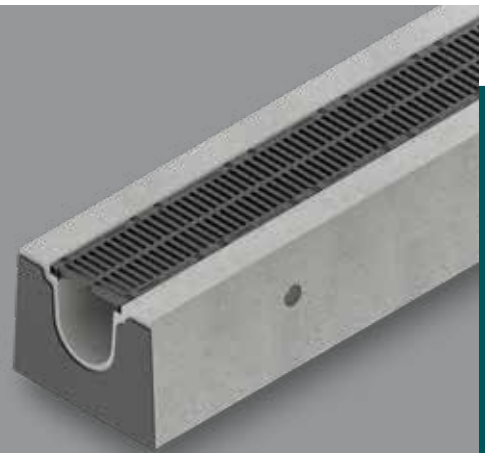




DRAIN



FASERFIX BIG BLS

**Precast reinforced
concrete drainage channels.**

Frankfurt Airport





Requirements for FASERFIX BIG BLS channels and how they are met.

4



Application areas of the FASERFIX BIG BLS

6



FASERFIX BIG BLS

Precast reinforced concrete drainage channels.

8

FASERFIX BIG BLS

Precast reinforced concrete drainage channels.

1 Requirements

- Compliance with DIN EN 1433
- Suitable for installation in SFH facilities
- Consideration of maximum wheel and axle loads
- Consideration of a representative load change
- Consideration of thermal loads
- Consideration of corresponding mechanical soil parameters
- Load-bearing capacity and serviceability check for channel and foundation construction
- Proof of tightness according to DAfStb guideline BUMwS
- Comprehensive consideration of the channel, foundation and joint design

3 Application areas

- Generally all concrete road surfaces
- SFH facilities
- Aircraft operation areas
- Port facilities/container terminals
- Container terminals with „ReachStacker“ loads
- Industrial and logistics areas
- Channel drainage
- Heavy traffic areas in combination with rainwater treatment

2 Solution

This is why **FASERFIX BIG BLS** channels are suitable for the drainage of heavy traffic areas:

- Solid channels made of liquid-tight concrete as prefabricated reinforced concrete element in strength class C60/75
- Tested statics for channel and foundation design with four different traffic loads
- All verifications are part of the general building authority approval no. Z-74.4-141
- ASR-resistant
- Corrosion-protected edge frames made of galvanised or stainless steel
- Gratings made of ductile iron EN-GJS in classes D 400, E 600 and F 900 according to DIN EN 1433
- Particularly secure hold of the grating in the edge frame due to 40 mm insertion depth
- Nominal widths of 200 and 300 mm
- SIDE-LOCK screwless quick-release fastener with additional 8-fold screwing possibility per metre
- PE expansion joint plate at each channel joint in the factory

Airfields



Frankfurt Airport

Industrial and Logistics Areas



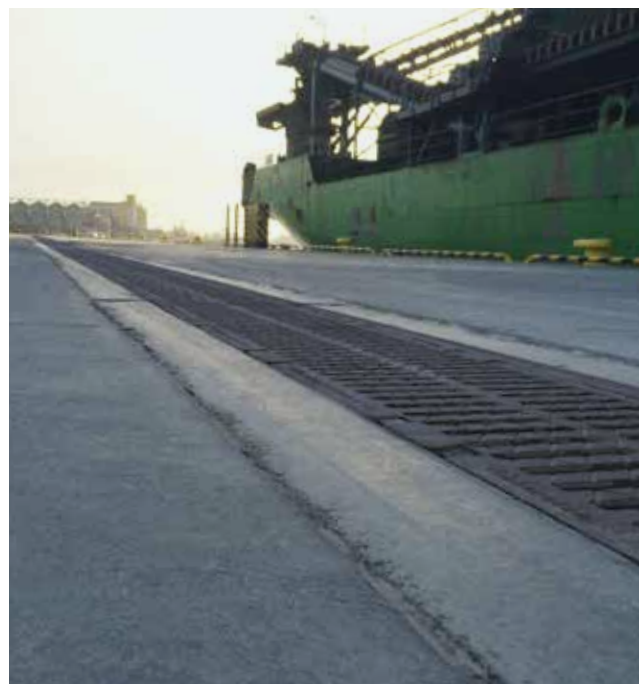
Logistics Centre Poland

Heavy Duty Traffic Areas in Combination with Rainwater Treatment



Industrial Area Poland

Port Facilities



Gdansk Port

FASERFIX BIG BLS

Application areas of the FASERFIX BIG BLS.

**Load approach: Load model 1 - lane 2 & SLW 60
with axle load of 20 tons.**

Type 030 - 035



SFH Facility Container Terminal without Reachstacker



Port in Regensburg

**Load approach: according to LCN 50
with axle load of 46 tons (747 - 400).**

Type 040 - 045



B 747 - 400



Sofia Airport, De-icing Area



Budapest Airport

**Load approach: according to LCN 70
with axle load of 64.66 tons (A 350 - 900).
Type 060 - 065**



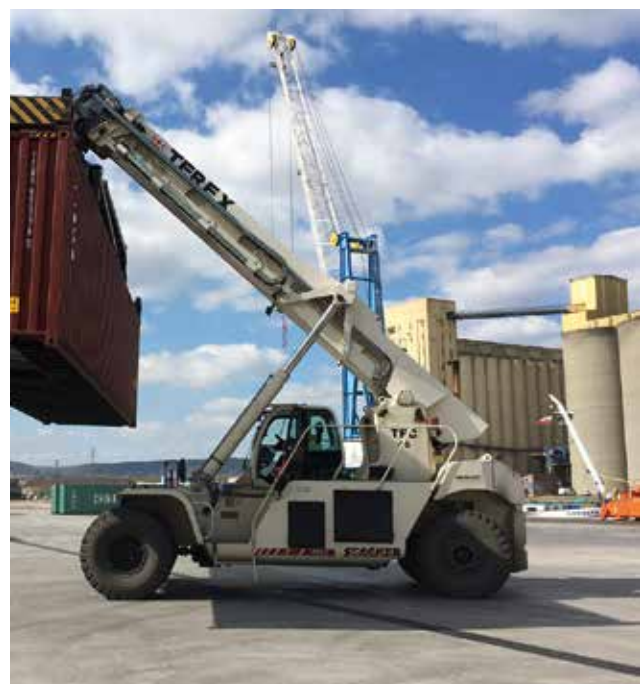
Frankfurt Airport



**Load approach: „Reach Stacker“
with axle load of 100 tons.
Type 070 - 075**



Port in Paris



Port in Metz

FASERFIX BIG BLS

Precast reinforced concrete drainage channels.

Special drainage requirements of the intermodal transport terminal KVT 3 of BASF in Ludwigshafen

Fit for the future with FASERFIX BIG BLS

Products from the chemical industry require modern areas for the handling of goods that meet particularly high quality standards. The third construction phase of the BASF intermodal transport terminal at the Ludwigshafen site is an example of this and is a pioneer in terms of innovation and safety. To ensure that the drainage solutions for the terminal also meet the requirements of such a facility, BASF opted for the specialist HAURATON.

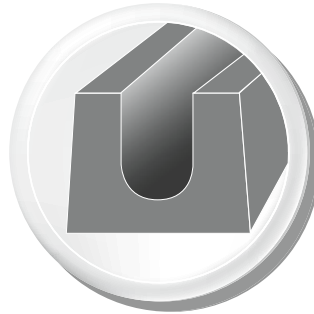
Benefits of the FASERFIX BIG BLS channels for BASF in Ludwigshafen:

- Cost savings due to fast assembly of the prefabricated reinforced concrete elements with construction lengths of 4 and 5 metres
- Safety due to proof of load-bearing capacity and serviceability for installation in SFH facilities
- Cost savings through reduction of joint sealant consumption
- Safety through proof of tightness according to DAfStb guideline BUMWS3 for installation in SFH facilities
- Safety due to second drainage level on both sides





The Benefits of the FASERFIX BIG BLS Channel



Prefabricated reinforced concrete element Type I according to EN 1433

- Formwork, reinforcement and in-situ concrete work are omitted
- Savings of 2 m sealing joint per channel metre

= Cost Minimisation

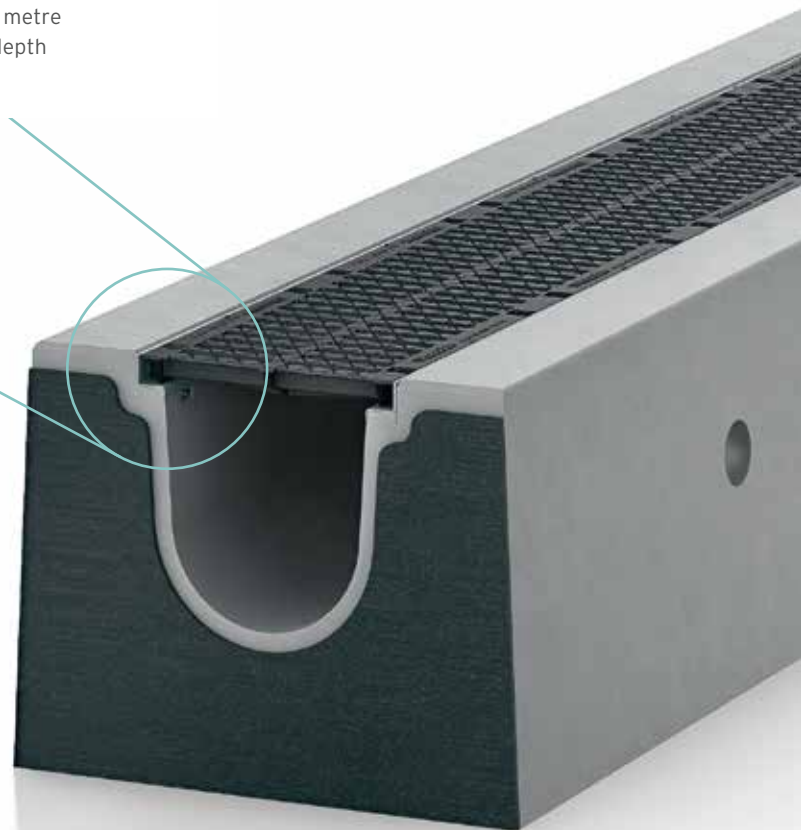


40 mm

Edge frames

- 16-fold fixation option of grating per metre
- 40 mm inlay depth

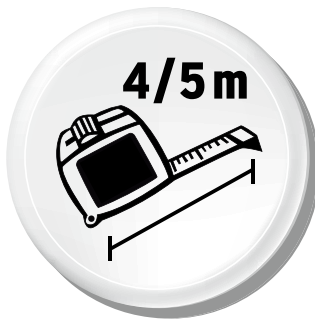
= Safety



Factory-assembled PE expansion joint insert

- Full-surface absorption of thermal stresses in the longitudinal direction
- Stop edge for the PE round cord of the sealing joint

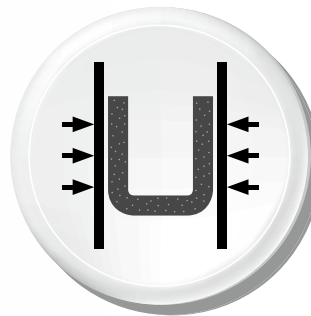
= Safety



Component in 4 and 5 m lengths

- High installation performance
- 75 % or 80 % fewer channel butt joints (comparison to 1 metre overall length)

= Cost Savings



Material: liquid-tight concrete

- Highest load capacity due to strength class C60/75
- Exposure class: XF4, XC4, XM2, XD3, XA2
- Liquid-tight

= Safety



Verifications and approvals

- Tested statics of channel construction and foundation design
- With general building inspection approval (abZ) by the DIBt (Z-74.4-141 - 2021)
- With ASR Performance Test

= Safety/Cost Savings

FASERFIX BIG BLS

Precast reinforced concrete drainage channels.

FASERFIX BIG BLS channels comply with DIN EN 1433 and are suitable for use in the following load classes:



Axle load of 20 tons



Axle load of 46 tons



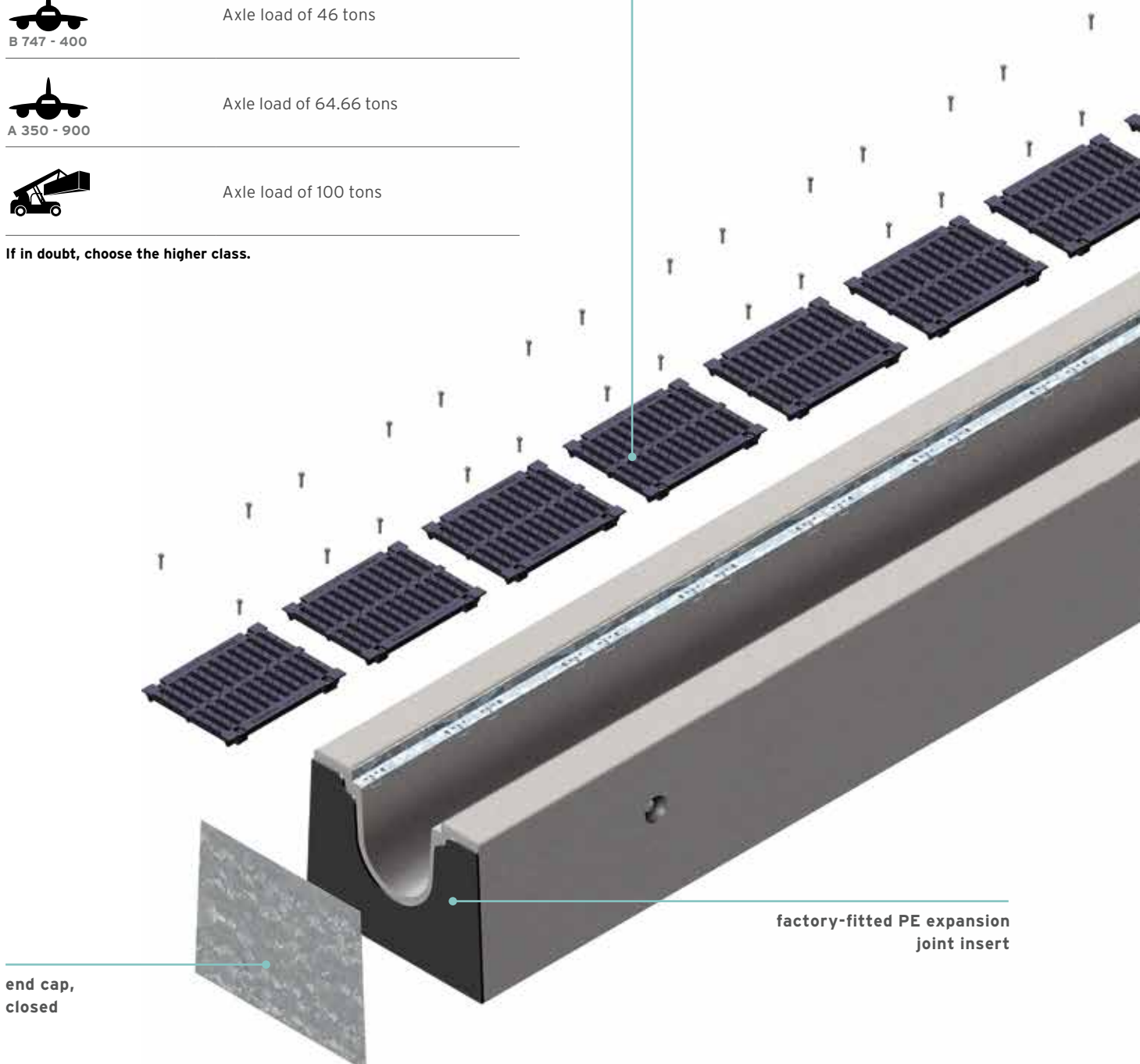
Axle load of 64.66 tons



Axle load of 100 tons

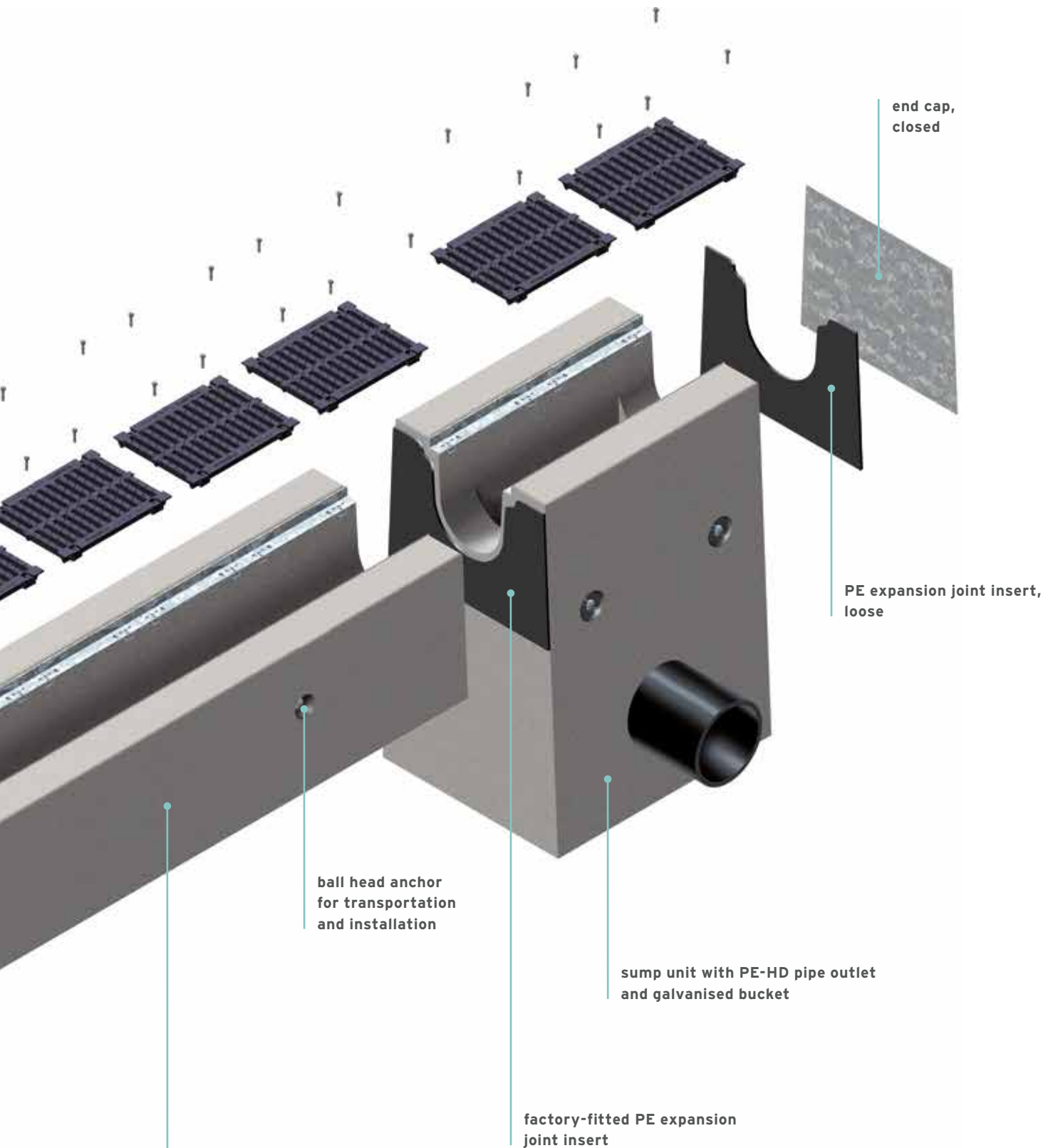
If in doubt, choose the higher class.

Grating made of ductile iron EN GJS-500-7, black, with eightfold quick-locking system SIDE-LOCK and additional eightfold screwing option per metre



end cap,
closed

factory-fitted PE expansion
joint insert



Prefabricated reinforced concrete element made of liquid-tight concrete, strength class C60/75 with galvanised or stainless steel edge frame. 16-fold locking option by means of quick-locking system SIDE-LOCK and additional screwing option. Overall lengths 4 and 5 m.

FASERFIX BIG BLS

Load classes and design basis.





FASERFIX BIG BLS 200/300

Load classes and design basis

Channel system	FASERFIX BIG BLS 200/300			
Channel type	Type 030 + 035	Type 040 + 045	Type 060 + 065	Type 070 + 075
EN 1433	F 900	F 900	F 900	F 900
LCN according to ICAO	LCN 20	LCN 50 (B 747 - 400)	LCN 70 (A 350 - 900)	LCN 110
BFZ according to ADV	BFZ 90	BFZ 350	BFZ 750	BFZ 750
Applied traffic load	20 Tons	46 Tons	64,66 Tons	100 Tons
SLW according to DIN 1072	SLW 60	SLW 60	SLW 60	SLW 60

FASERFIX BIG BLS 200/300

Overview of channel

Channel system	FASERFIX BIG BLS			
Load class	LCN 20 	LCN 50  B 747 - 400	LCN 70  A 350 - 900	LCN 110 
NW 200 - 4 m	Type 030	Type 040	Type 060	Type 070
NW 200 - 5 m	Type 035	Type 045	Type 065	Type 075
NW 300 - 4 m	Type 030	Type 040	Type 060	Type 070
NW 300 - 5 m	Type 035	Type 045	Type 065	Type 075

Security in Planning

As a partner, HAURATON offer planners the greatest possible planning reliability. Products and processes are permanently monitored and are subject to strict quality requirements.

The statics of the channels and the foundation design have been tested in accordance with the general building authority approval.

Standards, Approvals and Warranties

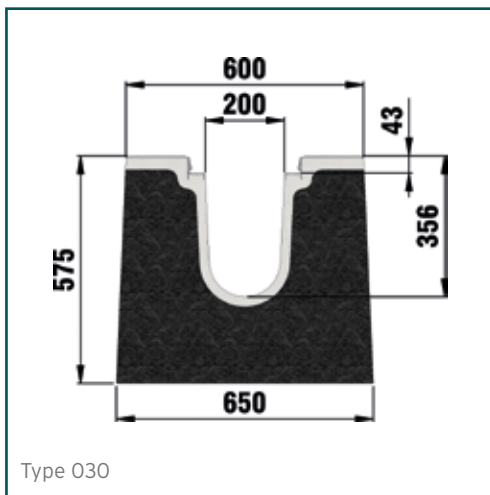
- Channels certified according to DIN EN 1433 and DIN 19580
- Test certificates from external institutes
- CE marking
- Quality certification according to DIN EN ISO 9001:2015
- General building authority approval no. Z-74.4-141
- Excellent values for alkali-silica reaction (ASR)



FASERFIX BIG BLS 200



The different types of the FASERFIX BIG BLS 200 differ only in the reinforcement.



FASERFIX BIG BLS 200

Channels

FASERFIX BIG BLS 200 load approach:

Load model 1 - Lane 2 & SW 60
with an authorised axle load of 20 tons

Type 030 - 035

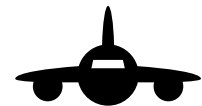


	Length mm	Width mm	Height mm	Internal channel cross-sect. cm ²	Weight kg	Item-No. galvanised	Item-No. stainless steel
Type 030	4000	600	575	552	2754,00	3746	3753
Type 035	5000	600	575	552	3442,00	3725	3726

FASERFIX BIG BLS 200 load approach:

according to LCN 50
with an authorised axle load of 46 tons (747 - 400)

Type 040 - 045



B 747 - 400

	Length mm	Width mm	Height mm	Internal channel cross-sect. cm ²	Weight kg	Item-No. galvanised	Item-No. stainless steel
Type 040	4000	600	575	552	2763,00	3721	3722
Type 045	5000	600	575	552	3454,00	3730	3731

FASERFIX BIG BLS 200 load approach:

according to LCN 70
with an authorised axle load of 64,66 tons (A 350 - 900),

Type 060 - 065



A 350 - 900

	Length mm	Width mm	Height mm	Internal channel cross-sect. cm ²	Weight kg	Item-No. galvanised	Item-No. stainless steel
Type 060	4000	600	575	552	2773,00	3704	3705
Type 065	5000	600	575	552	3467,00	3708	3709

FASERFIX BIG BLS 200 load approach:

„ReachStacker“ with an authorised axle load of 100 tons

Type 070 - 075



	Length mm	Width mm	Height mm	Internal channel cross-sect. cm ²	Weight kg	Item-No. galvanised	Item-No. stainless steel
Type 070	4000	600	575	552	2823,00	3711	3712
Type 075	5000	600	575	552	3495,00	3718	3719

FASERFIX BIG BLS 200

Gratings

FASERFIX BIG BLS 200, Class D 400

Ductile iron grating, SW 170/18 mm, black, with plastic caps, 0,5 m

Ductile iron grating, SW 170/18 mm, black, KTL-coated, with plastic caps, 0,5 m

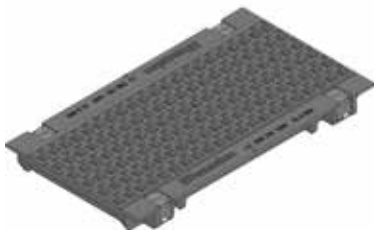


	Length mm	Width mm	Height mm	Intake cross-sect. cm ² /m	Weight kg	Item No.
Ductile iron grating, SW 170/18 mm, black, with plastic caps, 0,5 m	500	279	40	833	9,60	3063
Ductile iron grating, SW 170/18 mm, black, KTL-coated, with plastic caps, 0,5 m	500	279	40	833	9,60	3863

FASERFIX BIG BLS 200, Class E 600

GUGI-Ductile iron mesh grating MW 15/25 mm, black, with plastic caps, 0,5 m

GUGI-Ductile iron mesh grating, MW 15/25 mm, black, locked, KTL-coated, with plastic caps, 0,5 m



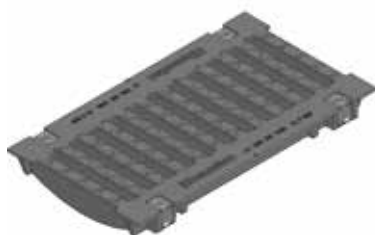
	Length mm	Width mm	Height mm	Intake cross-sect. cm ² /m	Weight kg	Item No.
GUGI-Ductile iron mesh grating MW 15/25 mm, black, with plastic caps, 0,5 m	500	279	40	818	12,65	3068
GUGI-Ductile iron mesh grating, MW 15/25 mm, black, locked, KTL-coated, with plastic caps, 0,5 m	500	279	40	818	12,60	3868

FASERFIX BIG BLS 200

FASERFIX BIG BLS 200, Class F 900

Ductile iron grating SW 20 mm, black, with plastic caps, 0,5 m

Ductile iron grating, SW 20 mm, black, KTL-coated, with plastic caps, locked, 0,5 m

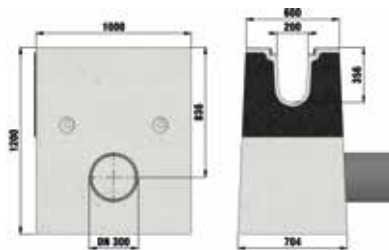


	Length mm	Width mm	Height mm	Intake cross-sect. cm ² /m	Weight kg	Item No.
Ductile iron grating SW 20 mm, black, with plastic caps, 0,5 m	500	279	40	833	13,60	3061
Ductile iron grating, SW 20 mm, black, KTL-coated, with plastic caps, locked, 0,5 m	500	279	40	833	13,70	3861

FASERFIX BIG BLS 200

Accessories

Trash box



Trash box, one-piece, with galvanised angle housing, with laterally encased in concrete masonry collar and PE-HD outlet DN/OD 315 SDR 17, 1,0 m

	Length mm	Width mm	Height mm	Weight kg	Item-No. galvanised	Item-No. stainless steel
Trash box, one-piece, with galvanised angle housing, with lateral PVC-U socket DN/OD 315 encased in concrete, 1,0 m	1000	600	1200	1518,00	3757	3759
Trash box, one-piece, with galvanised angle housing, with laterally encased in concrete masonry collar and PE-HD outlet DN/OD 315 SDR 17, 1,0 m	1000	600	1200	1518,00	3765	3766

End caps



End cap closed, galvanised, suitable for all channel types BLS 200

	Length mm	Width mm	Height mm	Weight kg	Item-No. galvanised	Item-No. stainless steel
End cap closed, galvanised, suitable for all channel types BLS 200	-	600	575	5,37	3784	3785
Joint plate (DIBt) made of PE for FASERFIX BIG BLS 200 type H, 10 mm	-	603	540	0,17	3748	-

FASERFIX BIG BLS 200

Further accessories



Sealing material Sikaflex Tank N, poly-tube bag 600 ml**



Philipp Spherical Head Lifting Clutch, 80-HKD-025, galvanised, 4 pieces per construction site required - due to security reasons no return can be made

	Length mm	Width mm	Height mm	Weight kg	Item No.
Hexagon bolt with locking teeth, steel, M10 x 50	-	-	-	0,06	33100
Sealing material Sikaflex Tank N, poly-tube bag 600 ml**	-	-	-	1,00	19050
Primer Sikaflex 215, 1000 ml	-	-	-	1,00	19055
Sika round cord PE, made of closed-cell polyethylene foam for joint backfilling according to DIN 18 540, d=13 mm, for joint application according to DIN EN 1433, consumption for NW 200 = 1,150 mm, for NW 300 = 1,200 mm	-	-	-	0,01	19056
Sika round cord PE, made of closed-cell polyethylene foam for joint backfilling according to DIN 18 540, d=15 mm, for joint application according to WHG - LAU - plants, consumption for NW 200 = 1.150 mm, for NW 300 = 1.200 mm	-	-	-	-	19057
Philipp Spherical Head Lifting Clutch, 80-HKD-025, galvanised, 4 pieces per construction site required - due to security reasons no return can be made	-	-	-	1,52	707

Channel system	Joint length	Joint application	Material requirement per channel butt joint			
			PE round cord Ø 13 mm	PE round cord Ø 15 mm	SIKAFLEX Tank N	SIKAFLEX Primer 215
BIG BLS 200	1.150 mm	DIN EN 1433 *	1.150 mm	-	120 ml	15 ml
		SFH facilities **	-	1.150 mm	170 ml	

* Joint dimension 10 x 10 mm

** Joint dimension 12 x 12 mm

Note: The quantities given above are based on the joint dimensions.
Consumption may vary depending on ambient temperatures and local conditions.

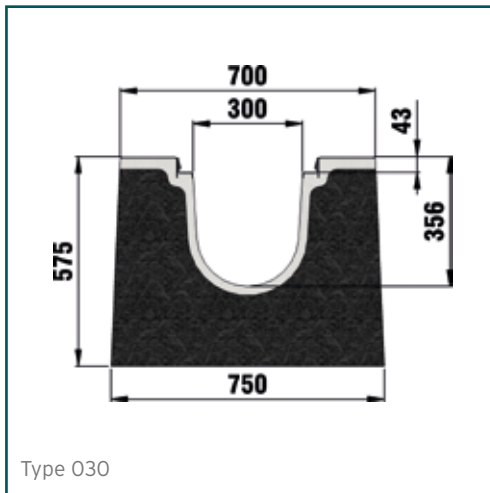
Factory-made services

	Length mm	Width mm	Height mm	Weight kg	Item No.
Allowance for factory adjustment of the overall length of the ductile iron grating	-	-	-	-	3777
Allowance for factory miter adjustment of ductile iron grating including welded edge trim	-	-	-	-	3778

FASERFIX BIG BLS 300



The different types of the FASERFIX BIG BLS 300 differ only in the reinforcement.



FASERFIX BIG BLS 300

Channels

FASERFIX BIG BLS 300 load approach:

Load model 1 - Lane 2 & SW 60
with an authorised axle load of 20 tons

Type 030 - 035

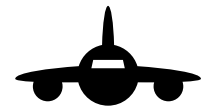


	Length mm	Width mm	Height mm	Internal channel cross-sect. cm ²	Weight kg	Item-No. galvanised	Item-No. stainless steel
Type 030	4000	700	575	812	3007,00	4744	4745
Type 035	5000	700	575	812	3759,00	4725	4726

FASERFIX BIG BLS 300 load approach:

according to LCN 50
with an authorised axle load of 46 tons (747 - 400)

Type 040 - 045



B 747 - 400

	Length mm	Width mm	Height mm	Internal channel cross-sect. cm ²	Weight kg	Item-No. galvanised	Item-No. stainless steel
Type 040	4000	700	575	812	3016,00	4721	4722
Type 045	5000	700	575	812	3770,00	4730	4731

FASERFIX BIG BLS 300 load approach:

according to LCN 70
with an authorised axel load of 64,66 tons (A 350 - 900)

Type 060 - 065



A 350 - 900

	Length mm	Width mm	Height mm	Internal channel cross-sect. cm ²	Weight kg	Item-No. galvanised	Item-No. stainless steel
Type 060	4000	700	575	812	3026,00	4734	4735
Type 065	5000	700	575	812	3784,00	4738	4739

FASERFIX BIG BLS 300 load approach:

„ReachStacker“ with an authorised axle load of 100 tons

Type 070 - 075



	Length mm	Width mm	Height mm	Internal channel cross-sect. cm ²	Weight kg	Item-No. galvanised	Item-No. stainless steel
Type 070	4000	700	575	812	3075,00	4778	4779
Type 075	5000	700	575	812	3811,00	4788	4789

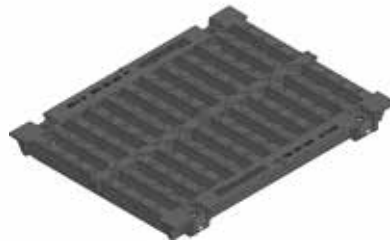
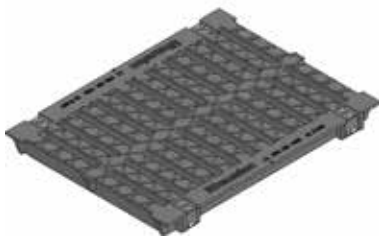
FASERFIX BIG BLS 300

Gratings

FASERFIX BIG BLS 300, Class D 400

GUGI-Ductile iron mesh grating
MW 15/25 mm, black,
with plastic caps, 0,5 m

Ductile iron grating, SW 2 x 136/18 mm,
black, locked, KTL-coated,
with plastic caps, 0,5 m

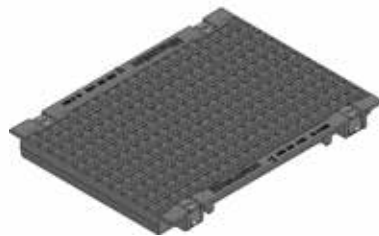
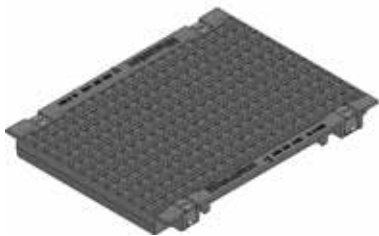


	Length mm	Width mm	Height mm	Intake cross-sect. cm ² /m	Weight kg	Item No.
GUGI-Ductile iron mesh grating MW 15/25 mm, black, with plastic caps, 0,5 m	500	377	40	1334	16,60	4063
Ductile iron grating, SW 2 x 136/18 mm, black, locked, KTL-coated, with plastic caps, 0,5 m	500	377	40	1334	16,60	4862

FASERFIX BIG BLS 300, Class E 600

GUGI-Ductile iron mesh grating
MW 15/25 mm, black,
with plastic caps, 0,5 m

GUGI-Ductile iron mesh grating,
MW 15/25 mm, black, locked,
KTL-coated, with plastic caps,
0,5 m



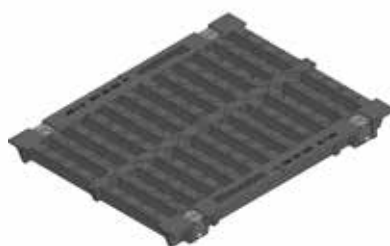
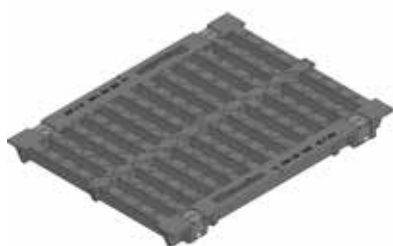
	Length mm	Width mm	Height mm	Intake cross-sect. cm ² /m	Weight kg	Item No.
GUGI-Ductile iron mesh grating MW 15/25 mm, black, with plastic caps, 0,5 m	500	377	40	1172	21,80	4068
GUGI-Ductile iron mesh grating, MW 15/25 mm, black, locked, KTL-coated, with plastic caps, 0,5 m	500	377	40	1172	22,50	4868

FASERFIX BIG BLS 300

FASERFIX BIG BLS 300, Class F 900

Ductile iron grating, SW 2 x 136/20 mm, black, with plastic caps, 0,5 m

Ductile iron grating, SW 2 x 136/20 mm, black, locked, KTL-coated, with plastic caps, 0,5 m

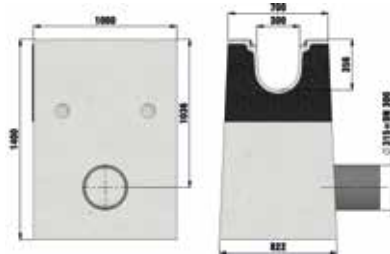


	Length mm	Width mm	Height mm	Intake cross-sect. cm ² /m	Weight kg	Item No.
Ductile iron grating, SW 2 x 136/20 mm, black, with plastic caps, 0,5 m	500	377	40	1334	23,50	4061
Ductile iron grating, SW 2 x 136/20 mm, black, locked, KTL-coated, with plastic caps, 0,5 m	500	377	40	1334	23,50	4861

FASERFIX BIG BLS 300

Accessories

Trash box



Trash box, one-piece, with galvanised angle housing, with laterally encased in concrete masonry collar and PE-HD outlet DN/OD 315 SDR 17

	Length mm	Width mm	Height mm	Weight kg	Item-No. galvanised	Item-No. stainless steel
Trash box, one-piece, with PVC-U socket DN/OD 315 and galvanised bucket, 1,0 m	1000	700	1400	1961,00	4755	4756

End caps



End cap closed, galvanised, suitable for all channel types BLS 300

	Length mm	Width mm	Height mm	Weight kg	Item-No. galvanised	Item-No. stainless steel
End cap closed, galvanised, suitable for all channel types BLS 300	-	680	575	6,25	4783	4784
Joint plate [DIBt] made of PE for FASERFIX BIG BLS 300 type H, 10 mm	-	703	540	0,25	4747	-

FASERFIX BIG BLS 300

Further accessories



Sealing material Sikaflex Tank N, poly-tube bag 600 ml**



Philipp Spherical Head Lifting Clutch, 80-HKD-025, galvanised, 4 pieces per construction site required - due to security reasons no return can be made

	Length mm	Width mm	Height mm	Weight kg	Item No.
Hexagon bolt with locking teeth, steel, M10 x 50	-	-	-	0,06	33100
Sealing material Sikaflex Tank N, poly-tube bag 600 ml**	-	-	-	1,00	19050
Primer Sikaflex 215, 1000 ml	-	-	-	1,00	19055
Sika round cord PE, made of closed-cell polyethylene foam for joint backfilling according to DIN 18 540, d=13 mm, for joint application according to DIN EN 1433, consumption for NW 200 = 1,150 mm, for NW 300 = 1,200 mm	-	-	-	0,01	19056
Sika round cord PE, made of closed-cell polyethylene foam for joint backfilling according to DIN 18 540, d=15 mm, for joint application according to WHG - LAU - plants, consumption for NW 200 = 1.150 mm, for NW 300 = 1.200 mm	-	-	-	-	19057
Philipp Spherical Head Lifting Clutch, 80-HKD-025, galvanised, 4 pieces per construction site required - due to security reasons no return can be made	-	-	-	1,52	707

Channel system	Joint length	Joint application	Material requirement per channel butt joint			
			PE round cord Ø 13 mm	PE round cord Ø 15 mm	SIKAFLEX Tank N	SIKAFLEX Primer 215
BIG BLS 200	1.150 mm	DIN EN 1433 *	1.150 mm	-	120 ml	15 ml
		SFH facilities **	-	1.150 mm	170 ml	

* Joint dimension 10 x 10 mm

** Joint dimension 12 x 12 mm

Note: The quantities given above are based on the joint dimensions.
Consumption may vary depending on ambient temperatures and local conditions.

Factory made services

	Length mm	Width mm	Height mm	Weight kg	Item No.
Allowance for factory adjustment of the overall length of the ductile iron grating	-	-	-	-	4792
Allowance for factory miter adjustment of ductile iron grating including welded edge trim	-	-	-	-	4793



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