounding (X + Z) must be adapted to local site conditions and equals at least 20 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  $\varnothing 8 \text{ mm}$  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, 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. The PEHD lining must be protected from mechanical damages and open flame

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 tight 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.

[\*] The concrete surrounding have to be poored and executed free of cracks, if it is part of the visible/circulable surface. The conformity of the watertightness has to be verified according to the local specifications.

The BIRCOdicht channels may only be positioned or transported with the assistance of the moving equipment designed for this purpose (bloating guard). Requirements regarding verification and maintenance must be fulfilled in accordance with the official building authority approval.

#### Qualified company duty

The installation of BIRCOdicht may only be conducted by companies that specialise in such activities in accordance with regulation on facilities for handling waterhazardous substances (§3. in Germany / or local equivalent authorities in other countries). These companies, including their personnel, must have been trained to do such work by an authorised institution. Welding of the pre–fabricated parts at the construction site may only be conducted by persons possessing a valid certificate verifying that they have passed the official plastics welding examination in accordance with the german DVS 2212–1 (or local equivalent authorities in other countries).

The welding work (hot gas welding by extrusion of filler material), the controlling of the welding seams and the official logging have to be conducted in accordance with the local specifications (or respectively DVS 2207–5 and DVS 2203–1 for Germany).

#### Jointing information:

Joints between the pre–fabricated parts and the adjoining sealing surfaces are to be jointed with certifier joint sealing system for this purpose by an official building authority verification of applicability that takes the official construction and water–related legal requirements into account. For processing, please observe the instructions on the sealing system packaging, respectively the provided jointing instructions of the sealing system.

#### Sealing and expansion joints:

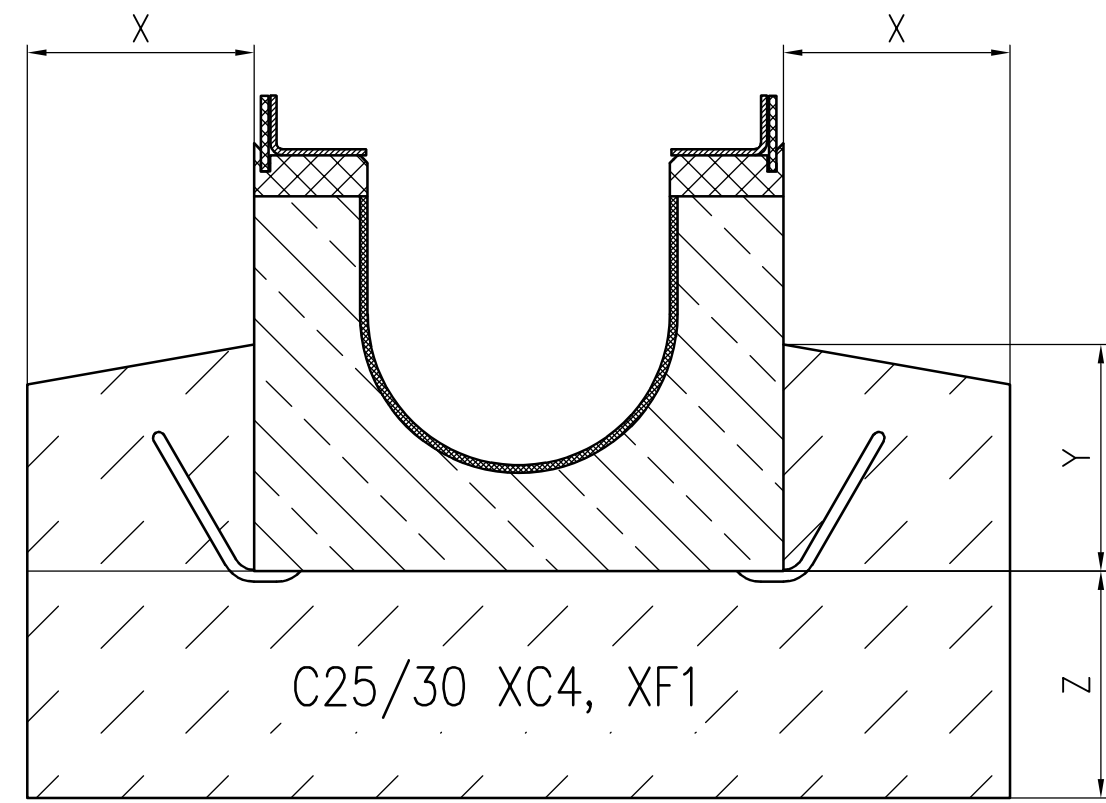
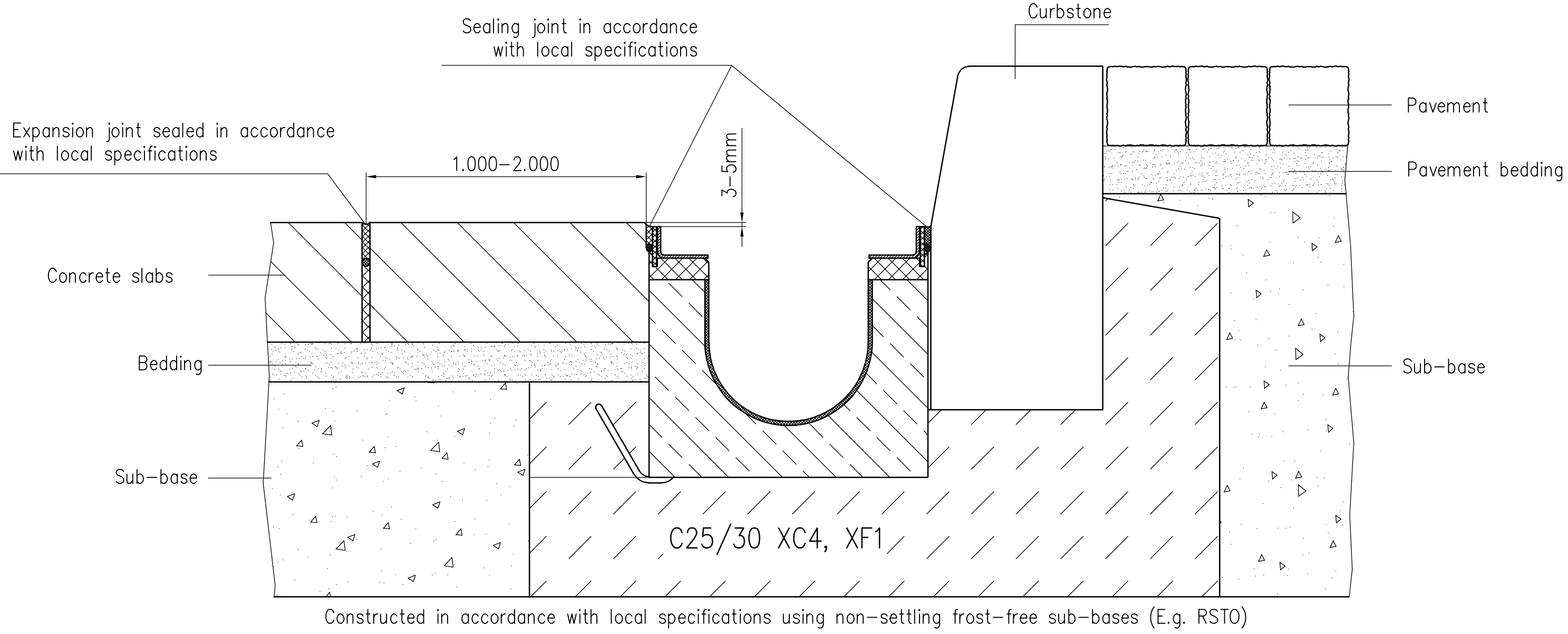
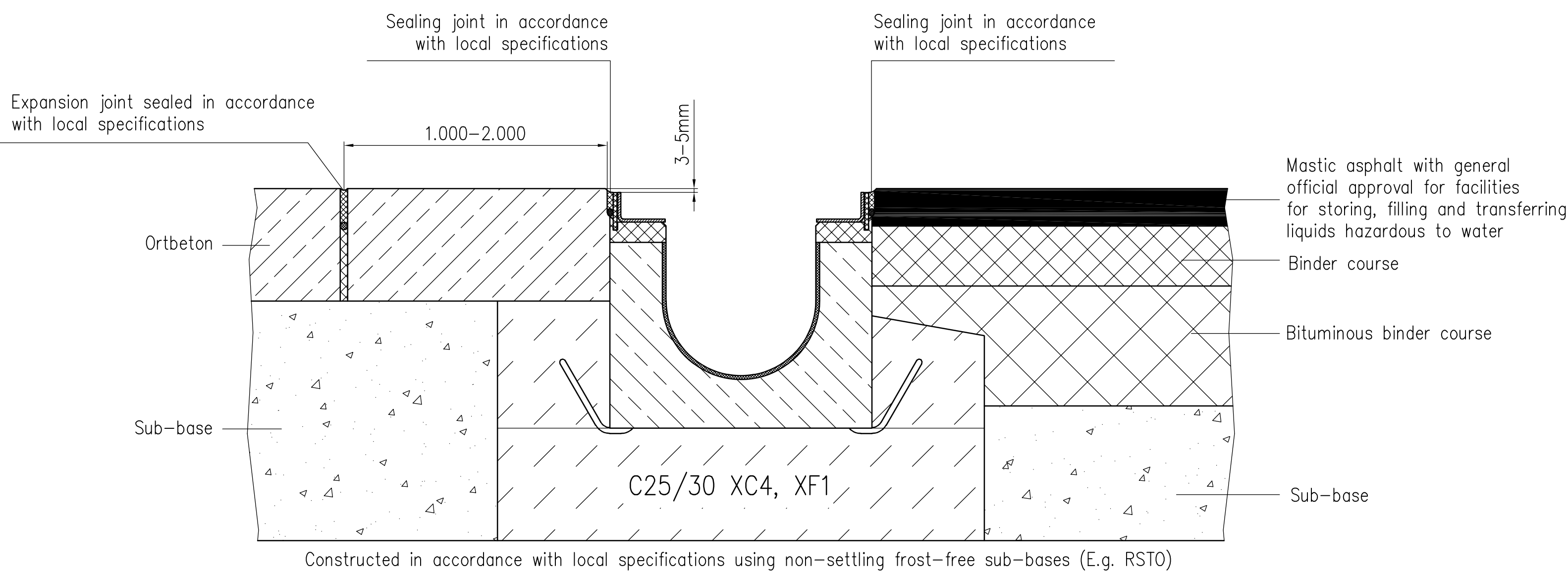
Expansion joints in the construction parts adjoining the channel must be planned on the basis of engineering considerations. BIRCO recommends arranging expansion joints parallel to the channel, at a distance of approximately 1m – 2m from the channel line. Expansion joints running transverse to the channel 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.

#### Bolt Connection Information:

For screw fastening of the gratings, torque moments are to be set at M12 = 60 Nm, M16 = 100 Nm. The bolts must be re–tightened at regular intervals..

#### 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.

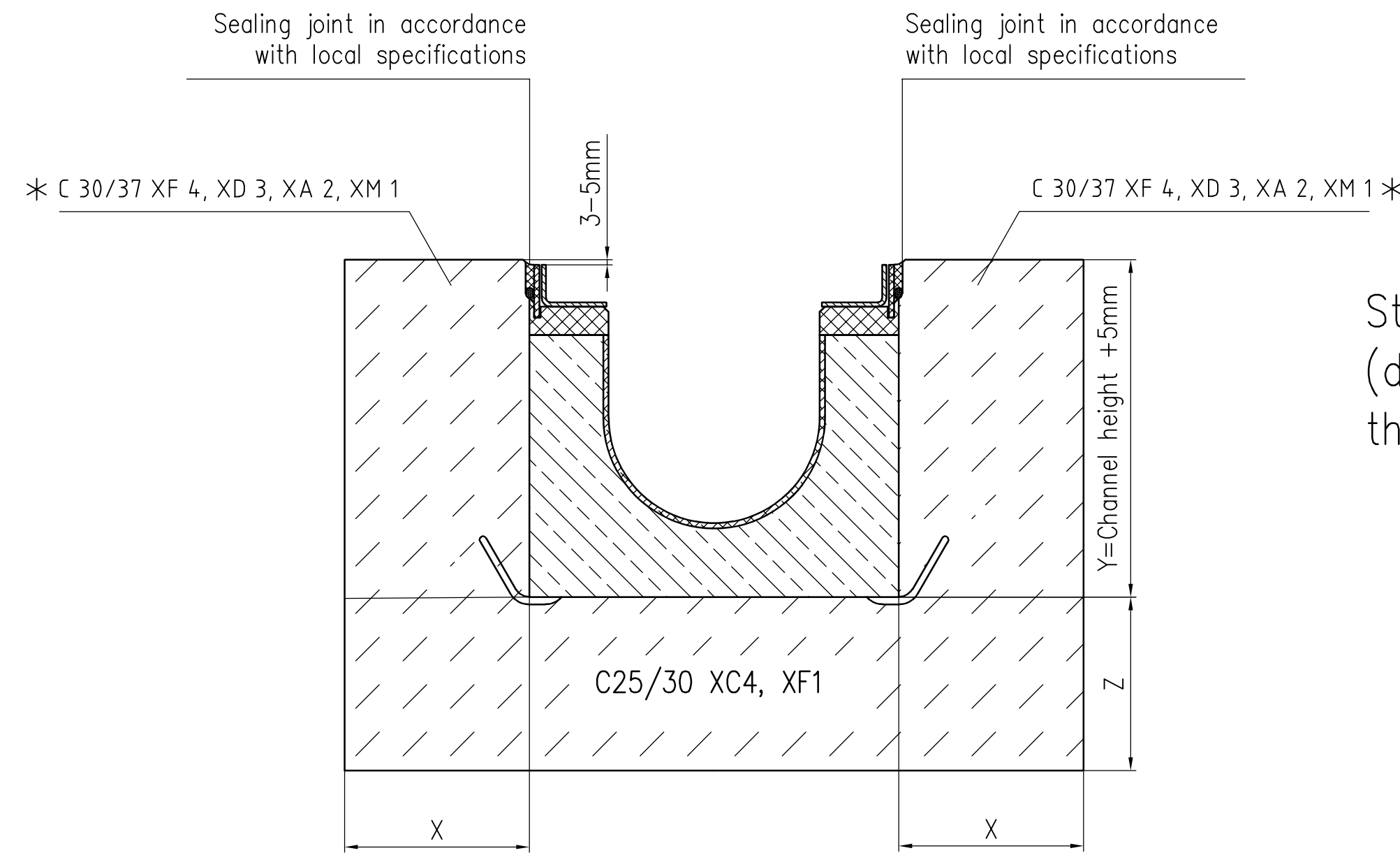
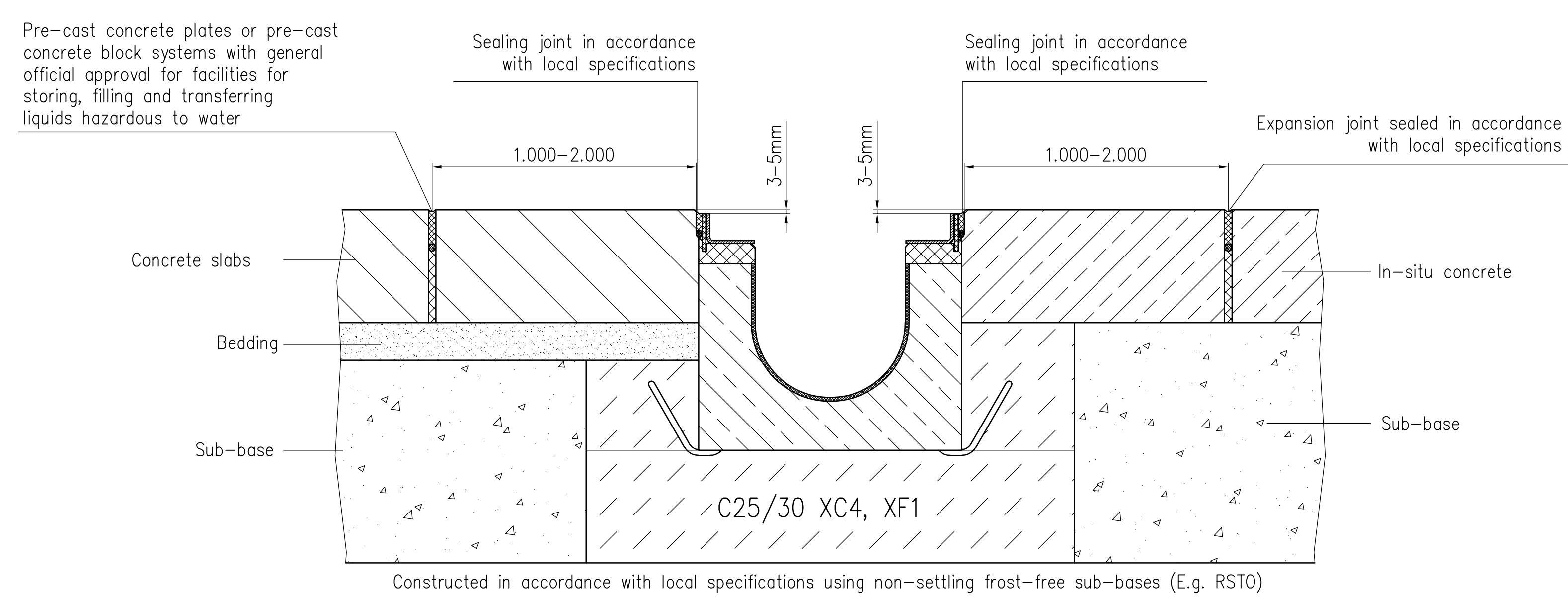
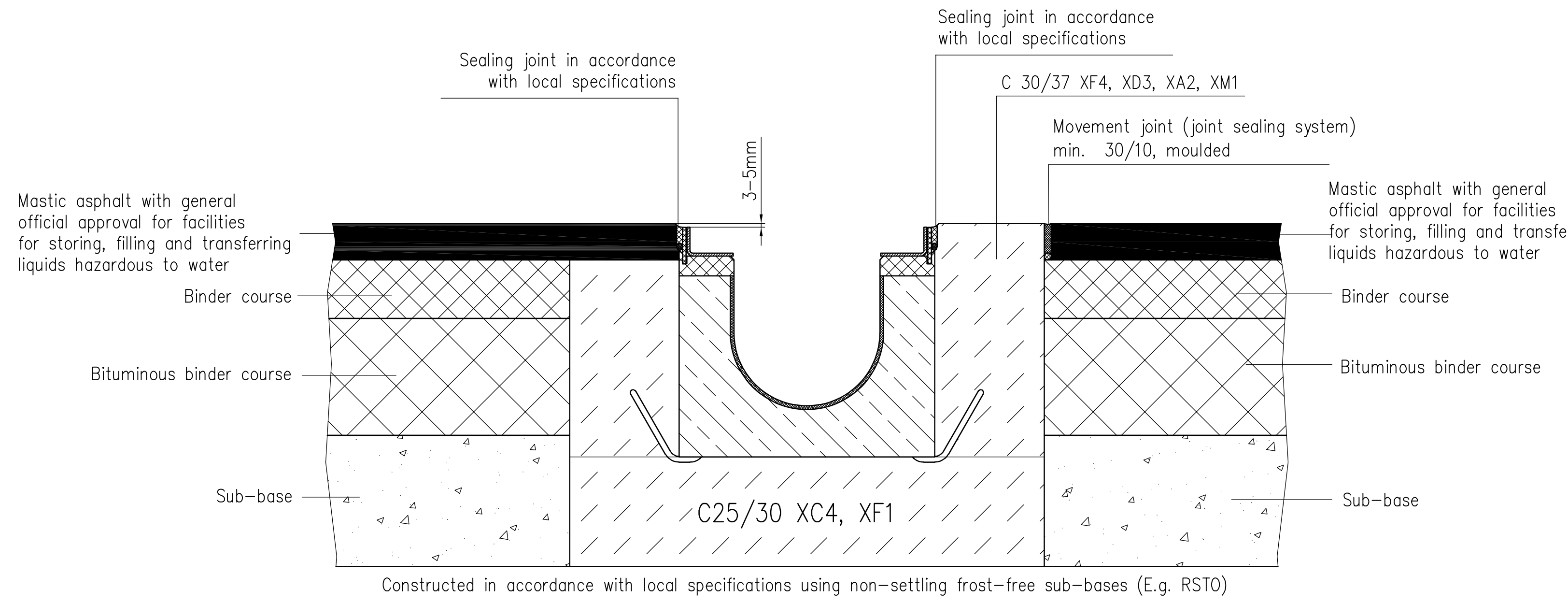


Standard representation  
(dimensions to be adjusted according  
the corresponding load class)

Type	Nominal width	Load class	X [mm]	Y [mm]	Z [mm]
BIRCOdicht	150	A 15 – E 600	≈150	≈100	≈200
	200		≈150	≈100	≈200
	300		≈200	≈200	≈200

Presentation with BIRCOdicht NW 200

Expendea installation instructions for heavy-duty areas subjected to frequent use  
logistics centers, Transport hubs, maneuvering areas and aircraft pavements



Standard representation  
(dimensions to be adjusted accor  
the corresponding load class)

Type	Nominal width	Load class	X [mm]	Y2 [mm]	Z [mm]
BIRCOdicht	150	D 400 – F 900	≈150	Channel height + 5mm	≈200
	200		≈150		≈200
	300		≈200		≈200

Presentation with BIRCOdicht NW 200

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<b>BIRCO</b> GmbH Herrenpfädel 142 76532 Baden-Baden			
	Date Datum	Nom Name	Artikel-Nr. / N° d'article :
gpc dessiné	10.01.2022	ga	Instruction installation Typ M
Maßstab / Echelle :	BIRCOdicht NW 150 / 200 / 300 – up to load c		
CAD: A 0.			
Zeichn. Nr. N° plan	J:\ACAD\Einbau\dicht\24565a_EN		