Rinninger RIKI
BETON IN FORM

RIKI
Surface Drainage

COST-EFFECTIVE CHANNEL SYSTEMS FOR GREATER SAFETY

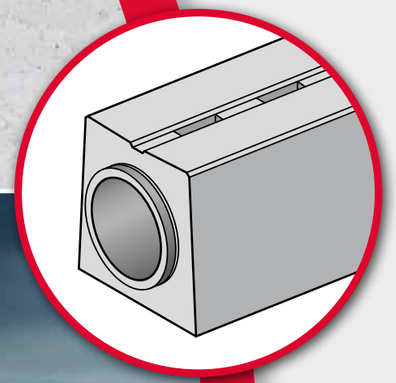
Pursuant to DIN-EN-1433 and DIN-V-19580
Pursuant to DIBT Authorisation No. Z-74.4-81 / Z-74.4-83 / Z-74.4-178

RIKI Surface Drainage

OUR SUSTAINABLE PRODUCTS FOR CURRENT AND FUTURE ENVIRONMENTAL CONDITIONS

Higher traffic volumes and increasingly extreme weather conditions place considerable demands on the planning and implementation of drainage systems. High-performance RIKI surface drainage systems facilitate drainage and water transport without problems, even under the most exceptional conditions.

We can offer you an appropriate solution for almost every application. Following a detailed examination of your requirements, our experts will be happy to recommend an appropriate RIKI product for your project. Our highest priority is to protect people against the effects of water. At the same time, we consistently pursue the objective of recycling water in an ecologically and economically sensible manner.



Contents

RIKI surface drainage systems

OUR SOLUTIONS FOR EVERY CHALLENGE

ROADS & MOTORWAYS
RIKI slotted channels ensure optimum linear drainage of the carriageway. The risk of aquaplaning is thus minimised as far as possible. High frost and de-icing salt resistance ensures the durability of the slotted channels.

FILLING STATIONS (PETROL STATIONS)
RIKI slotted channels have general building approval for SFH systems (these being systems for **s**toring, **f**illing and **h**andling water-polluting substances). This means that they are resistant to hazardous substances and, consequently, ideal for use at filling stations (petrol stations). Durability and groundwater protection are assured by high-quality concrete materials. Traffic safety is also improved as a result, as any precipitation occurring can be speedily drained away.

INDUSTRIAL AREAS
On the one hand, RIKI slotted channels meet the requirements for extreme loads in situations in which industrial forklifts are used, for example. However, with the issuing of building approval for SFH systems, they also provide optimum groundwater protection for the drainage of water-polluting substances such as acids, lyes and alkaline solutions, oils and fuels.

INLAND PORTS & SEAPORTS
Slotted channels offer high safety assurance levels when installed in traffic areas subject to extremely high loads. Special solutions for larger forklifts (e.g. reach stackers) ensure reliable and enduring drainage in this manner.

TUNNELS
RIKI slotted channels provide invaluable services in tunnels. Here, hazardous substances and flammable liquids are safely diverted and drained away with special baffle shafts.

CAR PARKS
RIKI slotted channels ensure dependable drainage of large areas for pedestrians and vehicles. In addition to providing a high degree of safety, slotted channels with monolithic moulded kerbs in these areas represent a sophisticated overall solution, both technically and in terms of their appearance.

AIRPORTS
RIKI slotted channels meet all drainage criteria pursuant to the information sheet concerning airport drainage. These drainage systems for SFH facilities ensure that hazardous substances in the vicinity of de-icing or refuelling facilities are drained away in accordance with applicable regulations.

LOGISTICS AREAS
RIKI slotted channels with a level surface ensure optimum accessibility for vehicles. This is particularly helpful in the case of forklift trucks transporting heavy loads.

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PRODUCT INFORMATION

Application areas

RIKI drainage systems are employed in a wide range of traffic settings. Our innovative technologies are always designed to meet the increasing demands and challenges of the future, thus ensuring appropriate solutions for every project. Increasing traffic volumes and loads, changed environmental conditions, improved efficiency and more responsible use of water as a resource are the important factors we consider when designing a customised concept to address your project.

Comprehensive and competent service

Each and every project has its own requirements and challenges. Aside from our products, we also provide you with a comprehensive service, including everything from planning to support upon completion of your project.

The tendering process and the planning of drainage solutions can both encompass innumerable variants, whereby the key question here is which design will result in the most economically feasible and technologically sound solution. We assist you in the search for the best possible answer.

We provide you with on-site advice and support relating to your project, thus ensuring that all variants are successfully implemented between the planning and implementation stages of a RIKI system solution.

Take advantage of the many years of expertise we have gained and our know-how in the area of surface drainage, and listen to and learn from the advice provided by our experienced specialists.

CETON® – born of concrete

OUR RIKI HIGH-PERFORMANCE CONCRETE: TOMORROW'S MATERIAL, BUT WE'RE USING IT TODAY!

CETON® is ultra high-strength concrete from RIKI with ductility that meets building inspectorate approval (AbZ) no. Z-74.4.178 as issued by the Deutsches Institut für Bautechnik (DIBt), the German technical authority in the construction sector.

- **Greater stability**
- **Greater sustainability**
- **Greater corrosion resistance**

Our **RIKI CETON®** channels therefore embody the latest generation of CONCRETE, a material that offers significant added value and persuasive advantages for your building projects!

	RIKI CETON®	C40/50
Compressive strength (N/mm²)	**129**	58
Flexural strength (N/mm²)	**16 - 20**	5 - 7
Penetrating depth of water-polluting substances (e_w/mm)	**0**	12 - 15
De-icing salt resistance in (gr/m²)	**Up to 50**	Up to 500
Abrasion resistance (mm/m)	**1.1**	3.2
Fire protection pursuant to DIN 4102	**F120**	F90
Static elastic modulus (KN/mm²)	**45**	42
Statics pursuant to DIN EN standards	**Safe up to F-900**	Safe up to F-900
Load class pursuant to DIN EN 1433	**Up to F-900/ Reach stackers**	Up to F-900/ Reach stackers
Life cycle assessment		
Specific energy expenditure in MJ/kg	**1.2**	0.93
Specific CO2 emissions in CO2/kg	**0.1**	0.08
Recycling option in %	**100**	100

A further innovation involves the fact that our **RIKI CETON®** concrete in the **RIKI CETON® PRO** variant facilitates the production of structurally dimensioned components in line with the given application. What is special here is the complete absence of metallic reinforcement. Any risk of reinforcement corrosion is therefore avoided!

We can provide you with a guarantee against reinforcement corrosion for 30 years in individual cases.

New! CETON® PRO with guarantee!

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Additional quality features for our products

When our RIKI channel elements are manufactured, the selection of a suitable material determines the functionality, durability, density and sustainability of the product, as well as its resistance to aggressive media.

PRODUCTION

We ensure that our high-quality products are manufactured in a modern and flexible production process.

REINFORCEMENT

Reinforcing steel of a controlled quality (e.g. BST 500 M/S) is employed for reinforcement. The high strength of our concrete coupled with the high yield strength of the reinforcement employed mean that RIKI drainage systems can reliably absorb the static and dynamic loads that occur.

QUALITY MONITORING

Continuous external and internal monitoring means we can guarantee a consistently high quality standard.

DIN/EN

The complete RIKI drainage system complies with EN 1433 in conjunction with DIN V 19580.

WATER-POLLUTING SUBSTANCES

The channel systems for dealing with water-polluting substances (e.g. fuels, oils or similar) that we manufacture comply with the German Water Resources Act (WHG), with DIBt approval nos. Z-74.4-81, Z-74.4-83 and Z-74.4-178.

EXPOSURE CLASSES

XA2 – Concrete corrosion due to a chemical attack, a moderately corrosive chemical environment (with the exception of attacks by sulphate > 900 mg/l).

XD3 – Reinforcement corrosion resulting from chlorides, with the exception of seawater. Environment: alternating damp and dry.

XF4 – Frost attack with and without de-icing agent. Environment: high water saturation and de-icing agent.

XC4 – Reinforcement corrosion caused by carbonation. Environment: alternating damp and dry.

XM2 – Concrete attacked due to severe wear stress.

XS3 – Reinforcement corrosion due to chlorides from seawater. Concrete in tidal areas and in spray water and atomised spray areas (e.g. dock walls in port facilities).

MOISTURE CLASS

WS – Concrete corrosion due to alkali-silica reaction (ASR). Environment: damp + alkali intake from outside + severe dynamic stress.

CERTIFICATIONS

Argus CERT BAU

- PZ-20.230.00-2.5
- PZ-20.230.00-2.5-C115

KOMO

- K 76982

Innovative! Patented!

Our channel systems with an integrated foundation

INNOVATIVE SPECIAL DESIGNS FOR TRAFFIC AREAS WITH HIGH LOAD-BEARING CAPACITIES

A concrete foundation cast on site is usually required for channels installed in areas with high loads (airports, container terminals, central median strip crossings on motorways and similar). We can supply you with a large number of our innovative slotted channels with integrated foundations. You can then dispense with on-site casting of the concrete foundation under certain circumstances.

Slotted channels with integrated foundations are customised solutions, and our specialists will be happy to advise you in this regard.

YOUR BENEFITS AT A GLANCE:

- Shortened construction time
- Lower costs
- Easier handling
- Ideal for time-critical construction projects
- Very durable system
- Patented system

PARTICULARLY SUITABLE FOR:

Airports (taxiways, apron areas)

Storage and logistical areas subject to extreme loads due to heavy traffic, forklifts and handling equipment such as reach stackers

Central median strip crossings on motorways

Rinninger RIKI
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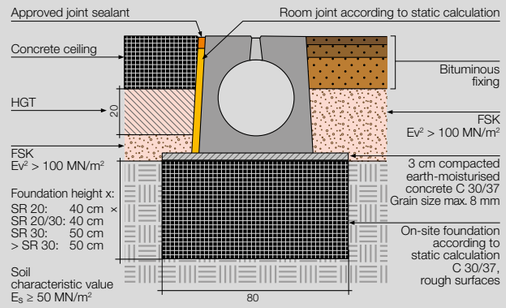
PRODUCT INFORMATION

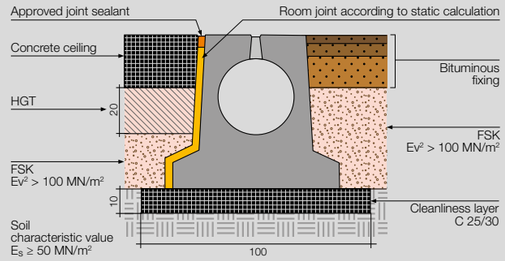
SUCCESSFUL USE

Slotted channel systems with integrated foundations are our own development. When combined with an appropriate concrete quality characterised by high compressive and flexural strength properties, this innovative static concept frequently makes it possible to dispense with costly and time-consuming on-site construction of concrete foundations.

CONVENTIONAL DESIGN WITH ON-SITE CONCRETE FOUNDATION CONSTRUCTION



RIKI SLOTTED CHANNEL WITH INTEGRATED FOUNDATION

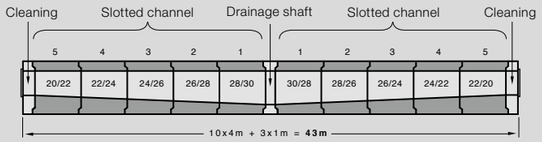


Technical information

OUR SPECIAL DESIGNS FOR TRAFFIC ROUTES WITHOUT LONGITUDINAL GRADIENTS

In the absence of a site gradient, a slotted channel with its own gradient is required to ensure unimpeded drainage of surface water. Our RIKI channel elements have an integrated internal gradient of 0.5%. This generally means that channel lengths of up to 43 metres can be drained. The installation of additional channels without an internal gradient upstream of the shaft means that you can also extend overall channel lengths.

INSTALLATION EXAMPLE | LOW POINT

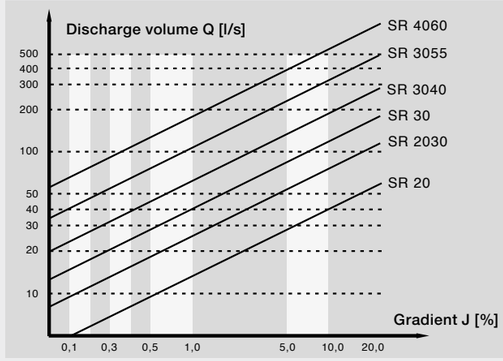


INSTALLATION EXAMPLE | HIGH POINT

HYDRAULIC PERFORMANCE PURSUANT TO PRANDTL-COLEBROOK

The hydraulic performance of our channels is calculated using the Prandtl-Colebrook formula based on the overall drainage cross-section, the gradient and the roughness co-efficient (kst).

The diagram below merely represents a recommendation for the selection of a suitable profile.



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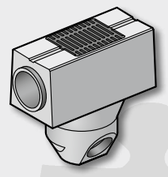
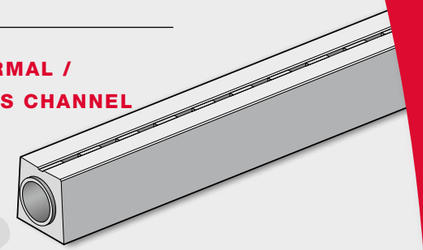
PRODUCT INFORMATION

Our system components

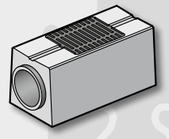
DRAINAGE SHAFT



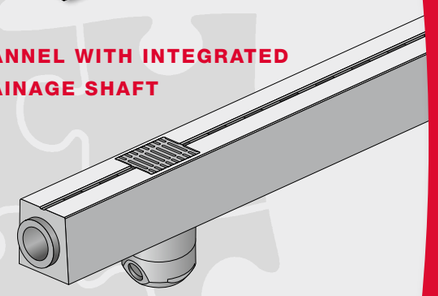
NORMAL / PASS CHANNEL



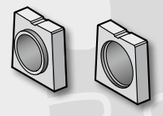
CLEANING CHANNEL



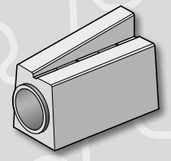
CHANNEL WITH INTEGRATED DRAINAGE SHAFT



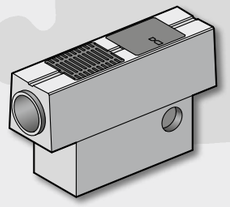
END PLATE



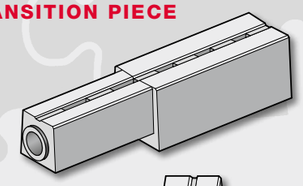
KERB LOWERING



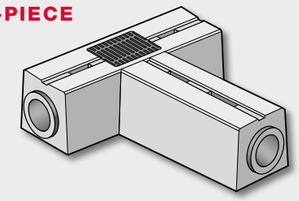
BAFFLE SHAFT



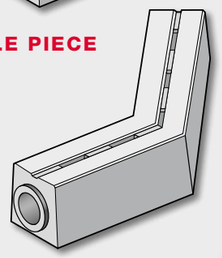
TRANSITION PIECE



T-PIECE



ANGLE PIECE



RIKI CETON® slotted channels

FOR ROADS AND INDUSTRIAL AREAS

Channel type	Page	Drainage cross-section in cm²	Internal gradient: without	Internal gradient: with	Surface: top level	Surface: slope to slot	Surface: with kerb
SR 12 | OE | 30x30	14	**113**	•		•		
SR 20 | OE | 32x38	14	**314**	•		•		
SR 20/25 | OE | 31x38	14	**414**	•		•		
SR 20/30 | OE | 32x45	15	**514**	•		•		
SR 20/30 | OE | 32x45 | IG	15	**514-314**		•	•		
SR 30 | OE | 40x46	15	**706**	•		•		
SR 30 | GS | 40x45	16	**706**	•			•	
SR 30 | OE | 40x46 | IG	16	**706-514**		•	•		
SR 30 | GS | 40x45 | IG	16	**706-514**		•		•	
SR 30 | GS | 40x45 | H 3·7·12·15	17	**706**	•			•	•
SR 30 | GS | 40x45 | IG | H 3·7·12·15	17	**706-514**		•		•	•
SR 34 | OE | 80x58	17	**907**	•		•		
SR 30/40 | OE | 40x55	18	**1006**	•		•		
SR 30/40 | OE | 40x55 | IG	18	**1006-706**		•	•		
SR 30/40 | GS | 40x55	18	**1006**	•			•	
SR 30/40 | GS | 40x55 | IG	19	**1006-706**		•		•	
SR 30/40 | GS | 40x55 | H 3·7·12·15	19	**1006**	•			•	•
SR 30/40 | GS | 40x55 | IG | H 3·7·12·15	19	**1006-706**		•		•	•
SR 30/55 | GS | 45x75	20	**1450**	•			•	
SR 40/50 | OE | 56x70	20	**1660**	•		•		
SR 40/60 | OE | 56x80	20	**2060**	•		•		
SR 50/80 | OE | 74x110	21	**5185**	•		•		

SR = slotted channel, **12** = internal cross-section, **OE** = top level, **GS** = slope to slot,

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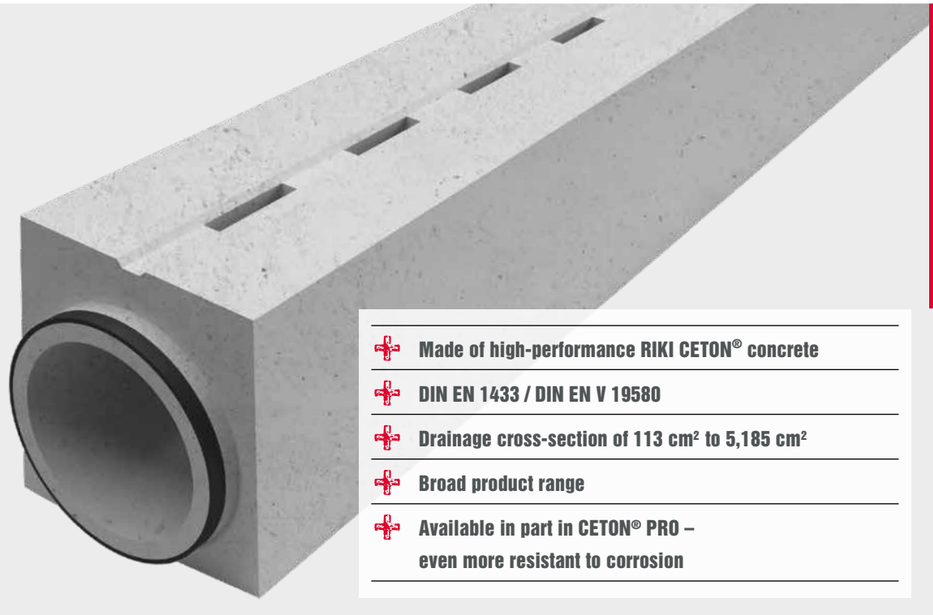
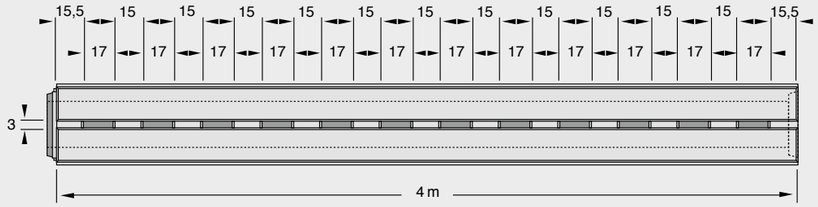


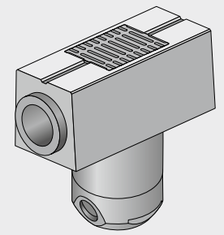
- Made of high-performance RIKI CETON® concrete
- DIN EN 1433 / DIN EN V 19580
- Drainage cross-section of 113 cm² to 5,185 cm²
- Broad product range
- Available in part in CETON® PRO – even more resistant to corrosion



Our special design with an uninterrupted slot is available on request.

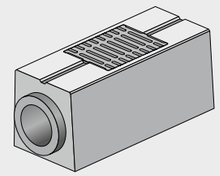
DRAINAGE SHAFT

Construction length: 1.00 m



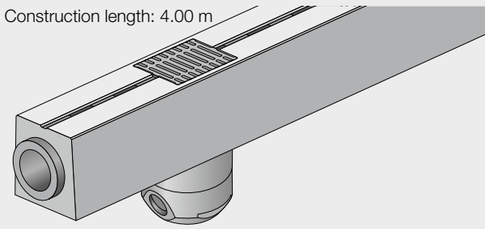
CLEANING CHANNEL

Construction length: 1.00 m



CHANNEL WITH INTEGRATED DRAINAGE SHAFT

Construction length: 4.00 m



30x30 = outer dimension, **IG** = internal gradient, **H** = with kerb + height

Rinninger RIKI
BETON IN FORM

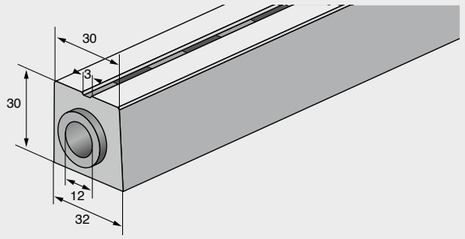
CETON® slotted channels

For roads and industrial areas

	Drainage cross-section in cm²	Internal gradient without	Internal gradient with	Surface top level	Surface slope to slot	Surface with kerb

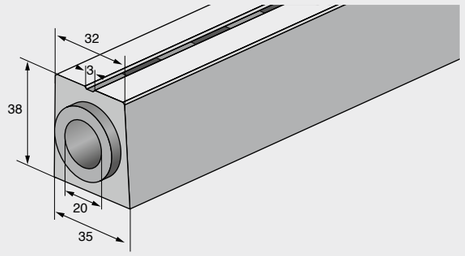
SR 12 | OE | 30x30 — 113

Internal dimensions	Width	12 cm
	Height	12 cm
Outer dimensions	Top width	30 cm
	Bottom width	32 cm
	Height	30 cm
Kerb	–	
Weight	400 kg (2 m)	
Load	D-400	
Slot width	3/5 cm	
Fitted lengths	1.00 - 1.99 m	



SR 20 | OE | 32x38 — 314

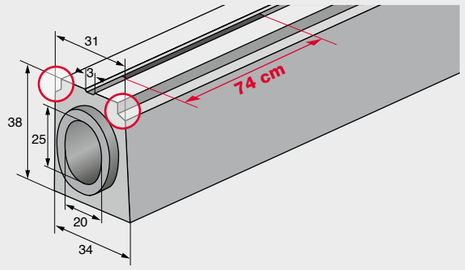
Internal dimensions	Width	20 cm
	Height	20 cm
Outer dimensions	Top width	32 cm
	Bottom width	35 cm
	Height	38 cm
Kerb	–	
Weight	945 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



SR 20/25 | OE | 31x38 RIKI CETON® HIGHWAY — 414

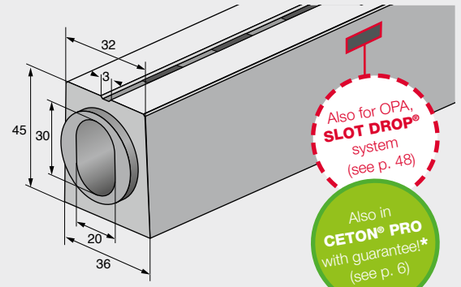
Internal dimensions	Width	20 cm
	Height	25 cm
Outer dimensions	Top width	31 cm
	Bottom width	34 cm
	Height	38 cm
Kerb	–	
Weight	785 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	

Special features:
- Long slots (not suitable for bicycle travel!)
- Bulge on the upper edges for improved asphalt connection



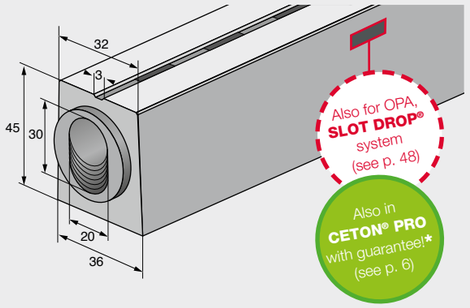
SR 20/30 | OE | 32x45 — 514

Internal dimensions	Width	20 cm
	Height	30 cm
Outer dimensions	Top width	32 cm
	Bottom width	36 cm
	Height	45 cm
Kerb	–	
Weight	1,010 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



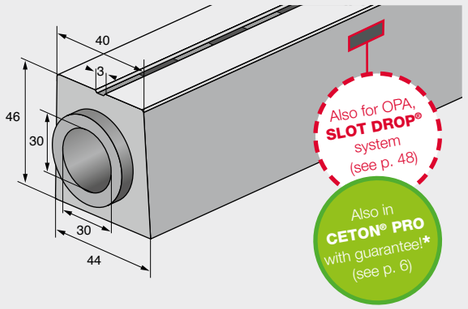
SR 20/30 | OE | 32x45 | IG — 514-314

Internal dimensions	Width	20 cm
	Height	30 cm
Outer dimensions	Top width	32 cm
	Bottom width	36 cm
	Height	45 cm
Kerb	–	
Weight	1,140 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



SR 30 | OE | 40x46 — 706

Internal dimensions	Width	30 cm
	Height	30 cm
Outer dimensions	Top width	40 cm
	Bottom width	44 cm
	Height	46 cm
Kerb	–	
Weight	1,285 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



SR = slotted channel, **12** = internal cross-section, **OE** = top level, **GS** = slope to slot, **30x30** = outer dimension, **IG** = internal gradient, **H** = with kerb + height

***** CETON® PRO: 30 year guarantee for corrosion damage in individual cases

Rinninger RIKI
BETON IN FORM

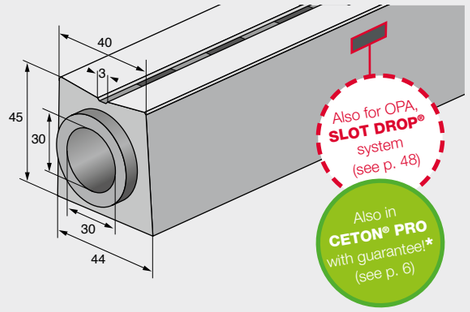
CETON® slotted channels

For roads and industrial areas

	Drainage cross-section in cm²	Internal gradient without	Internal gradient with	Surface top level	Surface slope to slot	Surface with kerb

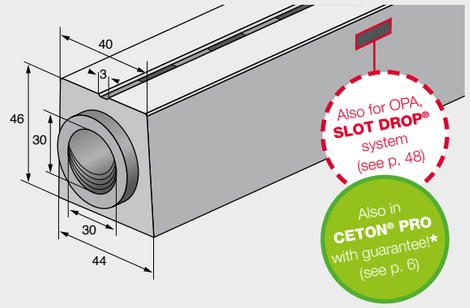
SR 30 | GS | 40x45 — 706

Internal dimensions	Width	30 cm
	Height	30 cm
Outer dimensions	Top width	40 cm
	Bottom width	44 cm
	Height	45 cm
Kerb	–	
Weight	1,190 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



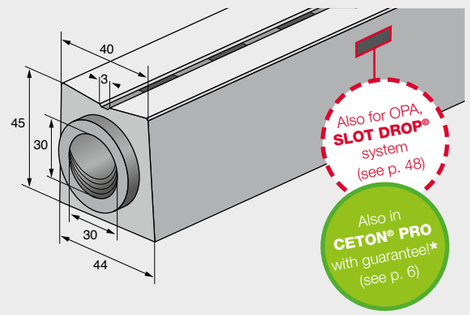
SR 30 | OE | 40x46 | IG — 706-514

Internal dimensions	Width	30 cm
	Height	30 cm
Outer dimensions	Top width	40 cm
	Bottom width	44 cm
	Height	46 cm
Kerb	–	
Weight	1,370 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



SR 30 | GS | 40x45 | IG — 706-514

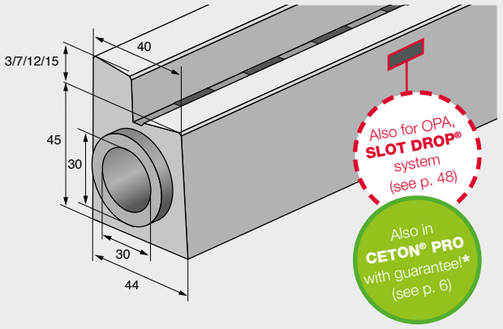
Internal dimensions	Width	30 cm
	Height	30 cm
Outer dimensions	Top width	40 cm
	Bottom width	44 cm
	Height	45 cm
Kerb	–	
Weight	1,265 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



	Drainage cross-section in cm²	Internal gradient without	Internal gradient with	Surface top level	Surface slope to slot	Surface with kerb

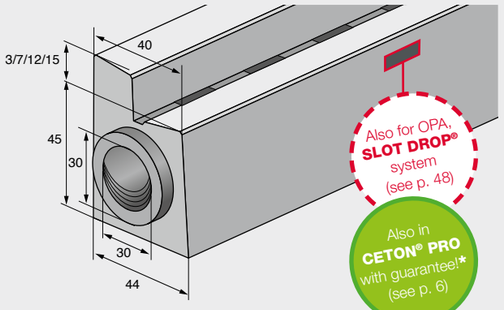
SR 30 | GS | 40x45 | H 3·7·12·15 — 706

Internal dimensions	Width	30 cm
	Height	30 cm
Outer dimensions	Top width	40 cm
	Bottom width	44 cm
	Height	45 cm
Kerb	3 cm | 7 cm | 12 cm | 15 cm	
Weight	1,255 - 1,470 kg (4 m)	
Load	D-400	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



SR 30 | GS | 40x45 | IG | H 3·7·12·15 — 706-514

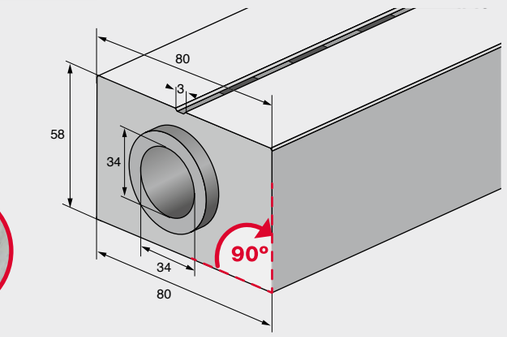
Internal dimensions	Width	30 cm
	Height	30 cm
Outer dimensions	Top width	40 cm
	Bottom width	44 cm
	Height	45 cm
Kerb	3 cm | 7 cm | 12 cm | 15 cm	
Weight	1,320 - 1,550 kg (4 m)	
Load	D-400	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



SR 34 | OE | 80x58 — "Airport channel" — 907

Internal dimensions	Width	34 cm
	Height	34 cm
Outer dimensions	Top width	80 cm
	Bottom width	80 cm
	Height	58 cm
Kerb	–	
Weight	3,730 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	

Special features:
- Surface with longitudinal broom finish
- External walls vertical with no conicity



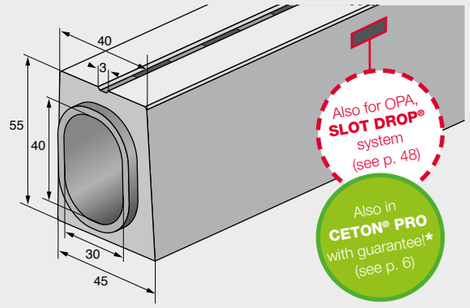
SR = slotted channel, **12** = internal cross-section, **OE** = top level, **GS** = slope to slot,
* CETON® PRO: 30 year guarantee for corrosion damage in individual cases

30x30 = outer dimension, **IG** = internal gradient, **H** = with kerb + height

	Drainage cross-section in cm²	Internal gradient: without	Internal gradient: with	Surface: top level	Surface: slope to slot	Surface: with kerb

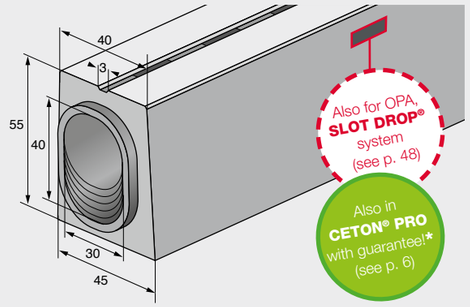
SR 30/40 | OE | 40x55 — 1006

Internal dimensions	Width	30 cm
	Height	40 cm
Outer dimensions	Top width	40 cm
	Bottom width	45 cm
	Height	55 cm
Kerb	–	
Weight	1,340 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



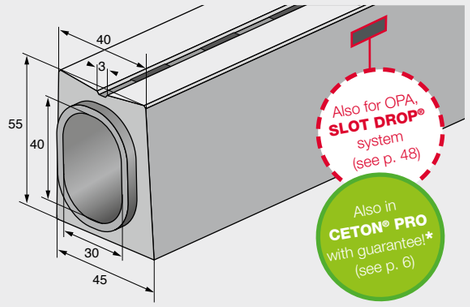
SR 30/40 | OE | 40x55 | IG — 1006-706

Internal dimensions	Width	30 cm
	Height	40 cm
Outer dimensions	Top width	40 cm
	Bottom width	45 cm
	Height	55 cm
Kerb	–	
Weight	1,395 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



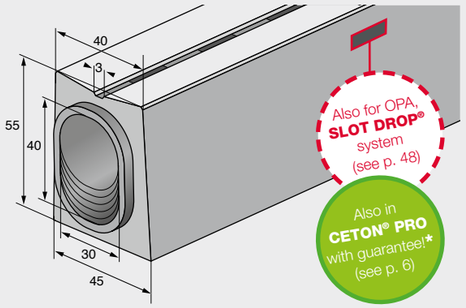
SR 30/40 | GS | 40x55 — 1006

Internal dimensions	Width	30 cm
	Height	40 cm
Outer dimensions	Top width	40 cm
	Bottom width	45 cm
	Height	55 cm
Kerb	–	
Weight	1,320 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



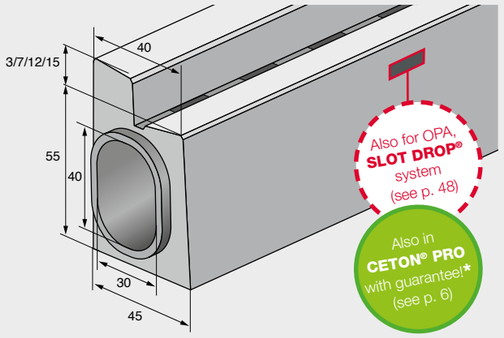
SR 30/40 | GS | 40x55 | IG — 1006-706

Internal dimensions	Width	30 cm
	Height	40 cm
Outer dimensions	Top width	40 cm
	Bottom width	45 cm
	Height	55 cm
Kerb	–	
Weight	1,395 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



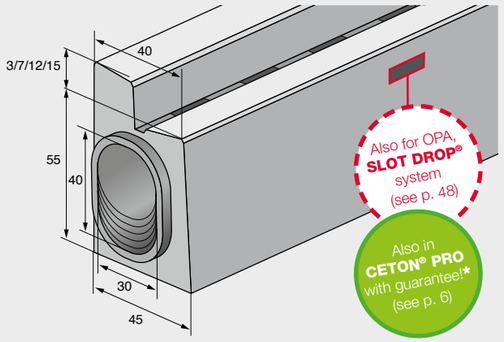
SR 30/40 | GS | 40x55 | H 3·7·12·15 — 1006

Internal dimensions	Width	30 cm
	Height	40 cm
Outer dimensions	Top width	40 cm
	Bottom width	45 cm
	Height	55 cm
Kerb	3 cm | 7 cm | 12 cm | 15 cm	
Weight	1,370 - 1,585 kg (4 m)	
Load	D-400	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



SR 30/40 | GS | 40x55 | IG | H 3·7·12·15 — 1006-706

Internal dimensions	Width	30 cm
	Height	40 cm
Outer dimensions	Top width	40 cm
	Bottom width	45 cm
	Height	55 cm
Kerb	3 cm | 7 cm | 12 cm | 15 cm	
Weight	1,440 - 1,660 kg (4 m)	
Load	D-400	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



SR = slotted channel, **12** = internal cross-section, **OE** = top level, **GS** = slope to slot,
***** CETON® PRO: 30 year guarantee for corrosion damage in individual cases

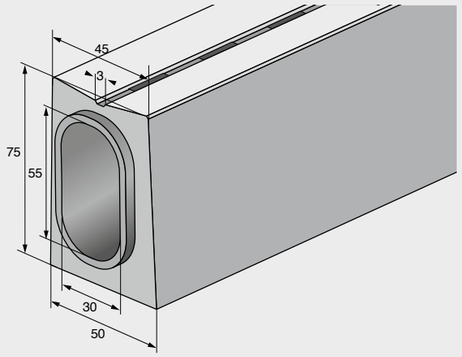
30x30 = outer dimension, **IG** = internal gradient, **H** = with kerb + height

	Drainage cross-section in cm²	Internal gradient: without	Internal gradient: with	Surface: top level	Surface: slope to slot	Surface: with kerb

SR 30/55 | GS | 45x75

1450

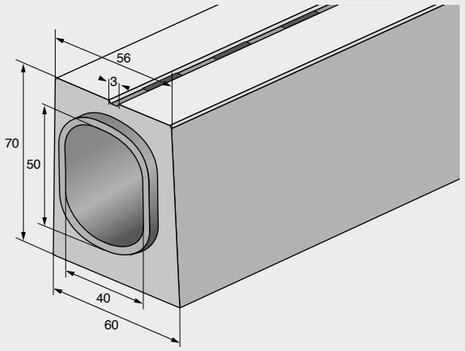
Internal dimensions	Width	30 cm
	Height	55 cm
Outer dimensions	Top width	45 cm
	Bottom width	50 cm
	Height	75 cm
Kerb	–	
Weight	2,110 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



SR 40/50 | OE | 56x70

1660

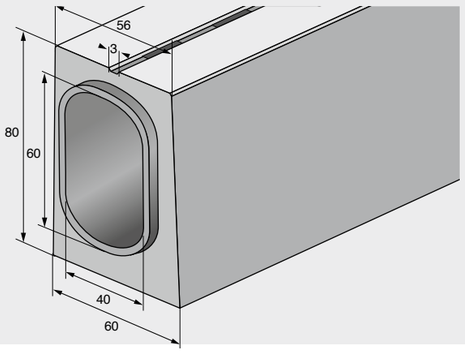
Internal dimensions	Width	40 cm
	Height	50 cm
Outer dimensions	Top width	56 cm
	Bottom width	60 cm
	Height	70 cm
Kerb	–	
Weight	2,395 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



SR 40/60 | OE | 56x80

2060

Internal dimensions	Width	40 cm
	Height	60 cm
Outer dimensions	Top width	56 cm
	Bottom width	60 cm
	Height	80 cm
Kerb	–	
Weight	2,580 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



SR = slotted channel, **12** = internal cross-section, **OE** = top level, **GS** = slope to slot,
* CETON® PRO: 30 year guarantee for corrosion damage in individual cases

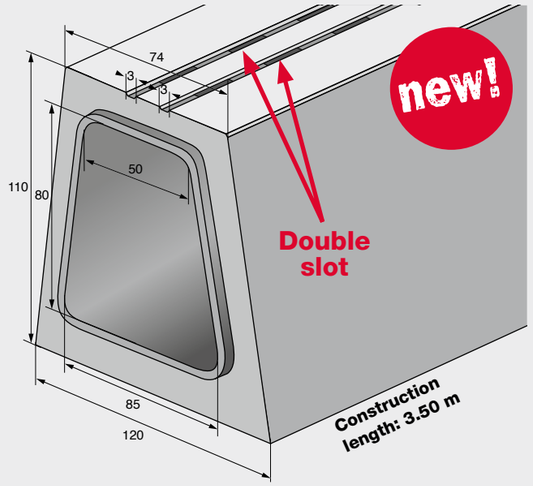
	Drainage cross-section in cm²	Internal gradient: without	Internal gradient: with	Surface: top level	Surface: slope to slot	Surface: with kerb

SR 50/80 | OE | 74x110 | RIKI MEGA SLOT®

5185

Internal dimensions	Width	50/85 cm
	Height	80 cm
Outer dimensions	Top width	74 cm
	Bottom width	120 cm
	Height	110 cm
Kerb	–	
Weight	5,550 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.49 m	

Special features:
- Double slot for more drainage capacity
- High retention capacity



Channels with integrated drainage shaft

- Speedier installation
- Statically verifiable
- Cost optimised
- Very durable system
- Available for almost all channel systems

30x30 = outer dimension, **IG** = internal gradient, **H** = with kerb + height

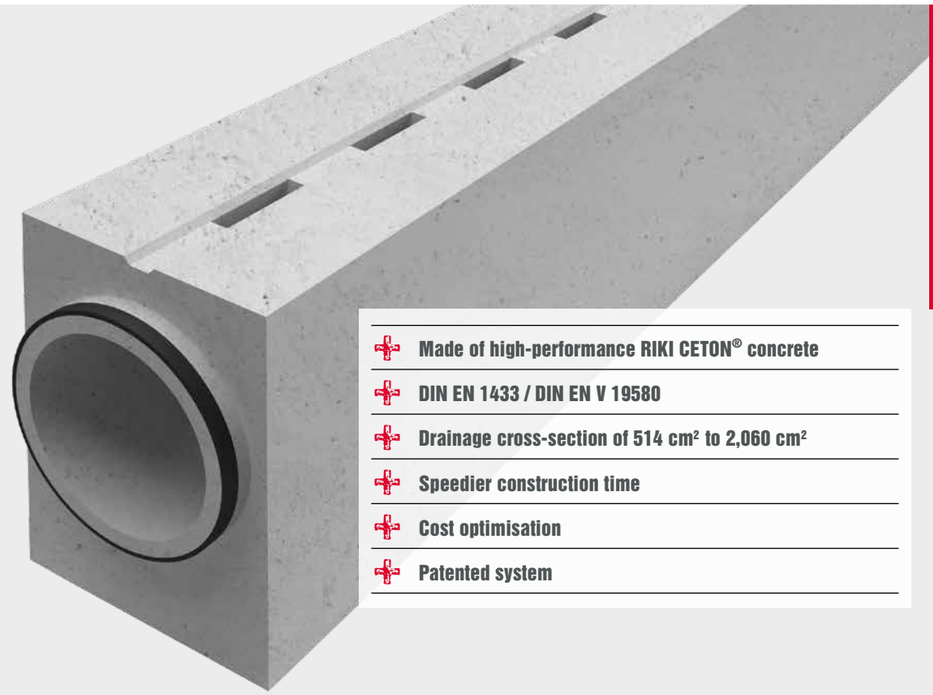
RIKI CETON® slotted channels with integr. foundation

FOR ROADS AND INDUSTRIAL AREAS

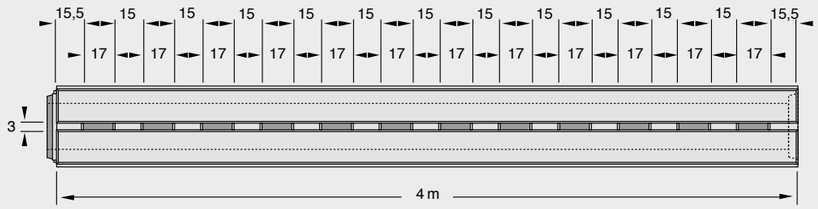
Channel type	Page	Drainage cross-section in cm²	Internal gradient without	Internal gradient with	Surface top level	Surface slope to slot	with foundation
SR 20/30 | OE | 32x56 | FU	24	**514**	●		●		●
SR 20/40 | OE | 32x60 | FU	24	**714**	●		●		●
SR 30 | GS | 40x60 | IFU	24	**706**	●			●	●
SR 30 | GS | 40x60 | IG | IFU	25	**706-514**		●		●	●
SR 30 | OE | 40x60 | IFU	25	**706**	●		●		●
SR 30 | OE | 40x60 | IG | IFU	25	**706-514**		●	●		●
SR 30 | GS | 45x65 | IFU	26	**706**	●			●	●
SR 34 | OE | 80x70 | IFU	26	**907**	●		●		●
SR 30/40 | GS | 45x70 | IFU	26	**1006**	●			●	●
SR 30/55 | GS | 45x85 | IFU	26	**1456**	●			●	●
SR 40/50 | OE | 56x80 | IFU	27	**1660**	●		●		●
SR 40/60 | OE | 56x90 | IFU	27	**2060**	●		●		●

SR = slotted channel, **12** = internal cross-section, **OE** = top level, **GS** = slope to slot,
30x30 = outer dimension, **IG** = internal gradient, **H** = with kerb + height
FU = foundation foot, **IFU** = integrated foundation

Rinninger RIKI
BETON IN FORM



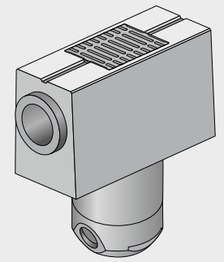
- Made of high-performance RIKI CETON® concrete
- DIN EN 1433 / DIN EN V 19580
- Drainage cross-section of 514 cm² to 2,060 cm²
- Speedier construction time
- Cost optimisation
- Patented system



Our special design with an uninterrupted slot is available on request.

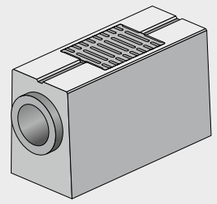
DRAINAGE SHAFT

Construction length: 1.00 m



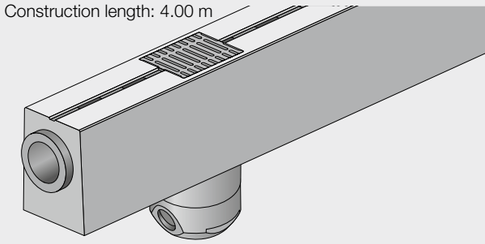
CLEANING CHANNEL

Construction length: 1.00 m



CHANNEL WITH INTEGRATED DRAINAGE SHAFT

Construction length: 4.00 m



Rinninger RIKI
BETON IN FORM

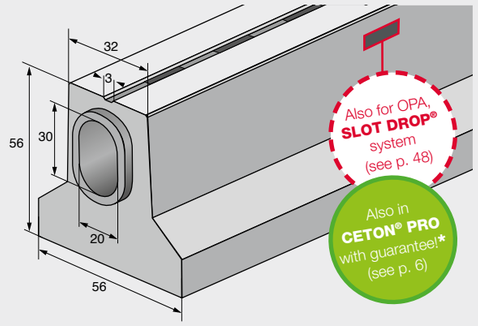
CETON® slotted channels with foundation

For roads and industrial areas

	Drainage cross-section in cm²	Internal gradient without	Internal gradient with	Surface top level	Surface slope to slot	with foundation

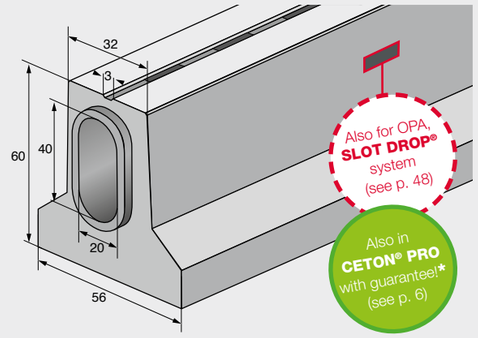
SR 20/30 | OE | 32x56 | FU — 514

Internal dimensions	Width	20 cm
	Height	30 cm
Outer dimensions	Top width	32 cm
	Bottom width	56 cm
	Height	56 cm
Weight	1,685 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



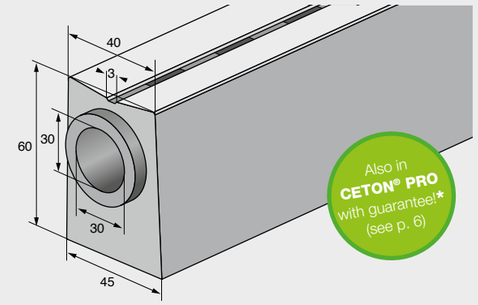
SR 20/40 | OE | 32x60 | FU — 714

Internal dimensions	Width	20 cm
	Height	40 cm
Outer dimensions	Top width	32 cm
	Bottom width	56 cm
	Height	60 cm
Weight	1,690 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



SR 30 | GS | 40x60 | IFU — 706

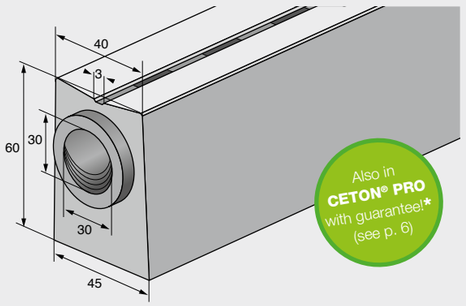
Internal dimensions	Width	30 cm
	Height	30 cm
Outer dimensions	Top width	40 cm
	Bottom width	45 cm
	Height	60 cm
Weight	1,825 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



SR = slotted channel, **12** = internal cross-section, **OE** = top level, **GS** = slope to slot,
***** CETON® PRO: 30 year guarantee for corrosion damage in individual cases

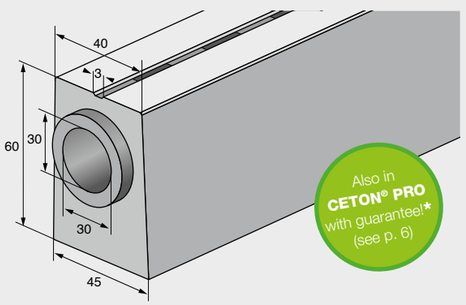
SR 30 | GS | 40x60 | IG | IFU — 706-514

Internal dimensions	Width	30 cm
	Height	30 cm
Outer dimensions	Top width	40 cm
	Bottom width	45 cm
	Height	60 cm
Weight	1,880 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



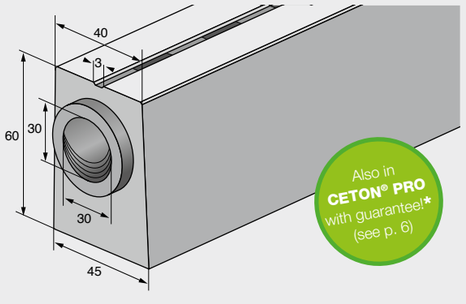
SR 30 | OE | 40x60 | IFU — 706

Internal dimensions	Width	30 cm
	Height	30 cm
Outer dimensions	Top width	40 cm
	Bottom width	45 cm
	Height	60 cm
Weight	1,825 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



SR 30 | OE | 40x60 | IG | IFU — 706-514

Internal dimensions	Width	30 cm
	Height	30 cm
Outer dimensions	Top width	40 cm
	Bottom width	45 cm
	Height	60 cm
Weight	1,900 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



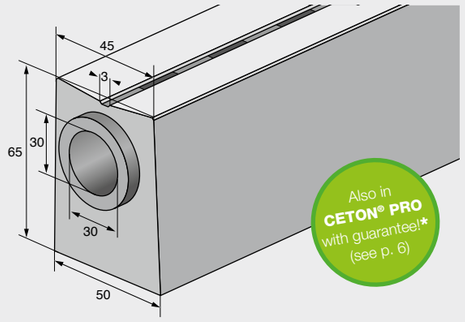
30x30 = outer dimension, **IG** = internal gradient, **H** = with kerb + height
FU = foundation foot, **IFU** = integrated foundation

Rinninger RIKI
BETON IN FORM

	Drainage cross-section in cm²	Internal gradient without	Internal gradient with	Surface top level	Surface slope to slot	with foundation

SR 30 | GS | 45x65 | IFU — 706

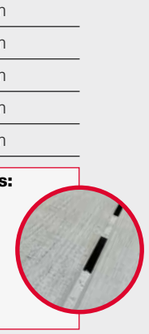
Internal dimensions	Width	30 cm
	Height	30 cm
Outer dimensions	Top width	45 cm
	Bottom width	50 cm
	Height	65 cm
Weight	2,360 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	

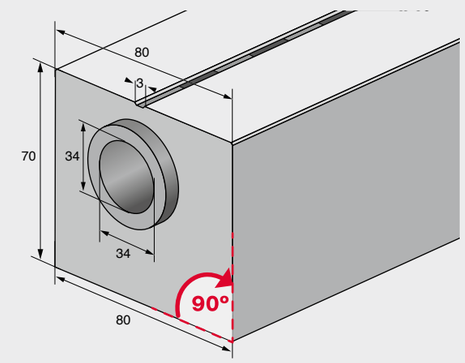


SR 34 | OE | 80x70 | IFU "Airport channel" — 907

Internal dimensions	Width	34 cm
	Height	34 cm
Outer dimensions	Top width	80 cm
	Bottom width	80 cm
	Height	70 cm
Weight	4,690 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	

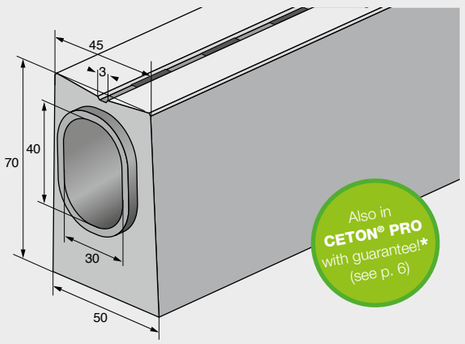
Special features:
- Surface with longitudinal broom finish
- External walls vertical with no conicity





SR 30/40 | GS | 45x70 | IFU — 1006

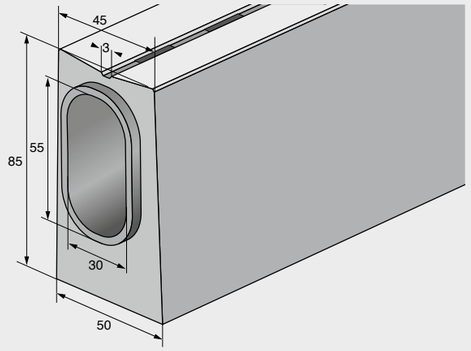
Internal dimensions	Width	30 cm
	Height	40 cm
Outer dimensions	Top width	45 cm
	Bottom width	50 cm
	Height	70 cm
Weight	2,305 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



	Drainage cross-section in cm²	Internal gradient without	Internal gradient with	Surface top level	Surface slope to slot	with foundation

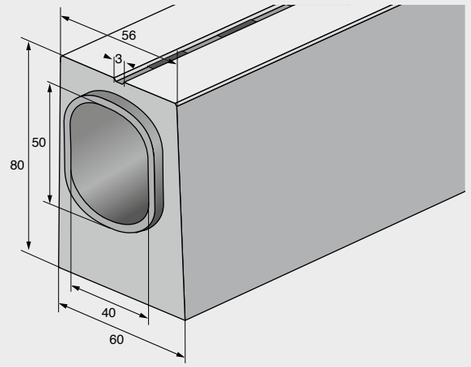
SR 30/55 | GS | 45x85 | IFU — 1456

Internal dimensions	Width	30 cm
	Height	55 cm
Outer dimensions	Top width	45 cm
	Bottom width	50 cm
	Height	85 cm
Weight	2,560 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



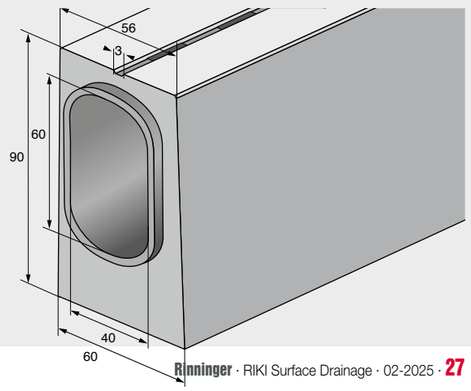
SR 40/50 | OE | 56x80 | IFU — 1660

Internal dimensions	Width	40 cm
	Height	50 cm
Outer dimensions	Top width	56 cm
	Bottom width	60 cm
	Height	80 cm
Weight	2,970 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



SR 40/60 | OE | 56x90 | IFU — 2060

Internal dimensions	Width	40 cm
	Height	60 cm
Outer dimensions	Top width	56 cm
	Bottom width	60 cm
	Height	90 cm
Weight	3,160 kg (4 m)	
Load	D-400 | F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



SR = slotted channel, **12** = internal cross-section, **OE** = top level, **GS** = slope to slot,
* CETON® PRO: 30 year guarantee for corrosion damage in individual cases

30x30 = outer dimension, **IG** = internal gradient, **H** = with kerb + height
FU = foundation foot, **IFU** = integrated foundation

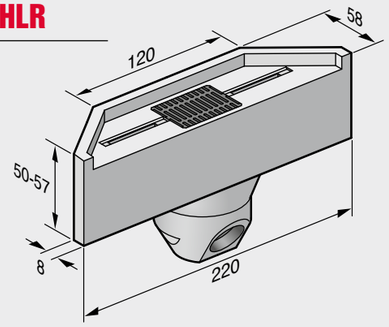
Basins
Baffle shafts

RIKI SLOTTED CHANNEL BASINS
DBP PATENT NO. 100 28 977

Trapezoidal basin · H/HL/HR/HLR

With kerb · H 7

Options:
- **Without lowering**
- **Lowering left**
- **Lowering right**
- **Lowering on both sides**

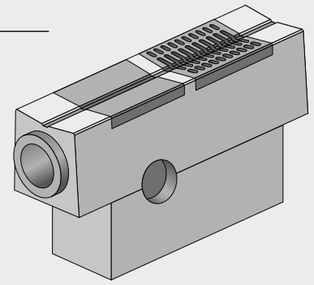


Inner diameter	ø 30 cm
Width	58 cm
Height	57 cm
Construction length	2.20 m
Kerb height	7 cm
Weight/piece	approx. 1,100 kg

Normal baffle shaft

With slope to slot
Without internal gradient

Optional:
- **With kerb**
  3 / 7 / 12 / 15 cm

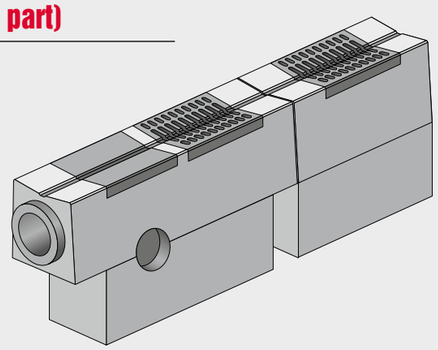


	SR 30	**SR 30/40**
Inner diameter	ø 30 cm	30 x 40 cm
Top width	40 cm	40 cm
Bottom width	45 cm	45 cm
Height	95 cm	105 cm
Construction length	1.5 m	1.5 m
Weight/piece	approx. 750 kg	approx. 850 kg

Baffle shaft with upstream sludge trap (2 part)

With slope to slot
Without internal gradient

Optional:
- **With kerb**
  3 / 7 / 12 / 15 cm



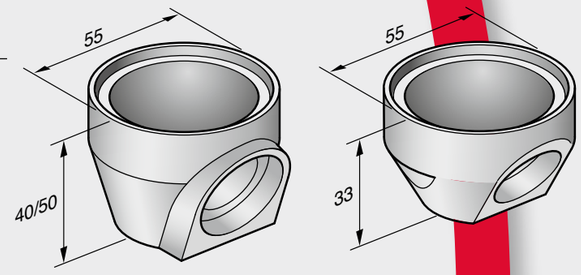
	SR 30	**SR 30/40**
Inner diameter	ø 30 cm	30 x 40 cm
Top width	40 cm	40 cm
Bottom width	45 cm	45 cm
Height	95 cm	105 cm
Construction length	2.5 m	2.5 m
Weight/piece	approx. 1,320 kg	approx. 1,450 kg

Accessories

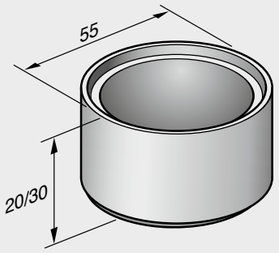
FOR DRAINAGE SHAFT

Base

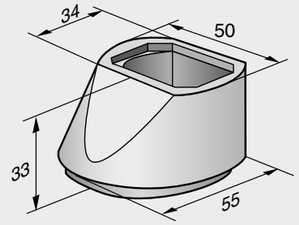
For PVC KG connection
DN 150 / 200 / 300



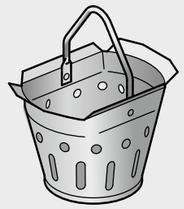
Intermediate part



Cone



Bucket



RIKI CETON® SMART slotted channels

FOR SFH SYSTEMS | **Approval: DIBT No. Z-74.4-83 / Z-74.4-178**

Channel type	Page	Drainage cross-section in cm²	Internal gradient without	Internal gradient with	Surface top level	Surface slope to slot	
SR-SMART 20 | OE | 40x40	32	**314**	●		●		
SR-SMART 20/30 | OE | 40x50	32	**514**	●		●		
SR-SMART 20/30 | OE | 40x50 | IG	32	**514-314**		●	●		
SR-SMART 30 | OE | 50x52	33	**706**	●		●		
SR-SMART 30 FH | OE | 50x52	33	**706**	●		●		
SR-SMART 34 | OE | 80x58	33	**907**	●		●		
SR-SMART 30/40 | OE | 50x60	34	**1006**	●		●		
SR-SMART 30/40 | OE | 50x60 | IG	34	**1006-706**		●	●		
SR-SMART 50/80 | OE | 74x110	37	**5185**	●		●		

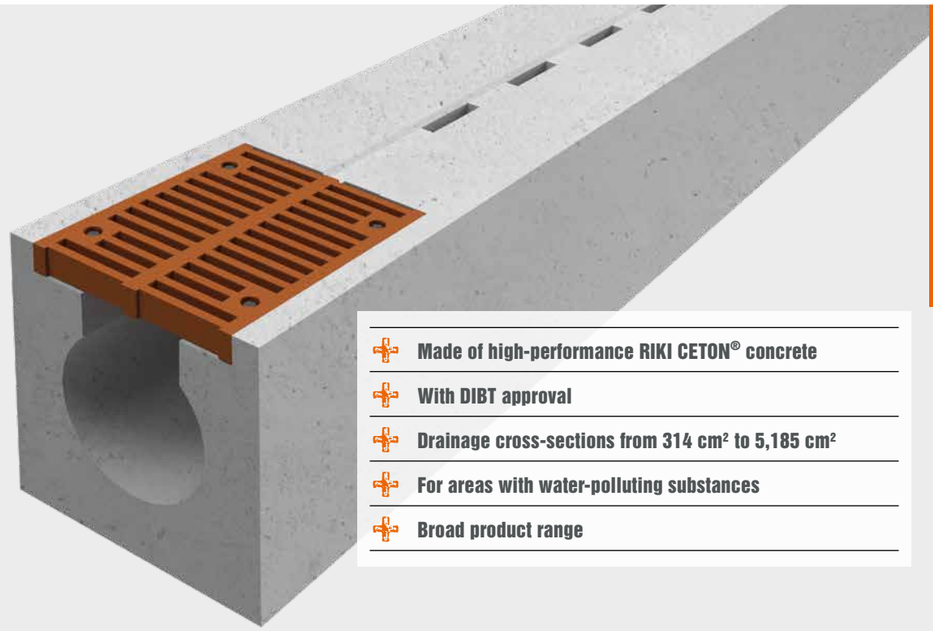
THE SAFE DRAINAGE SOLUTION FOR HANDLING HAZARDOUS SUBSTANCES

High demands are made of drainage systems, both as systems for the storage, filling and handling of water-polluting substances (SFH systems) andfor drainage of highly aggressive and less aggressive liquids in environmentally sensitive areas.

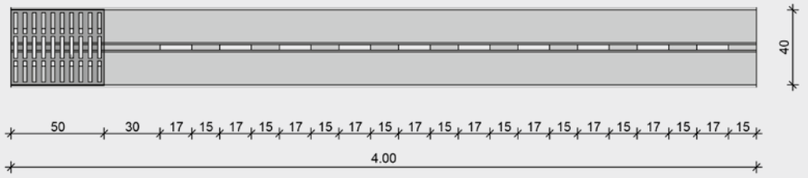
Building approvals Z-74.4-81 of 16.06.2020, Z-74.4-83 of 28.09.2020 and Z-74.4-178 of 24.09.2020 mean that our RIKI drainage systems meet the strict requirements and conditions of the Deutsches Institut für Bautechnik (DIBT), the German technical authority in the construction sector, and can therefore also be used in areas with water-polluting substances.

SR = slotted channel, **12** = internal cross-section, **OE** = top level, **GS** = slope to slot,

30x30 = outer dimension, **IG** = internal gradient, **H** = with kerb + height

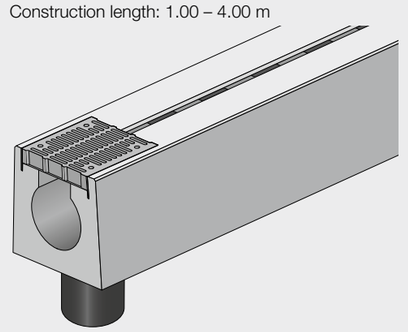


- Made of high-performance RIKI CETON® concrete
- With DIBT approval
- Drainage cross-sections from 314 cm² to 5,185 cm²
- For areas with water-polluting substances
- Broad product range



CHANNEL WITH INTEGRATED DRAINAGE SHAFT

Construction length: 1.00 – 4.00 m

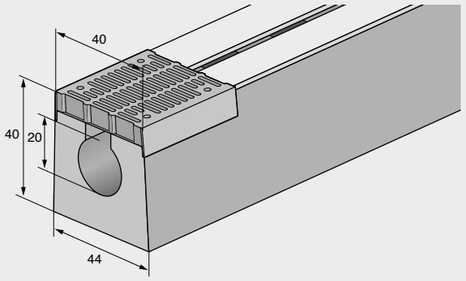


- Speedier installation
- Statically verifiable
- Cost optimised
- Very durable system
- Available for almost all channel systems

Drainage cross-section in cm² | Internal gradient: without, with | Surface: top level, slope to slot

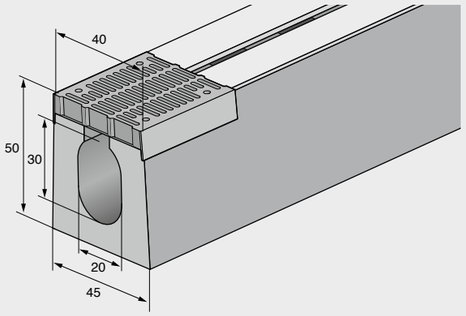
SR-SMART 20 | OE | 40x40 — 314

Internal dimensions	Width	20 cm
	Height	20 cm
Outer dimensions	Top width	40 cm
	Bottom width	44 cm
	Height	40 cm
Weight	1,320 kg (4 m)	
Load	F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



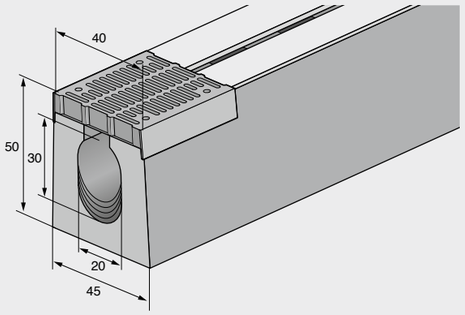
SR-SMART 20/30 | OE | 40x50 — 514

Internal dimensions	Width	20 cm
	Height	30 cm
Outer dimensions	Top width	40 cm
	Bottom width	45 cm
	Height	50 cm
Weight	1,585 kg (4 m)	
Load	F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



SR-SMART 20/30 | OE | 40x50 | IG — 514-314

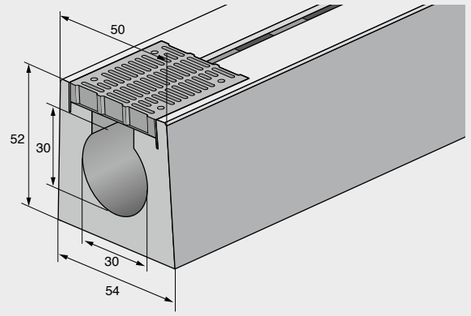
Internal dimensions	Width	20 cm
	Height	30 cm
Outer dimensions	Top width	40 cm
	Bottom width	45 cm
	Height	50 cm
Weight	1,660 kg (4 m)	
Load	F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



Drainage cross-section in cm² | Internal gradient: without, with | Surface: top level, slope to slot

SR-SMART 30 | OE | 50x52 — 706

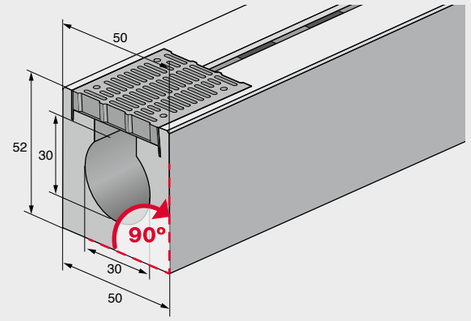
Internal dimensions	Width	30 cm
	Height	30 cm
Outer dimensions	Top width	50 cm
	Bottom width	54 cm
	Height	52 cm
Weight	1,975 kg (4 m)	
Load	F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



SR-SMART 30 FH | OE | 50x52 "Airport channel" — 706

Internal dimensions	Width	30 cm
	Height	30 cm
Outer dimensions	Top width	50 cm
	Bottom width	50 cm
	Height	58 cm
Weight	1,975 kg (4 m)	
Load	F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	

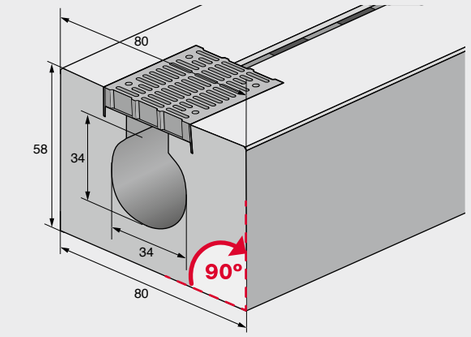
Special features:
- Surface with transverse broom finish
- External walls vertical with no conicity



SR-SMART 34 | OE | 80x58 "Airport channel" — 907

Internal dimensions	Width	34 cm
	Height	34 cm
Outer dimensions	Top width	80 cm
	Bottom width	80 cm
	Height	58 cm
Weight	3,680 kg (4 m)	
Load	F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	

Special features:
- Surface with longitudinal broom finish
- External walls vertical with no conicity

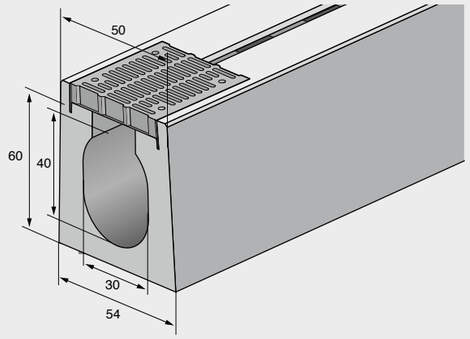


SR = slotted channel, **12** = internal cross-section, **OE** = top level, **GS** = slope to slot, **30x30** = outer dimension, **IG** = internal gradient, **H** = with kerb + height

	Drainage cross-section in cm²	Internal gradient without	Internal gradient with	Surface top level	Surface slope to slot

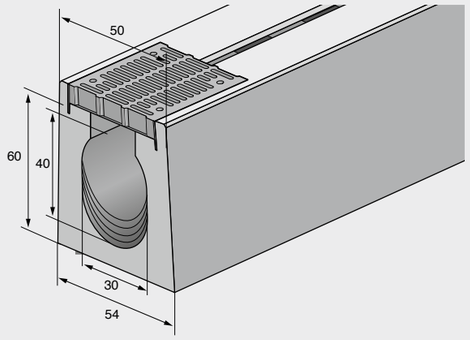
SR-SMART 30/40 | OE | 50x60 — 1006

Internal dimensions	Width	30 cm
	Height	40 cm
Outer dimensions	Top width	50 cm
	Bottom width	54 cm
	Height	60 cm
Weight	2,085 kg (4 m)	
Load	F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



SR-SMART 30/40 | OE | 50x60 | IG — 1006-706

Internal dimensions	Width	30 cm
	Height	40 cm
Outer dimensions	Top width	50 cm
	Bottom width	54 cm
	Height	60 cm
Weight	2,160 kg (4 m)	
Load	F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	

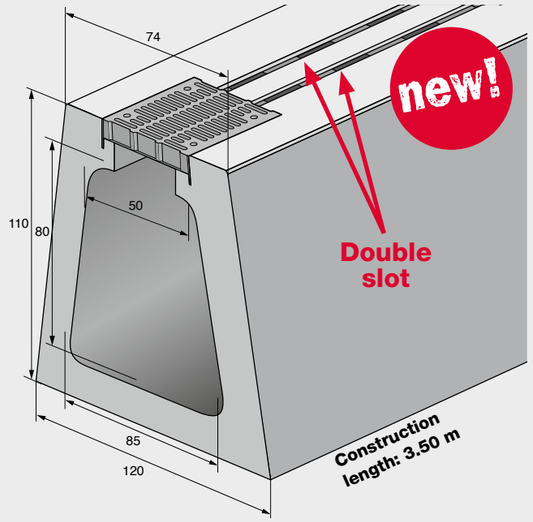


	Drainage cross-section in cm²	Internal gradient without	Internal gradient with	Surface top level	Surface slope to slot

SR-SMART 50/80 | OE | 74x110 — RIKI MEGA SLOT® — 5185

Internal dimensions	Width	50/85 cm
	Height	80 cm
Outer dimensions	Top width	74 cm
	Bottom width	120 cm
	Height	110 cm
Weight	5,550 kg (4 m)	
Load	F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.49 m	

Special features:
- Double slot for more drainage capacity
- High retention capacity



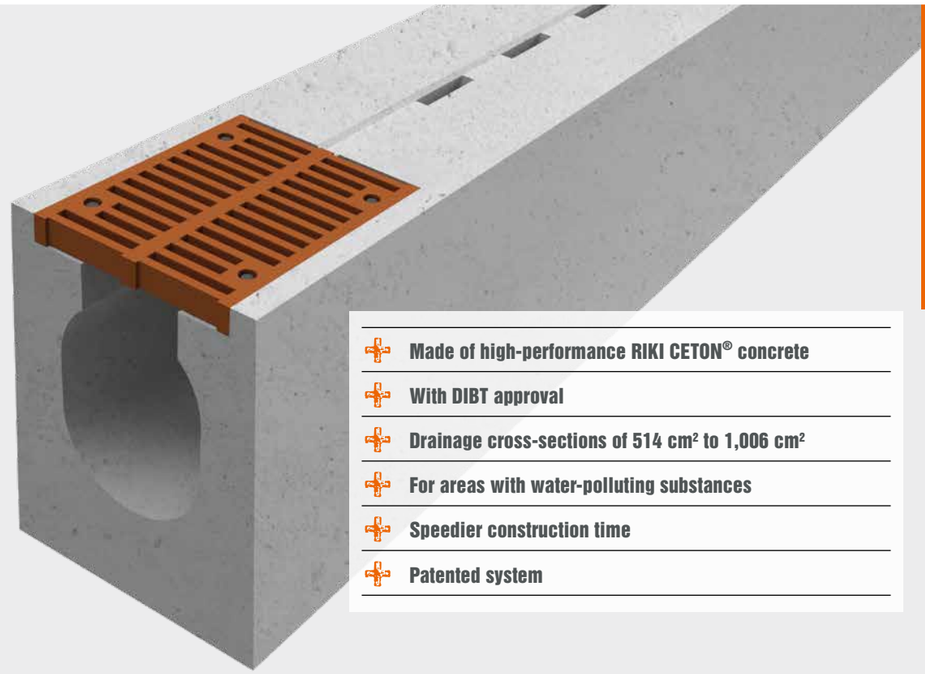
SR = slotted channel, **12** = internal cross-section, **OE** = top level, **GS** = slope to slot, **30x30** = outer dimension, **IG** = internal gradient, **H** = with kerb + height

RIKI CETON® SMART slotted channels with integrated foundation

FOR SFH SYSTEMS | **Approval: DIBT No. Z-74.4-81**

Channel type	Page	Drainage cross-section in cm²	Internal gradient without	Internal gradient with	Surface top level	Surface slope to slot	with foundation
SR-SMART 20/30 | OE | 40x60 | IFU	38	**514**	●		●		●
SR-SMART 20/30 | OE | 40x60 | IG | IFU	38	**514-314**		●	●		●
SR-SMART 30 | GS | 50x70 | FU	38	**706**	●			●	●
SR-SMART 30 | OE | 50x70 | IFU	39	**706**	●		●		●
SR-SMART 34 | OE | 80x70 | IFU	39	**907**	●		●		●
SR-SMART 30/40 | OE | 50x70 | IFU	39	**1006**	●		●		●
SR-SMART 30/40 | OE | 50x70 | IG | IFU	40	**1006-706**		●	●		●
SR-SMART 30/40 | GS | 50x70 | FU	40	**1006**	●			●	●
SR-SMART 30/40 | GS | 50x70 | IG | FU	40	**1006-706**		●		●	●

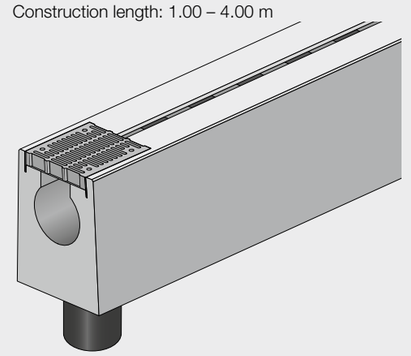
SR = slotted channel, **12** = internal cross-section, **OE** = top level, **GS** = slope to slot,
30x30 = outer dimension, **IG** = internal gradient, **H** = with kerb + height
FU = foundation foot, **IFU** = integrated foundation



- Made of high-performance RIKI CETON® concrete
- With DIBT approval
- Drainage cross-sections of 514 cm² to 1,006 cm²
- For areas with water-polluting substances
- Speedier construction time
- Patented system

CHANNEL WITH INTEGRATED DRAINAGE SHAFT

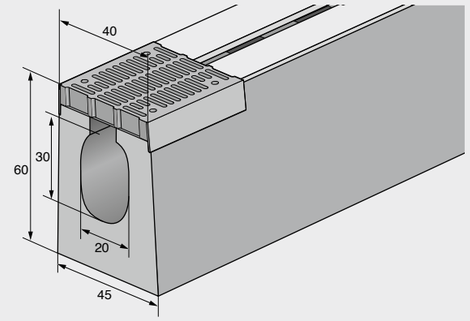
Construction length: 1.00 – 4.00 m



- Speedier installation
- Statically verifiable
- Cost optimised
- Very durable system
- Available for almost all channel systems

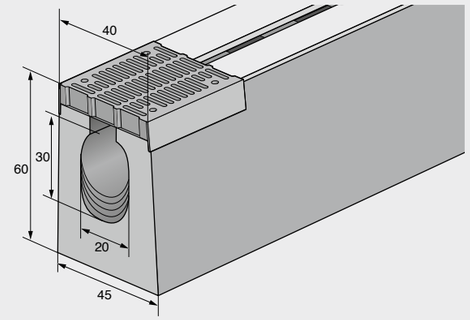
SR-SMART 20/30 | OE | 40x60 | IFU — 514

Internal dimensions	Width	20 cm
	Height	30 cm
Outer dimensions	Top width	40 cm
	Bottom width	45 cm
	Height	60 cm
Weight	2,010 kg (4 m)	
Load	F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



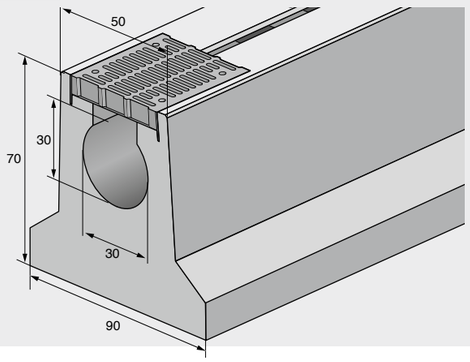
SR-SMART 20/30 | OE | 40x60 | IG | IFU — 514-314

Internal dimensions	Width	20 cm
	Height	30 cm
Outer dimensions	Top width	40 cm
	Bottom width	45 cm
	Height	60 cm
Weight	2,085 kg (4 m)	
Load	F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



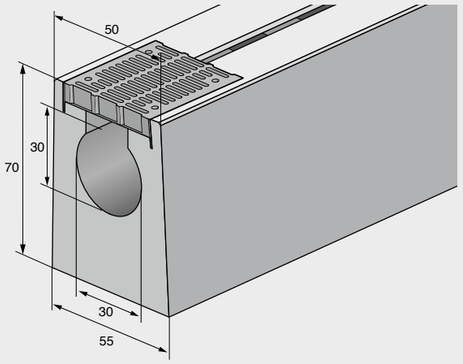
SR-SMART 30 | GS | 50x70 | FU — 706

Internal dimensions	Width	30 cm
	Height	30 cm
Outer dimensions	Top width	50 cm
	Bottom width	90 cm
	Height	70 cm
Weight	3,380 kg (4 m)	
Load	F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



SR-SMART 30 | OE | 50x70 | IFU — 706

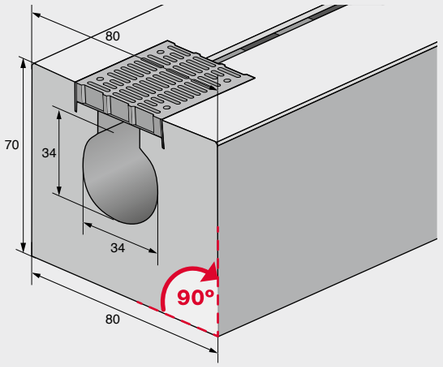
Internal dimensions	Width	30 cm
	Height	30 cm
Outer dimensions	Top width	50 cm
	Bottom width	55 cm
	Height	70 cm
Weight	2,700 kg (4 m)	
Load	F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



SR-SMART 34 | OE | 80x70 | IFU "Airport channel" — 907

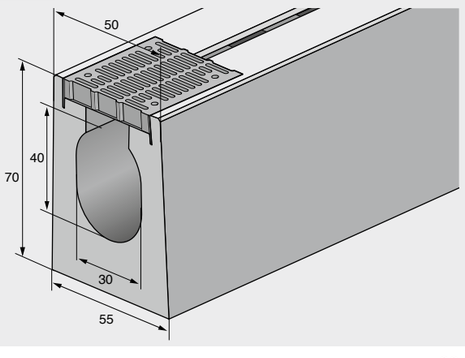
Internal dimensions	Width	34 cm
	Height	34 cm
Outer dimensions	Top width	80 cm
	Bottom width	80 cm
	Height	70 cm
Kerb	–	
Weight	4,690 kg (4 m)	
Load	F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	

Special features:
- Surface with longitudinal broom finish
- External walls vertical with no conicity



SR-SMART 30/40 | OE | 50x70 | IFU — 1006

Internal dimensions	Width	30 cm
	Height	40 cm
Outer dimensions	Top width	50 cm
	Bottom width	55 cm
	Height	70 cm
Weight	2,640 kg (4 m)	
Load	F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	

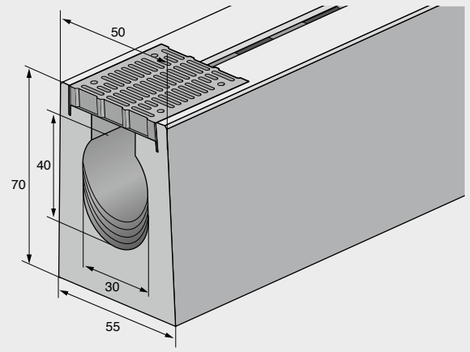


SR = slotted channel, **12** = internal cross-section, **OE** = top level, **GS** = slope to slot,
30x30 = outer dimension, **IG** = internal gradient, **H** = with kerb + height
FU = foundation foot, **IFU** = integrated foundation

	Drainage cross-section in cm²	Internal gradient without	Internal gradient with	Surface top level	Surface slope to slot	with foundation

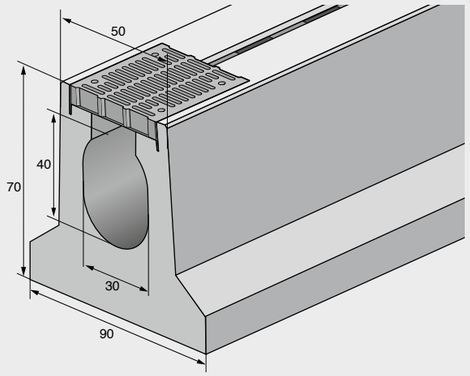
SR-SMART 30/40 | OE | 50x70 | IG | IFU — 1006-706

Internal dimensions	Width	30 cm
	Height	40 cm
Outer dimensions	Top width	50 cm
	Bottom width	55 cm
	Height	70 cm
Weight	2,715 kg (4 m)	
Load	F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



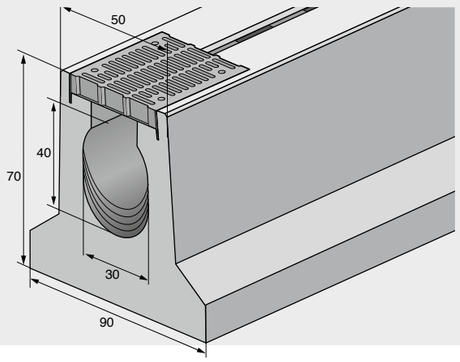
SR-SMART 30/40 | GS | 50x70 | FU — 1006

Internal dimensions	Width	30 cm
	Height	40 cm
Outer dimensions	Top width	50 cm
	Bottom width	90 cm
	Height	70 cm
Weight	3,080 kg (4 m)	
Load	F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



SR-SMART 30/40 | GS | 50x70 | IG | FU — 1006-706

Internal dimensions	Width	30 cm
	Height	40 cm
Outer dimensions	Top width	50 cm
	Bottom width	90 cm
	Height	70 cm
Weight	3,160 kg (4 m)	
Load	F-900	
Slot width	3/5 cm	
Fitted lengths	1.00 - 3.99 m	



LIST OF LIQUIDS

List of liquids against which prefabricated components of the channel system are impermeable and chemically resistant during use

- in systems for the **s**torage, **f**illing and **h**andling (SFH systems) of water-polluting substances for:
  - · load level “medium” during storage and
  - · load level “medium” during filling and handling

pursuant to the Technical Rule for Substances Harmful to Water TRwS 786[3] “Implementation of sealed surfaces” and

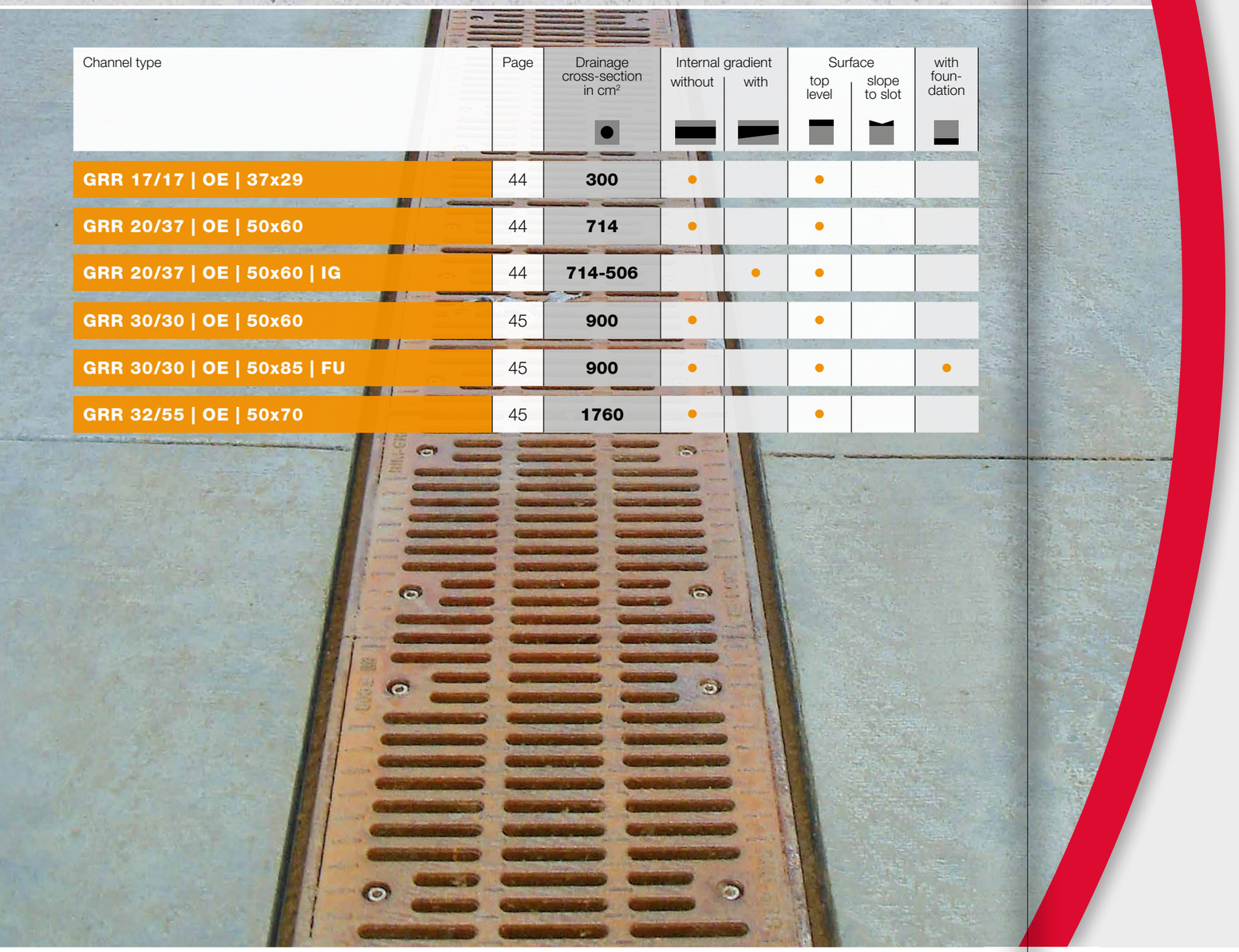
- in filling areas pursuant to the Technical Rules for Substances Harmful to Water TRwS 781 “Fuel stations for motor vehicles” and TRwS 782 “Loading of rail vehicles” and filling and handling areas pursuant to TRwS 784 “Fuelling of aircraft”.

Designation	Liquids
1	Petrol fuels pursuant to DIN EN 228-10 with a maximum (bio) ethanol content with a percentage by volume of 5 vol% pursuant to DIN EN 15376
1a	Petrol fuels pursuant to DIN EN 228 with added biofuel components pursuant to RL 2009/28/EC up to a total content with a percentage by volume of max. 20 vol%
2	Aviation fuels
3	• EL heating oil pursuant to DIN 51603-1 • Unused combustion engine oils • Unused motor vehicle transmission oils • Mixture of saturated and aromatic hydrocarbons with an aromatic content ≤ 20 %mass. and a flash point > 60°C
3b	Diesel fuels pursuant to DIN EN 590 with added biodiesel pursuant to DIN EN 14214 up to a total content with a percentage by volume of max. 20 vol%
4a	Aliphatic and cycloaliphatic hydrocarbons
4c	Used combustion engine oils and used motor vehicle transmission oils with a flash point > 60°C
7a	• Fatty acid methyl esters (FAME) pursuant to DIN EN 14214 • Vegetable oil fuel – rapeseed oil pursuant to DIN 51605 and vegetable oil fuel pursuant to DIN 51623
-	80% aqueous glycol solution
–	20% aqueous sodium chloride solution
and	Liquids that do not attack concrete and whose surface tension and dynamic viscosity fulfil the following equation: $\sqrt{(\sigma/\eta)} \leq 7.20$ ($e_{144,k} \leq 12$ mm) with: σ = surface tension at 20°C in mN/m · η = dynamic viscosity at 20°C in mN*s/m²

SR = slotted channel, **12** = internal cross-section, **OE** = top level, **GS** = slope to slot, **30x30** = outer dimension, **IG** = internal gradient, **H** = with kerb + height
FU = foundation foot, **IFU** = integrated foundation

RIKI CETON® cast iron channels

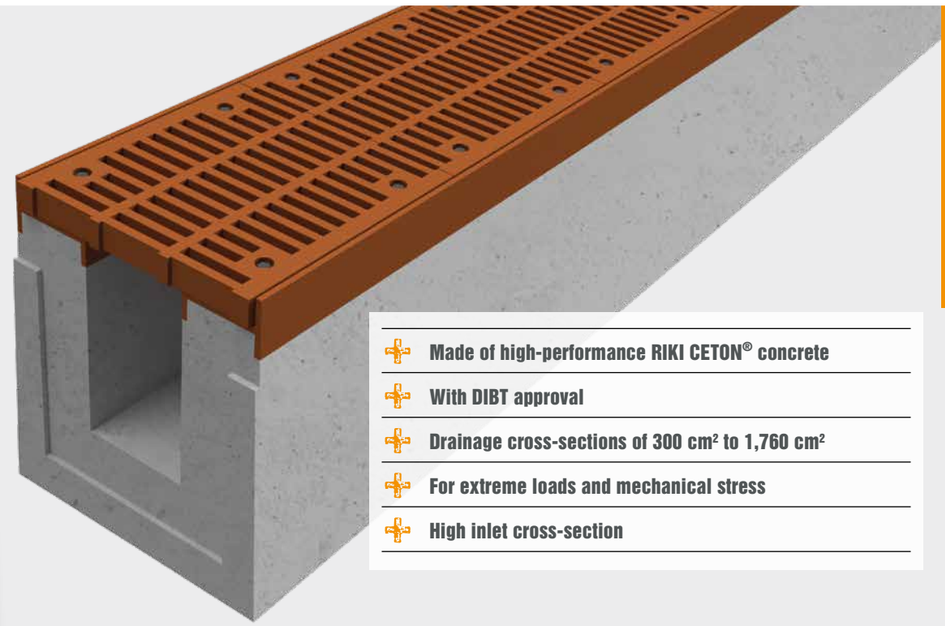
FOR AREAS WITH EXTREME LOADS,
FOR SFH SYSTEMS | Approval: DIBT No. Z-74.4-81



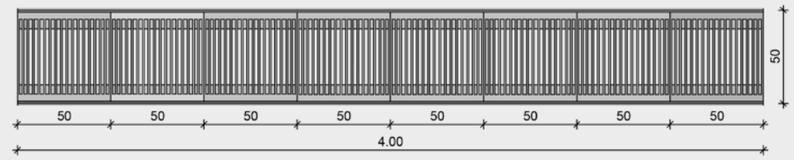
Channel type	Page	Drainage cross-section in cm²	Internal gradient: without	Internal gradient: with	Surface: top level	Surface: slope to slot	with foundation
GRR 17/17 | OE | 37x29	44	300	●		●		
GRR 20/37 | OE | 50x60	44	714	●		●		
GRR 20/37 | OE | 50x60 | IG	44	714-506		●	●		
GRR 30/30 | OE | 50x60	45	900	●		●		
GRR 30/30 | OE | 50x85 | FU	45	900	●		●		●
GRR 32/55 | OE | 50x70	45	1760	●		●		

GGR = cast iron channel, **17/17** = internal cross-section, **OE** = level top, **30x30** = outer dimension,

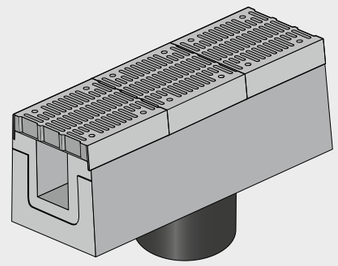
Rinninger RIKI
BETON IN FORM



- Made of high-performance RIKI CETON® concrete
- With DIBT approval
- Drainage cross-sections of 300 cm² to 1,760 cm²
- For extreme loads and mechanical stress
- High inlet cross-section



DRAINAGE SHAFT



IG = internal gradient, **FU** = foundation foot

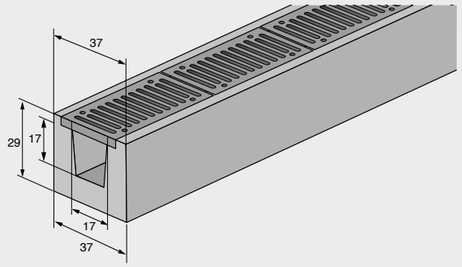
Rinninger RIKI
BETON IN FORM

	Drainage cross-section in cm²	Internal gradient: without	Internal gradient: with	Surface: top level	Surface: slope to slot	with foundation
	●	▬	◢	▬	◡	▬

GRR 17/17 | OE | 37x29

300

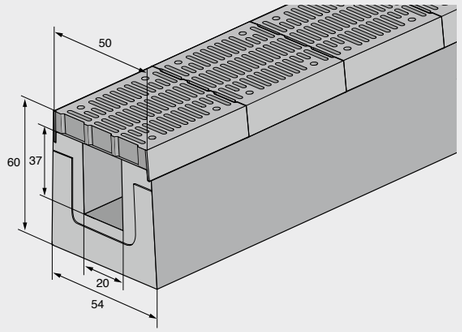
Internal dimensions	Width	17 cm
	Height	17 cm
Outer dimensions	Top width	37 cm
	Bottom width	37 cm
	Height	29 cm
Weight	2,024 kg (4 m)	
Load	F-900	
Fitted lengths	1.00 - 3.50 m in 0.5 m stages	



GRR 20/37 | OE | 50x60

714

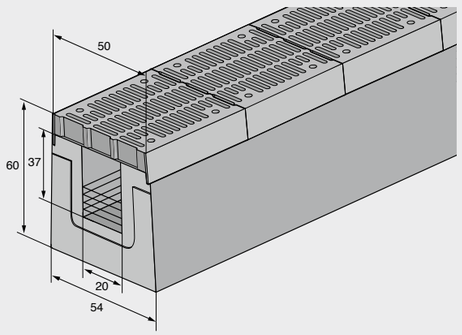
Internal dimensions	Width	20 cm
	Height	37 cm
Outer dimensions	Top width	50 cm
	Bottom width	54 cm
	Height	60 cm
Weight	2,210 kg (4 m)	
Load	F-900	
Fitted lengths	1.00 - 3.50 m in 0.5 m stages	



GRR 20/37 | OE | 50x60 | IG

714-506

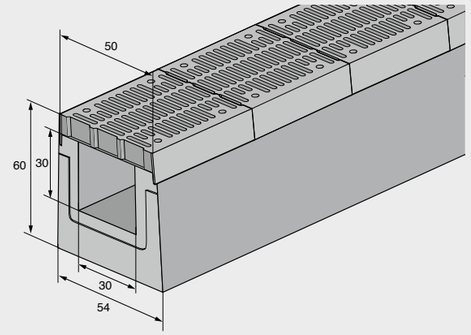
Internal dimensions	Width	20 cm
	Height	37 cm
Outer dimensions	Top width	50 cm
	Bottom width	54 cm
	Height	60 cm
Weight	2,240 kg (4 m)	
Load	F-900	
Fitted lengths	1.00 - 3.50 m in 0.5 m stages	



GRR 30/30 | OE | 50x60

900

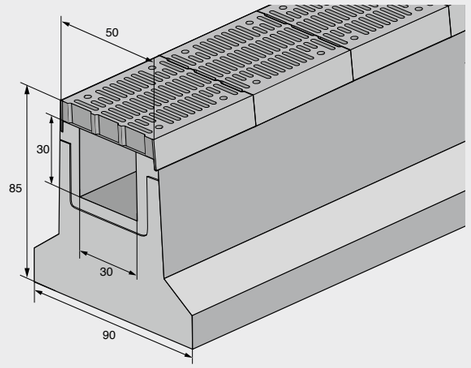
Internal dimensions	Width	30 cm
	Height	30 cm
Outer dimensions	Top width	50 cm
	Bottom width	54 cm
	Height	60 cm
Weight	2,025 kg (4 m)	
Load	F-900	
Fitted lengths	1.00 - 3.50 m in 0.5 m stages	



GRR 30/30 | OE | 50x85 | FU

900

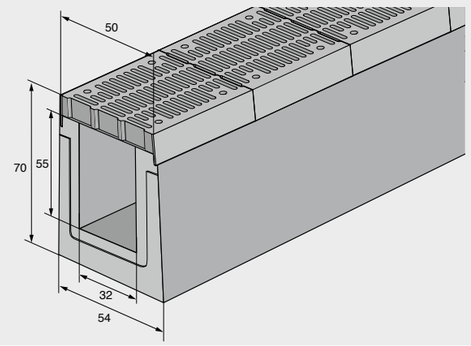
Internal dimensions	Width	30 cm
	Height	30 cm
Outer dimensions	Top width	50 cm
	Bottom width	90 cm
	Height	85 cm
Weight	4,550 kg (4 m)	
Load	F-900	
Fitted lengths	1.00 - 3.50 m in 0.5 m stages	



GRR 32/55 | OE | 50x70

1760

Internal dimensions	Width	32 cm
	Height	55 cm
Outer dimensions	Top width	50 cm
	Bottom width	54 cm
	Height	70 cm
Weight	1,710 kg (4 m)	
Load	F-900	
Fitted lengths	1.00 - 3.50 m in 0.5 m stages	



GGR = cast iron channel, **17/17** = internal cross-section, **OE** = level top, **30x30** = outer dimension, **IG** = internal gradient, **FU** = foundation foot

RIKI trough channels

FOR TRAFFIC AREAS WITH WATER FLOW FLUSH WITH THE SURFACE

Application areas:
- Traffic areas
- Recycling and reusable material companies
- Aviation areas

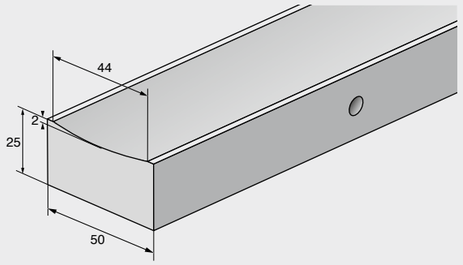
- **No concealed drain cross-section – easy cleaning**
- **Withstands heavy loads**
- **Shallow depth – ideal for areas subject to heavy mechanical loads**
- **Quick and easy installation**
- **Made of high-performance RIKI CETON® concrete**
- **Statically verifiable**
- **Variable surface design (smooth or sandblasted)**

Rinninger RIKI
BETON IN FORM

Drainage cross-section in cm²

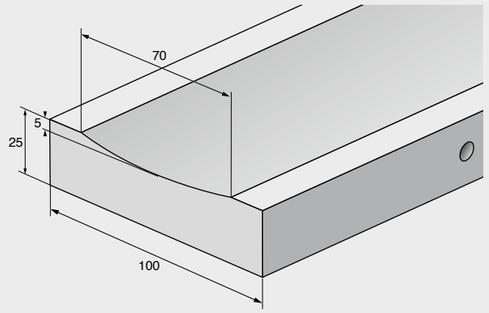
MR 50 — 68

Outer dimensions	Top/bottom width	50 cm
	Trough width	44 cm
	Height	25 cm
Weight	1,185 kg (4 m)	
Load	LM1 pursuant to EC2	
Fitted lengths	1.00 - 3.99 m	



MR 100 — 232

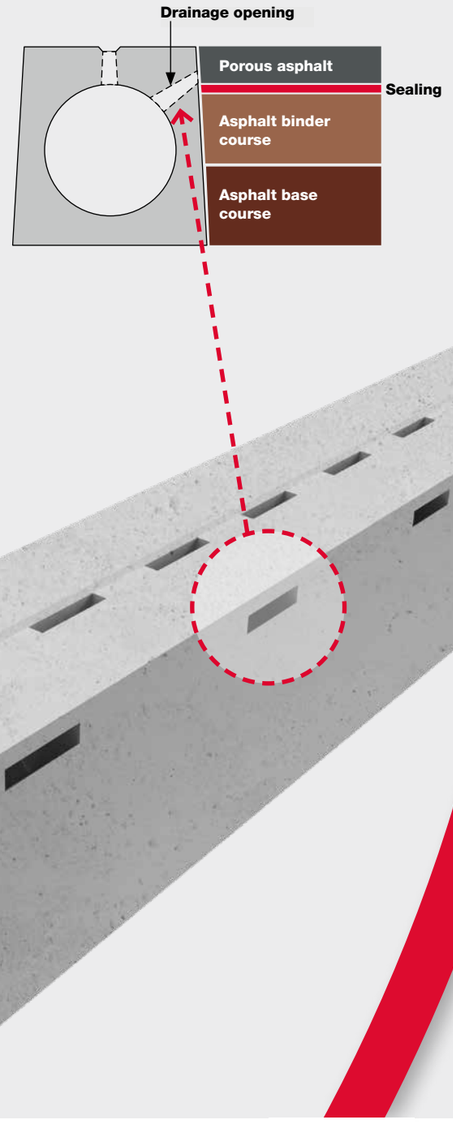
Outer dimensions	Top/bottom width	100 cm
	Trough width	70 cm
	Height	25 cm
Weight	2,270 kg (4 m)	
Load	LM1 pursuant to EC2	
Fitted lengths	1.00 - 3.99 m	



RIKI SLOT DROP® system

OUR PERFECT SOLUTION FOR OPEN-PORED ASPHALT (OPA)

- Special design for RIKI slotted channels with or without a kerb for carriageways with open-pored asphalt (OPA).
- Rapid and safe drainage of rainwater through slots on the surface and, additionally, inlet openings on the side.
- Large inlet cross-section (3.5 x 16 cm) for maximum drainage of surface and seepage water:
  · 75 cm²/m for single-sided design
  · 150 cm²/m for double-sided design
- Hydraulically optimised inflow angle in the area of the OPA layer.
- High frost and de-icing salt resistance – also in the vicinity of the side openings.
- Compatible with the RIKI slotted channel system.



Rinninger RIKI
BETON IN FORM

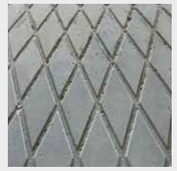
EXTRAS

OPTIONAL – FOR ALL SLOTTED CHANNELS

Surface design

- **Sandblasted | Broom finish:** Increased slip resistance up to R13 through surface treatment


- **Die insert:** Flexible design of the surfaces through use of dies

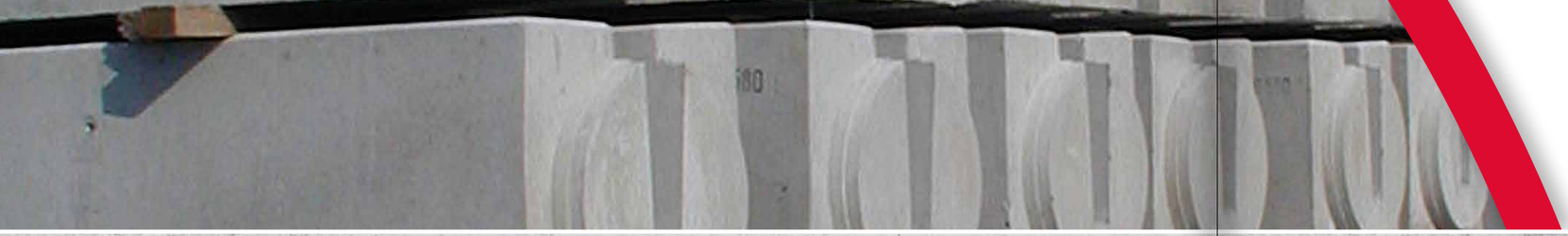



- **Coloured concrete:** Customised solutions through the use of coloured concrete


OPTIONAL – FOR ALL SLOTTED CHANNELS

Slot and edge protection

- Slot and edge protection for increased loads (e.g. due to forklifts). Available in galvanised steel or stainless steel.

RIKI special channels

OUR FLEXIBLE SOLUTIONS FOR SPECIAL APPLICATIONS

If our diverse range of channels does not include the right solution for your project, there's no need to worry.

That's because our specialists will work with you and everyone else involved in the project to develop a customised solution.
Our many years of experience in the area of drainage enables us to meet your special requirements in almost every case.

Box channel, 2-part

- Large drain cross-section
- Special formats possible
- Subsequent inspections possible

V-channel

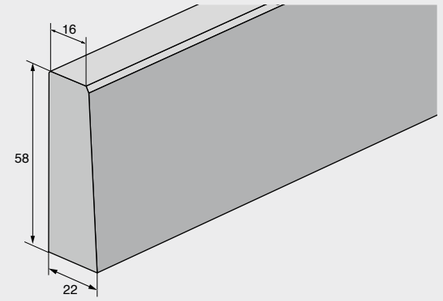
- Mainly used in airport construction (e.g. for snow depots, peripheral areas of runways)
- Major run-in capacity
- Easy to clean

Tunnel kerb

- System component aligned with RIKI channels
- Single-source planning for all components
- Made of high-performance RIKI CETON® concrete
- Variable height and length

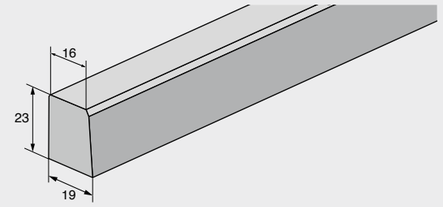
Tunnel kerb type 1

Outer dimensions	Top width	16 cm
	Bottom width	22 cm
	Height	58 cm
Weight	1,140 kg (4 m)	
Fitted lengths	1.00 - 3.99 m	



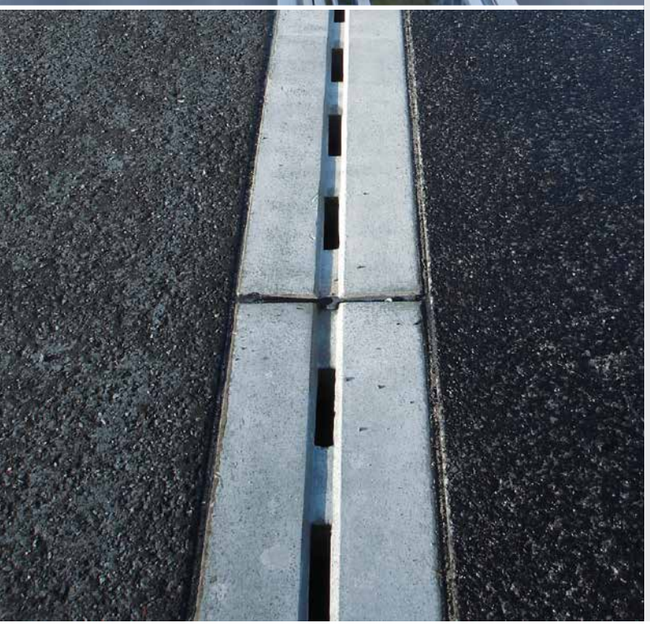
Tunnel kerb type 2

Outer dimensions	Top width	16 cm
	Bottom width	19 cm
	Height	23 cm
Weight	210 kg (1.98 m)	
Fitted lengths	1.00 - 1.97 m	



OUR REFERENCES

Roads & motorways



RIKI slotted channels ensure optimum linear drainage of the carriageway. The risk of aquaplaning is thus minimised as far as possible. High frost and de-icing salt resistance ensures the durability of the slotted channels.

BAB A6 Wiesloch – Weinsberg
12,000 m
- RIKI CETON® PRO SR 20/30, partially SLOT DROP® version
- RIKI CETON® PRO SR 30 H7
- RIKI CETON®PRO SR 30/40, SLOT DROP® version

BAB A7 Göttingen – Hanover
7,000 m
- RIKI CETON® SR 20/30
- RIKI CETON® PRO SR 30

BAB A96 Oberpfaffenhofen – Germering
2,000 m | 6-lane expansion
- RIKI CETON® SR 30/40 FU, partially SLOT DROP® version
- RIKI CETON® SR 30 H7

BAB A3 Leverkusen
1,500 m | 8-lane expansion
- RIKI CETON® SR 20/30

BAB A9 Coswig RF Berlin
- RIKI CETON® SR 30 H7 with and without internal gradient, 2,500 m

BAB A72 Böhlen
- RIKI CETON® PRO SR 30 H7, 6,000 m

BAB A7 AS Kitzingen – AS Rothenburg
- RIKI CETON® PRO SR 30/40, 6,500 m

B – Liege, E25 urban motorway
- RIKI CETON® SR 30 50x52, 3,000 m
- RIKI CETON® SR 30 50x52 H12, 1,000 m

and more

OUR REFERENCES

Airports

© picture alliance / dpa / Christophe Gateau

© picture alliance / dpa / Holger Hollemann

RIKI slotted channels meet all drainage criteria pursuant to the information sheet concerning airport drainage. These drainage systems for SFH facilities ensure that hazardous substances in the vicinity of de-icing or refuelling facilities are drained away in accordance with applicable regulations.

Munich, Franz-Josef-Strauss Airport
Implementation for diverse aprons and terminals
- Special V-channel, 1,000 m
- Special channel, Munich Airport, RIKI CETON® SMART SR 34 with integrated foundation, 3,000 m

Hamburg Airport
Apron renewal
- RIKI CETON® SMART SR 30/40 with integrated foundation, 3,600 m

BE Brussels Airport, Zaventem
Runway refurbishment
- RIKI CETON® SMART SR 30 with integrated foundation, 7,000 m

Athens / Düsseldorf / Frankfurt / Hanover / Wunstorf / ... Various military airfields
Largely designed using individual special solutions, with/without integrated foundation, various drainage cross-sections, with/without German Water Resources Act (WHG) approval

NATO Airport Wittmund
Runway refurbishment
- RIKI CETON® SR 30 IFU, 900 m
- RIKI CETON® SMART SR 30 IFU, 11,000 m

Frankfurt Fraport
Ramp 9 + 12 reconstruction
- RIKI CETON® SMART SR 30 FH 50x52, 700 m
- RIKI CETON® SR 20, 2,100 m

and more

OUR REFERENCES

Industrial areas

On the one hand, RIKI slotted channels meet the requirements for extreme loads in situations in which industrial forklifts are used, for example. However, with the issuing of building approval for SFH systems, they also provide optimum groundwater protection for the drainage of water-polluting substances such as acids, lyes and alkaline solutions, oils and fuels.

Liebherr company, Ehingen
- Special GRR 20/37 channel with internal gradient and integrated foundation (extreme load due to tracked vehicles), 250 m
- RIKI CETON® SR 20 with full-surface stainless steel plating for extreme mechanical loads, approx. 1,000m
  > see image below on left

Liebherr company, Dettingen
- Special RIKI CETON® SR 30/55 channel with integrated foundation, 150 m line length without drainage, conveying channel with large drainage cross-section
- Special GRR 32/55 channel, 150 m line length without drainage, conveying channel with large drainage cross-section

WDI company, Hamm
- RIKI CETON® SR 20/30, 400 m

Bima Materialdepot company, Zeithain
- RIKI CETON® SR 20/30 reach stacker with slot protection

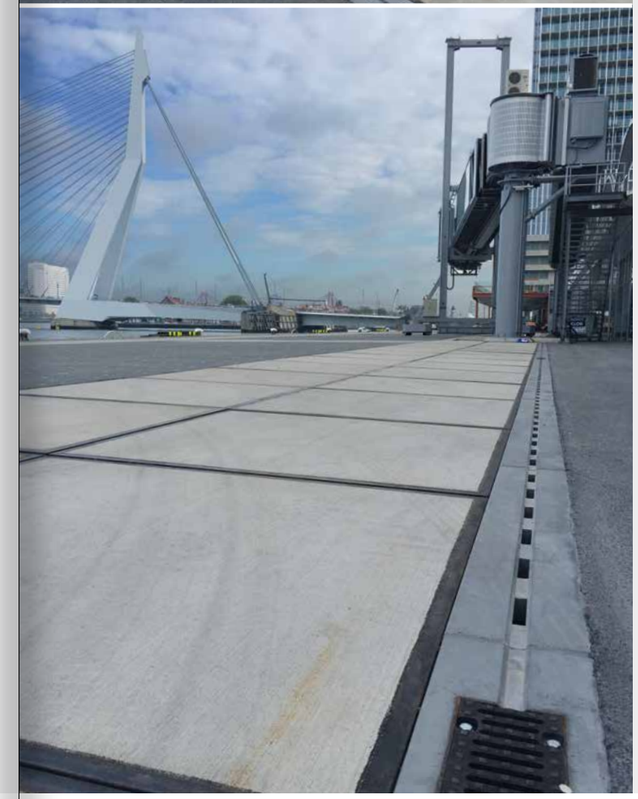
NL-Steunpunten (salt store)
- RIKI CETON® SMART SR 20

Den Bosch 220 m, Zevenaar 230 m, Staphorst 120 m

and more

OUR REFERENCES

Inland ports & seaports



RIKI slotted channels offer high safety assurance levels when installed in traffic areas subject to extremely high loads. Special solutions for larger forklifts (e.g. reach stackers) ensure reliable and enduring drainage in this manner.

Rostock, Overseas Port
- RIKI CETON® SR 20/30 with integrated foundation, 2,000 m

Cuxhaven, Elbhafen Grodener Wettern port
- RIKI CETON® SR 20/30 reach stacker, 800 m

Saarlouis-Dillingen, Saarhafen Am Südkai port
- RIKI CETON® SR 30, 650 m

Riesa, Binnenhafen Döllnitz inland port
- RIKI CETON® SR 30 reach stacker, 100 m

Mukran, ferry port
- RIKI CETON® SR 30, 200 m

Kiel, Ostuferhafen port
- RIKI CETON® SR 20, 180 m

Aken, Elbhafen port
- RIKI CETON® SR 30, 1,000 m

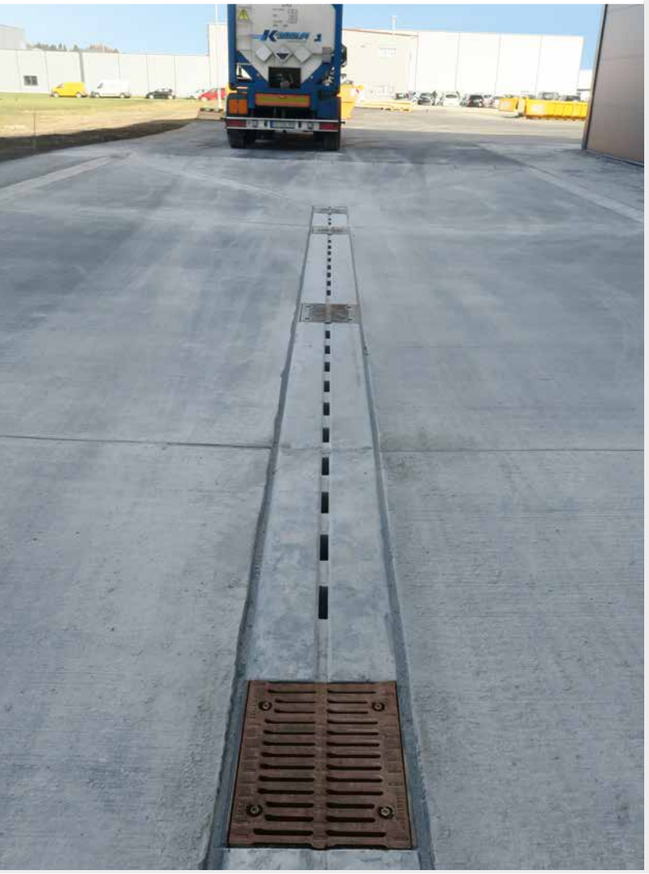
Regensburg Bayernhafen port
- RIKI CETON® SR 20/30 OE FU for reach stackers, 300 m
- RIKI CETON® SR 20/30 OE IG, 250 m

Straubing KV-Terminal combined transport terminal
- RIKI CETON® SR 30 50x70 FU, 700 m

and more

OUR REFERENCES

Filling stations



RIKI slotted channels have a general building approval for SFH systems. This means that they are resistant to hazardous substances and, consequently, ideal for use at filling stations. High-quality concrete materials guarantee durability and ensure groundwater protection. Traffic safety is also improved as a result, as any precipitation occurring can be speedily drained away.

Visselhövede, Hoyer Tankanlage filling station
- RIKI CETON® SMART SR 20, 200 m

Fulda Nord, Autohof service station
- RIKI CETON® SMART SR 30, 220 m

BAB A5 Bühl, filling and service station
- RIKI CETON® SMART SR 30, 1,000 m

Nattheim, Total-Tankstelle filling station
- RIKI CETON® SMART SR 30, 100 m

Various smaller filling stations (petrol stations): Berlin, Dresden, Fulda, Karlsruhe, Kempten, Landau, Stuttgart, Wolfsburg, …

and more

OUR REFERENCES

Logistics areas

RIKI slotted channels with a level surface ensure optimum accessibility for vehicles. This is particularly helpful in the case of forklift trucks transporting heavy loads.

Bremen, Koblenz, Lohfelden, Neumünster, Öhringen, etc. Dachser Spedition freight-forwarding company
- RIKI CETON® SR 30, 500 m
- RIKI CETON® SR 30 with internal gradient, 1,000 m
- RIKI CETON® SR 30/40, 500 m
- Special components

Kamen, Logistikpark Fa. Gleeds logistics park
- RIKI CETON® SR 20/30, 1,100 m

Achim / Gersthofen / Mönchengladbach, Amazon
- RIKI CETON® SR 20, 800 m
- RIKI CETON® SR 30, 800 m

Oranienburg, Rewe
- RIKI CETON® SR 20/30, 30 m
- RIKI CETON® SR 30 H 15, 300 m
- RIKI CETON® SR 30/40, 250 m

Rastatt, Logistikhalle Am Rotacker logistics warehouse
- RIKI CETON® SR 30, 900 m

Aschheim, Augsburg, Bochum, Bremen, Hanover, Leipzig, etc. DHL parcel centres
- RIKI CETON® SR 20, 600 m
- RIKI CETON® SR 20/30, 350 m
- RIKI CETON® SR 30, 850 m / 1,200 m / 650 m / 900 m
- RIKI CETON® SR 30 H15, 100 m / 250 m / 250 m

and more

Tunnels

RIKI slotted channels provide invaluable services in tunnels. Here, hazardous substances and flammable liquids are safely diverted and drained away with special baffle shafts.

Hessisch-Lichtenau, Tunnel Hirschhagen
- RIKI CETON®-PRO SR 30 H3, 7,000 m

Oberau, Garmisch-Partenkirchen, bypass tunnel
8,000 m
- RIKI CETON® SR 30/40 H3
- RIKI CETON® SR 30/45 H3
- Special channel RIKI CETON® SR 30/55 H3
- Channel with releasing mechanism for support manhole cover

Bremerhaven, harbour tunnel
2,000 m
- RIKI CETON® SR 30 H3
- RIKI CETON® SR 30/40 H3

Friedrichshafen-Waggershausen, bypass tunnel
- RIKI CETON® SR 30 H7, 1,000 m

Dinkelsbühl, Virngrund Tunnel BAB A7 motorway
- RIKI CETON® SR 30/40 IFU, 1,200 m

Vötting-Freising, bypass tunnel
- RIKI CETON® SR 30 H3, 1,000 m

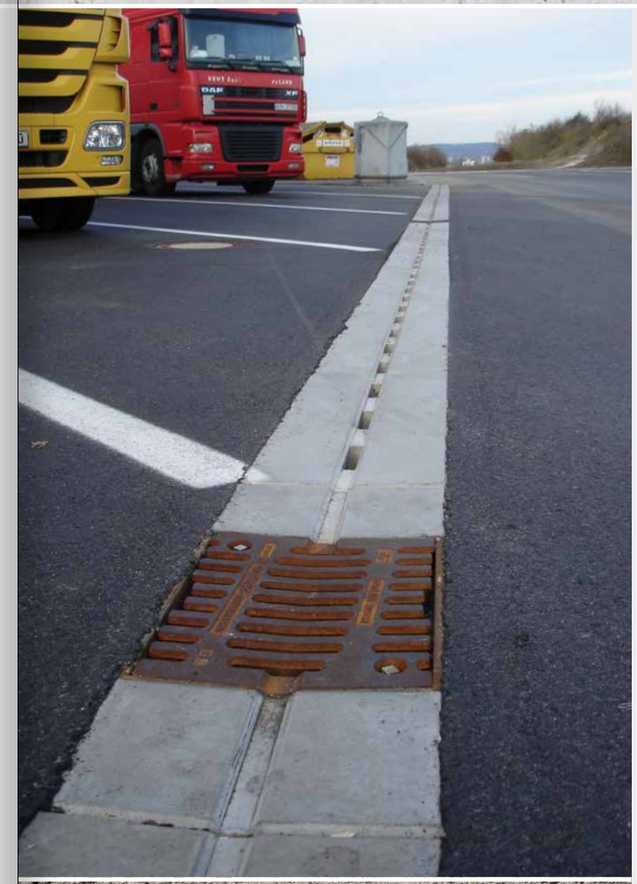
Pforzheim, Arlinger Tunnel
- RIKI CETON® SR 30/40 H3, 1,000 m

A44, Alberberg Tunnel
2,000 m
- RIKI CETON® SR 30
- RIKI CETON® PRO SR 30 H3

Hamburg-Altona, BAB A7 motorway
- RIKI CETON® SR 30/40 H3, 4,500 m

and more

Car parks



RIKI slotted channels ensure dependable drainage of large areas for pedestrians and vehicles. In addition to providing a high degree of safety, slotted channels with monolithic moulded kerbs in these areas represent a sophisticated overall solution, both technically and in terms of their appearance.

Gersthofen, AMAZON
- RIKI CETON®-PRO SR 20, 600 m

Essen, Zollverein-Parkplatz BAB A2 motorway
- RIKI CETON® SR 30/40, 350 m

Essen, WRL car park
- RIKI CETON® SR 30, 300 m

Coburg, main car park of Kaeser company
- RIKI CETON® SR 30, 750 m

Regensburg, new ARENA car park construction
- RIKI CETON® SR 30, 200 m
- RIKI CETON® SR 30/40 H3, 150 m

and more

FURTHER PRODUCTS FROM OUR CIVIL ENGINEERING RANGE

RIKI amphibian protection systems

Amphibian protection = species conservation

Migrating amphibians need to cross roads inmany places to reach their spawning grounds. Given the density of the road network in Central Europe, it is essential that migrating amphibians be protected on roads. New road construction projects, particularly for urban bypasses, frequently cut through amphibian habitats which, to date, had been free of such impediments. Equally, the increase in road traffic on formerly quiet routes often results in an increase in amphibians being run over by vehicles.

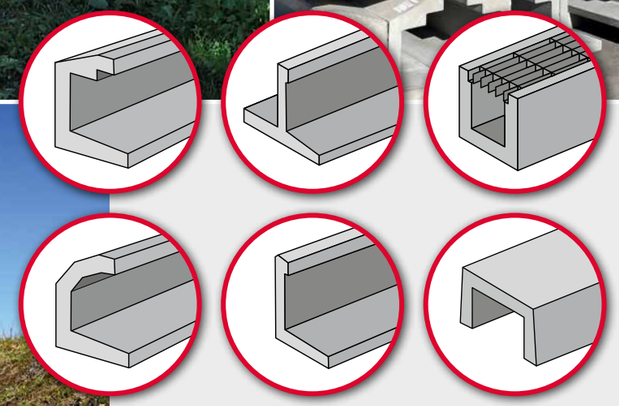
A permanent protective system not only ensures that amphibians have a safe route to their spawning grounds; it also protects young animals after they emerge and during migration, providing a good basis for a successful amphibian population strategy.

- Sturdy design
- Few individual elements
- A proven design
- Structurally verified
- Durable and resistant to rotting

Our amphibian protection products:

- Guide stones
- Stop channels and reversal elements
- Passage elements and tunnels for small animals
- Portals

We are a full-service provider with system expertise – a veritable one-stop shop!



Our comprehensive product brochure can be viewed on our website at www.rinninger.de under Downloads, or you can order our brochure via email.

FURTHER PRODUCTS FROM OUR CIVIL ENGINEERING RANGE

RIKI rectangular profiles
RIKI shaft structures

We know how it's done!

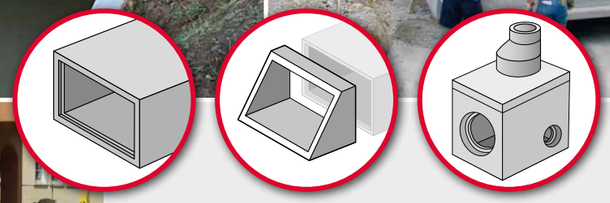
We know how it's done! When it comes to special concrete products, nobody can pull the wool over our eyes. On the contrary, we specialise in customised designs that meet customer requirements and can be manufactured with any desired geometry. Two aspects are particularly important for us in this respect.

Firstly, a perfect solution tailored to suit the customer and, secondly, consideration of the costs involved. That's because the design of our customised constructions with a high level of precision, as well as the accompanying guidance and advice, should remain cost effective, despite everything being made to order. We therefore ensure that installation times are kept short and installation costs remain predictable.

- Cost-effective sewer solutions for rainwater, wastewater and sewer overflows
- High drainage cross-sections
- Low installation depths
- Minimised covering
- Flexible size matrix
- Resistant to pressurised water; stable connection
- Simple and speedy installation

Application areas:

- Channels with minimised covering
- Bridge projects
- Sewer overflow
- Infrastructure ducts
- Ventilation ducts
- and much more.



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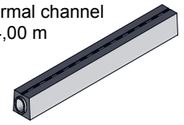
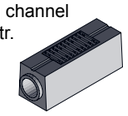
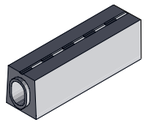
Slotted channel order form

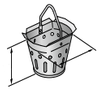
Building project				Channel type		Class	
				Channels with internal slope see page 2		RIKI-SLOT-DROP® (OPA)	
Offer number		Order number		Order date		Desired delivery date	

	Name	Street	Postcode	Town
Retailer				
Client/ Contractor				
Construction site address				

	Name	Telephone/mobile	E-mail
Site manager			
Polisher			

Remarks		Date		Signature	

Designation	Quantity/piece	Quantity/rm.
Normal channel l=4,00 m 		
Drainage shaft l=1,00 m 		
Outlet PP DN		
Outlet PE HD DA		
Cleaning channel l=1,00 mtr. 		
Fitting channel Please specify length 	1.	
	2.	
	3.	
	4.	
	5.	
	6.	
End plate pointed 		
End plate sleeve 		

Designation		Quantity/piece	
Floor part Connection PVC		DN 150	
		DN 200	
		DN 300	
Intermediate ring H30 with fold for SR20 a. SR20/30 - 32x45 cm			
Intermediate ring H20 with fold			
Bucket			
Bucket, narrow for SR20 a. SR20/30 - 32x45 cm			

Assembly material		Quantity/ piece
Transfer hanger		
Lubricant	5 kg / Bucket	
Assembly stop 8 mm	100 Stk./ Bag	
Adhesive tape	10 m / Role	
PE Round cord Thickness 1 cm	100 m / Role	
Primer for joint sealant	250 ml / Can	
Joint sealant 1K	600 ml / Tubular bag	
Manual cartridge press	for tubular bag	

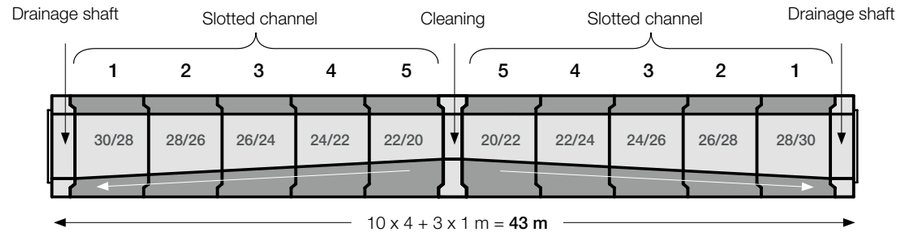
Rinninger RIKI
BETON IN FORM

ORDER FORM

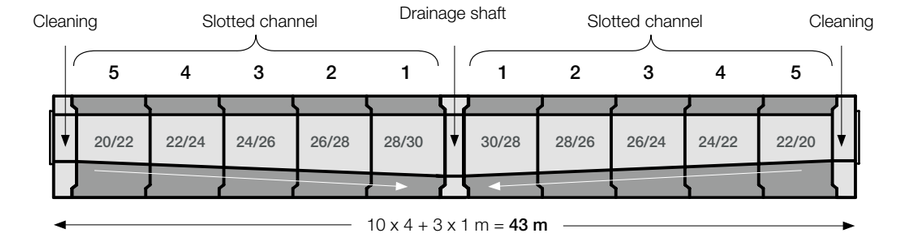
Building project				Channel type		Class	
Offer number		Order number		Order date		Desired delivery date	

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

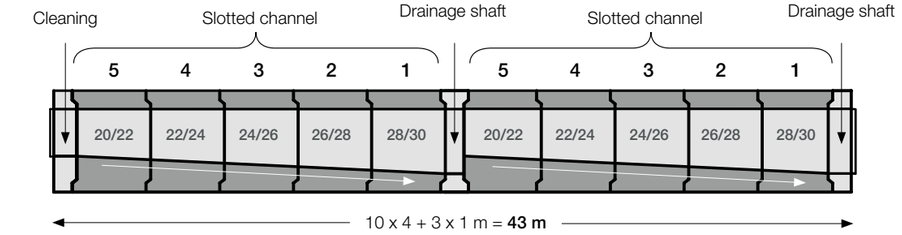
A



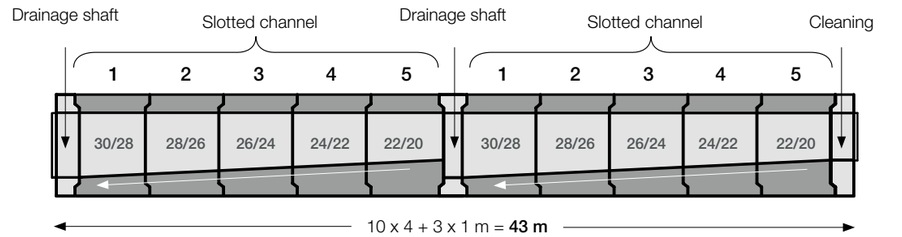
B



C



D



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!

The order form can also be downloaded at: www.rinninger.de > Download > Order forms

Rinninger RIKI
BETON IN FORM

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Please also visit our website. You will find detailed product, project and company information, draft tenders, data sheets and brochures on our website.

www.rinninger.de

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Concrete in shape – with tradition and know-how

As a fourth-generation family enterprise, we stand for innovation, expertise and reliability. With 220 employees and a company history that goes back more than 110 years, we are invested in concrete as a sustainable construction material, and in its versatility as regards application options. Our modern and efficient facilities develop and manufacture high-quality concrete elements and prefabricated components for every area of construction. Our services are comprehensive, encompassing everything from planning to realisation and competent professional advice as an integral part of our quality philosophy, and this is reflected in the success we enjoy all over Europe.