Rinninger RIKI
BETON IN FORM

Installation and assembly instructions for RIKI CETON® slotted channels

RIKI SURFACE DRAINAGE

1. Areas of application / Preliminary planning

1.1 Areas of application

- Our RIKI CETON® slotted channels are extremely versatile. They can be used to drain traffic areas quickly and reliably, thus ensuring greater safety in our traffic networks.
- There are numerous possible applications for the installation of RIKI CETON® slotted channels: Roads and freeways, tunnels, tank and service areas, parking areas, industrial and port facilities, container terminals, taxiways and standing areas at airports.

1.2 Preliminary planning

- The following descriptions are general instructions without reference to the specific installation case. Therefore, please always observe the additional requirements that may arise, e.g. from the load distribution, structural analysis, soil parameters, etc.
- These installation conditions do not apply to the installation of RIKI CETON® SMART slotted or box channels with building authority approval.

See also our query sheet “Determination of installation variant”

2. Goods inspection and unloading

2.1 Access

- The entrance and exit of the unloading area must be passable by 40t truck. The delivery is usually carried out with a tarpaulin truck for side unloading.

2.2 Checking the goods and unloading

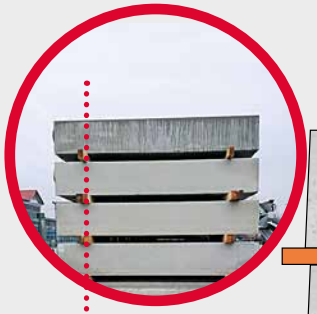
- Receipt of the goods and loading aids must be checked by the recipient for defects and completeness before unloading and acknowledged accordingly on the delivery bill. Please report any discrepancies immediately to your known contact person at Rinninger. Subsequent notifications of defects cannot be be accepted.
- Appropriate equipment for unloading (wheel loader or forklift) must be provided by the recipient at the time of delivery. Suitable lifting gear for safe and damage-free unloading of the channels can be supplied if required.

Please note that damaged channels must not be installed. Minor spalling and cracks ≤ 0.3 mm are excluded.

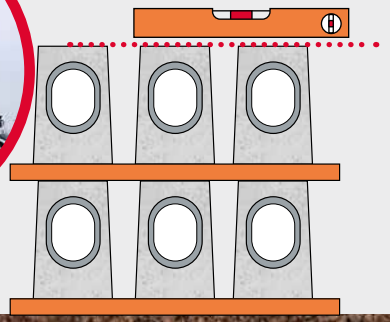
2.3 Interim storage

- The proper interim storage of the slotted channels on the construction site must be carried out using squared timber or euro pallets on a flat surface.
- The substrate of the storage area must have sufficient load-bearing capacity to prevent damage to the channels. Dropping, bumping or grinding the channel elements should be avoided as far as possible.

RIKI special offset hangers



Place squared timbers among each other



3. Substrate preparation / support

3.1 Substructure

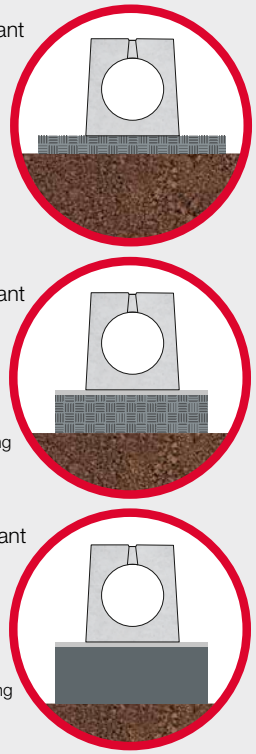
- RIKI CETON® slotted channels must be installed in a frost-free substrate.
- The support of the slotted channel depends on the type of channel, the load or load regime and the condition of the substructure.

3.2 Installation class D

- For channels **according to class D400 with limited crossings,** installation is carried out on a clean layer of concrete C12/15. If you cannot rule out the effects of moisture and de-icing salt on the substructure, it is necessary to create a load distributor b=80/h=20cm with a minimum concrete quality of C25/30, XF2, XC2. To avoid differential lowering, you should ensure that the substrate is adapted to the structure of the traffic surface reinforcement. This installation variant can also be used for channels with “integrated foundation” for load cases class E, F or reach stacker. Complete subsequent tamping is not permitted. If necessary, align the surface by placing wedges underneath.

3.3 Installation class E/F and class D unrestricted crossings

- The dimensioning of the bottom concrete for **class E600, F900 channels** and **reach stackers** is based on project-related structural analyses. In order to ensure sufficient load transfer into the subsoil and to avoid the formation of offsets at the butt joints during use, the channels are supported on reinforced concrete foundations, concrete load distributors or a clean layer. For this, it is essential that you create a solid, full-surface support. The load distributor or foundation must be concreted in a first step and compacted using a vibrating bottle. The surface should be vibration-rough. The channel should be laid in an earth-moist layer of fresh concrete to ensure full-surface support and avoid point loads. The fresh concrete layer should be selected so that it is compressed to approx. 3 cm by the channel's own weight. Complete subsequent tamping is not permitted. If necessary, align the surface by placing wedges underneath.



You can clarify and discuss your specific installation load case individually with our experts.

Tel. +49 7563 / 932 280

4. Installing the channels

4.1 Wedge sliding seal

- Please clean the socket before joining the slotted channels and then pull the supplied wedge seal onto the spigot end. To do this, apply the lubricant to the socket and seal.

4.2 Laying

- Then guide the slotted channel hanging on the laying device towards the already laid element until the sealing ring is evenly gripped.

4.3 Butt joint

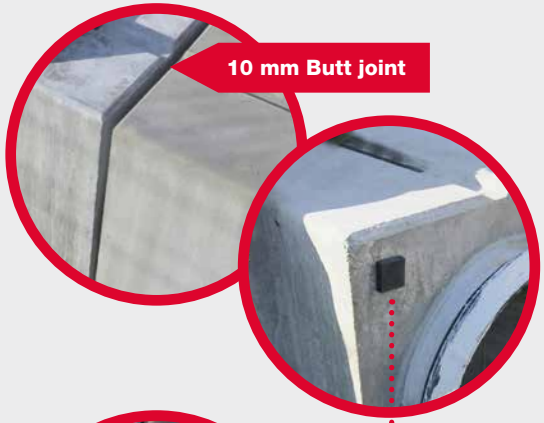
- Make sure that you maintain a butt joint of **approx. 10 mm** when joining the parts. To simplify matters, elastomer spacers **(assembly stops)** supplied by us can be fitted to the spigot end of the front side to ensure that the butt joint is maintained.

4.4 Testing the seal

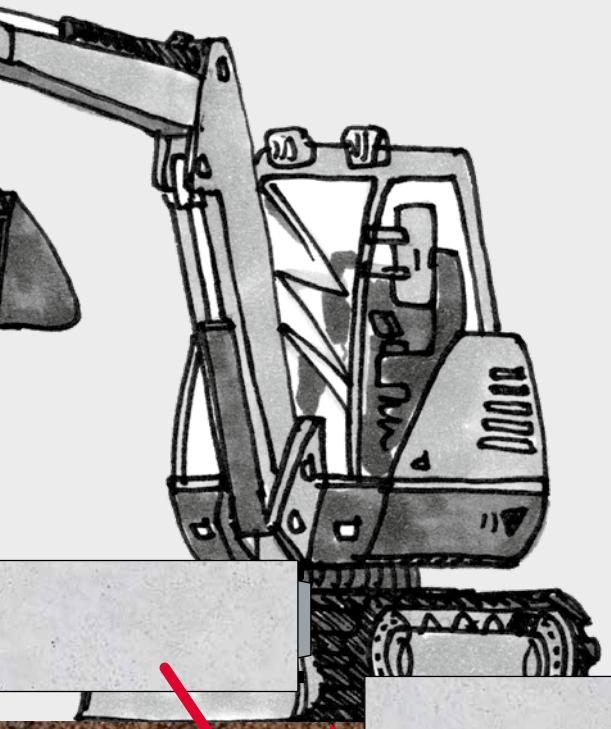
- After joining the elements, please check whether the seal has shifted. If this is the case, you will need to separate the elements again, fit the seal correctly and re-grout the channels.

4.5 Alignment

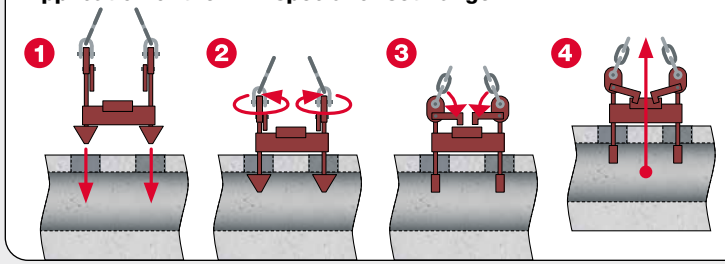
- If necessary, align the surface by placing wedges underneath.



RIKI
Assembly stop



Application of the RIKI special offset hanger:



RIKI Drainage channel

- Incl. ejection-proof and bolted inlet grating made of spheroidal graphite cast iron (GGG)
- With integrated holder for dirt bucket
- Can be combined with commercially available street drains depending on the channel type

5. Room and butt joint design

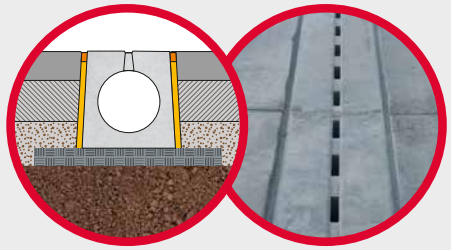
5.1 Room joints

- No lateral, horizontal forces (e.g. thermal expansion) may be transferred to the channels from the adjacent traffic areas. Please also take this into account when planning adjacent road surfaces. To avoid damage, it is crucial that you install sufficiently dimensioned space joints (no dummy joints) along the channel elements. Install approved joint plates in the space joints over the entire gutter height between the element and the traffic surface. Please ensure that the panels are never compressed so much by expansion of the adjacent traffic area that they transfer horizontal forces to the channel elements.

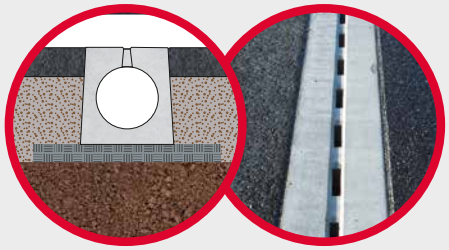
5.2 Butt joints

- After laying and completing the adjoining surfaces, fill the longitudinal and transverse joints with a suitable joint sealant. Please note that the transverse joints must be permanently designed in such a way that slight longitudinal movements of the slotted channels, e.g. due to thermal expansion, can be absorbed. You can only prevent potentially serious spalling if there is no force-fit connection between the individual channel elements. Therefore, filling the joint with rigid material, such as mortar or concrete, is not permitted.

Lateral room joint panel



A With adjacent **concrete surface: With lateral space joint**



B With adjacent **asphalt surface < b = 10 m: Without lateral space joint**

5.2.1 Sealing cord

- Inserting the sealing cord and the permanently elastic grouting at the upper gutter joint.

5.2.2 Adhesive tape

- Apply adhesive tape to protect the lateral gutter joint from soiling when installing the adjacent covering surfaces.
- This can be dispensed with when installing a full-surface joint plate.

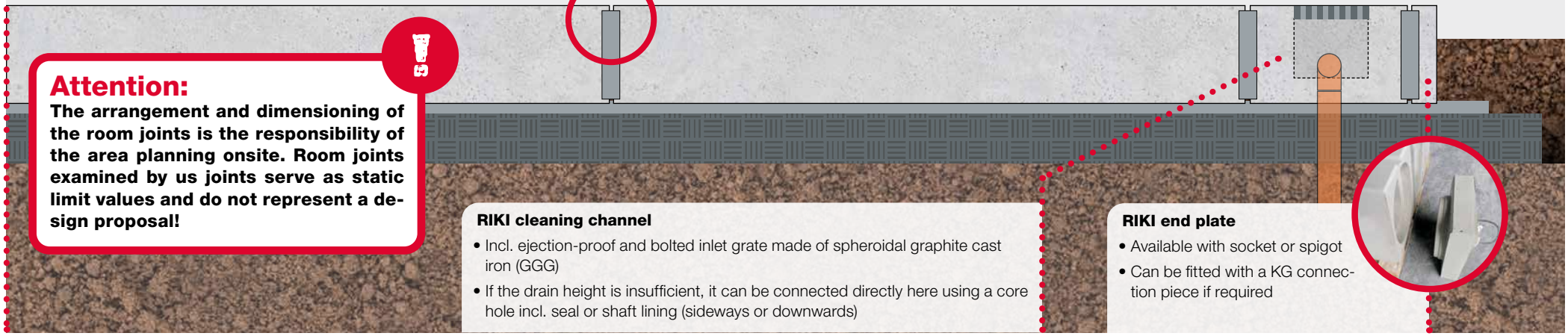
Application of of a permanently elastic joint

5.3 Joint sealant

- You can obtain information on suitable jointing material from Rinninger.

5.4 Avoid damage

- To prevent damage to the RIKI CETON® slotted channels during the construction phase, they must not be driven over before the adjoining traffic surfaces are completed. Therefore, when using pavers or compaction equipment, make absolutely sure that they are not driven too close to the slotted channels.



Attention:

The arrangement and dimensioning of the room joints is the responsibility of the area planning onsite. Room joints examined by us joints serve as static limit values and do not represent a design proposal!

RIKI cleaning channel

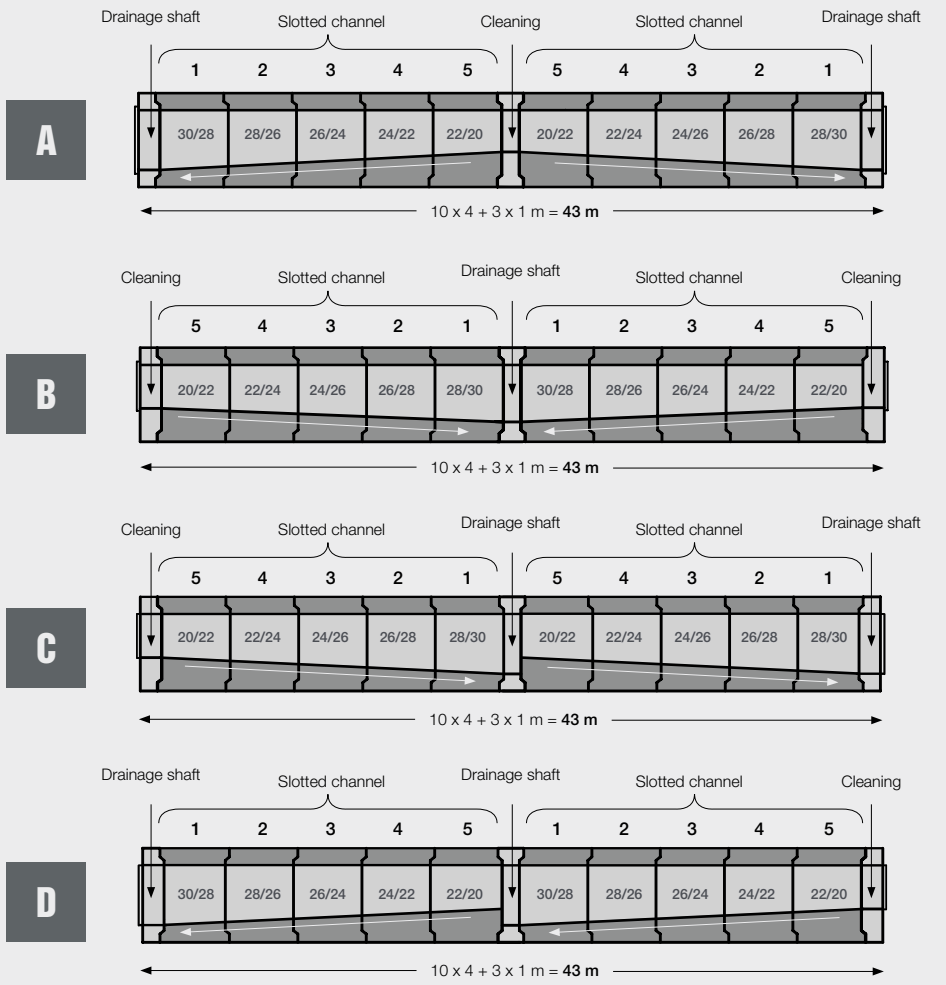
- Incl. ejection-proof and bolted inlet grate made of spheroidal graphite cast iron (GGG)
- If the drain height is insufficient, it can be connected directly here using a core hole incl. seal or shaft lining (sideways or downwards)

RIKI end plate

- Available with socket or spigot
- Can be fitted with a KG connection piece if required

Laying examples

Laying examples for channels with internal slope | SR 20/30 or SR 30



Note:

The channel elements have a built-in internal gradient of 0.5%. This means that, as a rule, lengths of up to 43 m can be drained. The sections can be extended by installing additional channels without an internal slope in front of the manhole.

An **on-site installation plan** is required for non-reproducible continuous solutions!

Rinninger RIKI
BETON IN FORM

Your innovative partner for sustainable building

Hans Rinninger u. Sohn GmbH u. Co. KG
Stolzenseeweg 9
D-88353 Kißlegg / Allgäu

Phone +49 7563 932-0
Fax +49 7563 3072
E-Mail info@rinninger.de

Please also visit our website. Here you will find detailed product, project and company information, tender texts, data sheets and brochures.

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