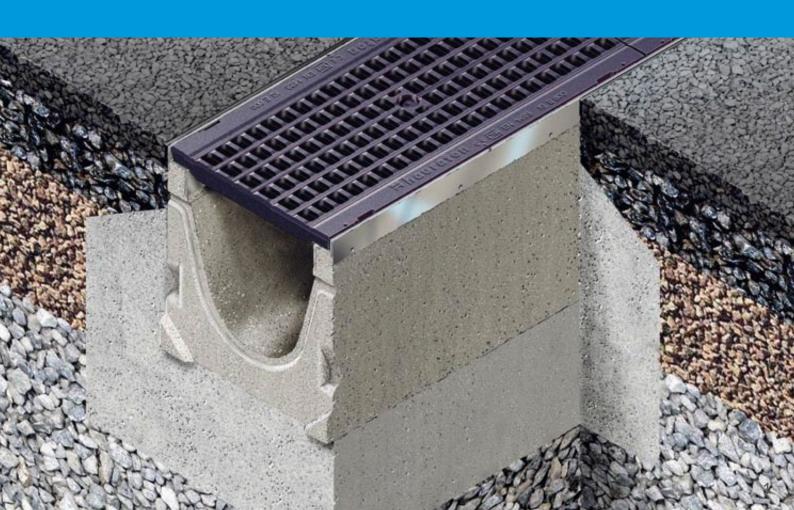


# CIVILS THE RANGE FOR CIVIL ENGINEERING





#### THE RANGE FOR CIVIL ENGINEERING APPLICATIONS

RELIABLE SYSTEMS WITH STRONG PERFORMANCE CHARACTERISTICS FOR DRAINAGE INSTALLATIONS IN TRAFFIC AREAS - A LONG-TERM SAFEGUARD FOR OUR MODERN INFRASTRUCTURE

Mobility is ever more important in our society. To meet that demand, we have built up one of the most modern infrastructure systems, including all modes of transport: road, rail, water and air. Only a well-performing transport infrastructure can guarantee the required mobility now and in the future. As building material suppliers, HAURATON has developed reliable systems with strong performance characteristics in order to contribute to the high quality of our infrastructure and its further development.

In close cooperation with architects, building contractors and building material suppliers we develop individual solutions that meet the most demanding design requirements. HAURATON provides highly qualified professional advice and technical support during the design phase as well as the construction phase. Decades of experience in the field of traffic area drainage and our innovative approach combine to provide the designer with the most reliable solutions.

Drainage concepts can be individually designed for customers, involving a diverse range of materials: fibre-reinforced concrete, ductile iron, steel, stainless steel or PE-PP materials. And of course it is also possible to combine materials for special duties. HAURATON products meet all common standards and regulations. To maintain a high level of quality, HAURATON cooperates with specialist institutes for external monitoring of products and internal processes based on regular quality checks – our customers' guarantee for reliable design and long-lasting solutions.



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### THE HAURATON SERVICE PACKAGE

**GOOD TEAMWORK IS THE BASIS** FOR A PERFECT RESULT. HAURATON COOPERATES WITH ARCHITECTS AND ENGINEERS RIGHT FROM THE CONCEPTUAL STAGE AND OFFERS A FREE RANGE OF SERVICES.

#### INDIVIDUAL DESIGN SUPPORT

Designing solutions for the many and diverse demands in the field of surface drainage requires detailed knowledge, great expertise and extensive experience. Our experts, both in field sales as well as in the office, are fully trained to answer technical and product-specific questions to be able to provide you with competent and individual advice. We will support your individual building project from project-related tender documents through to production - even where the brief calls for unusual duties and design. We support you, even if a solution for your special drainage requirements cannot be found from our standard range of products - custom-built products to your specification are our strength. We will manufacture almost anything for you. Give us a call or send us an email! We are always available for you and look forward to answering your individual questions regarding drainage solutions.

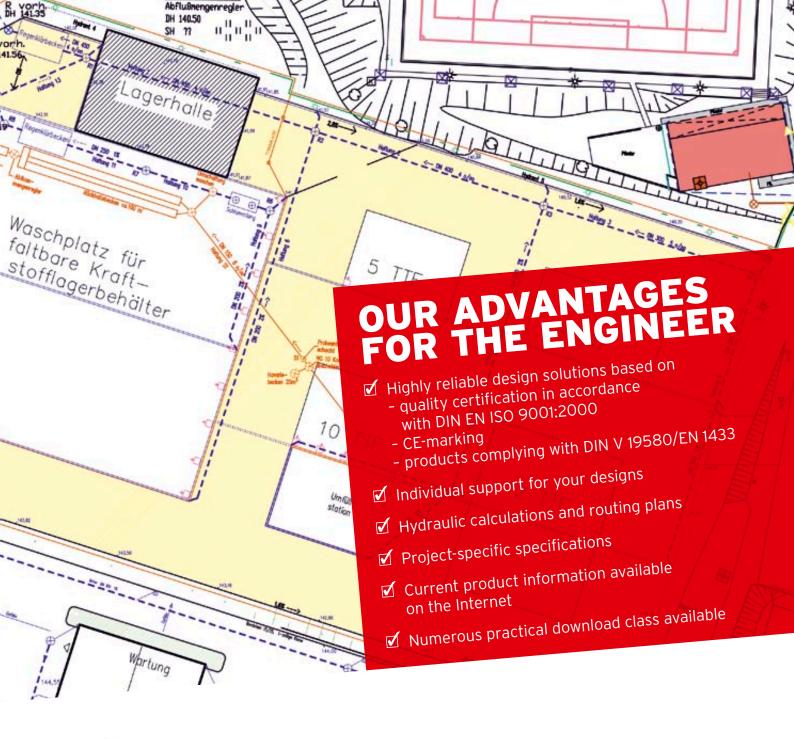


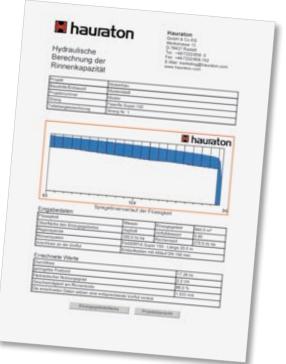
#### **LAYOUT PLANS**

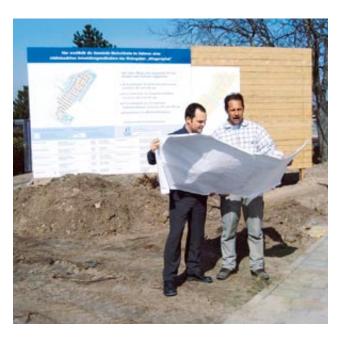
As well as hydraulic performance calculations we also produce site-related layout plans. The CAD-produced drawings show the exact location of drainage channels, including the positions of end caps, trash boxes and other fittings. In addition, we will produce a parts list with the designation and quantity of products required for the job. For the production of the layout plans we will need your site-specific details. We will produce the layout plans for you free of charge - why not make use of our service!

#### **HYDRAULIC CALCULATIONS**

The functionality of a drainage system depends to a large extent on the hydraulic performance of the drainage channels installed. In order to make it easier for you to make an informed decision about the type and route of the drainage channels we produce hydraulic performance calculations for your specific site. The program for determining the hydraulic performance of our drainage channels has been developed at the University of Prague. The staff in our CAD department just needs some site information such as the size of the area to be drained, surface covering, intensity of rainfall, type of channels, etc. Of course, this service is free of charge – just talk to one of our internal or field sales staff!







### SECURITY FOR THE PLANNERS

HAURATON PROVIDES CUSTOMERS WITH THE BEST POSSIBLE BASIS FOR RELIABLE DESIGNS. OUR PRODUCTS AND PROCESSES ARE CONTINUALLY MONITORED AND ARE SUBJECT TO STRINGENT QUALITY REQUIREMENTS.

#### DIN EN 1433/CE-MARK HAURATON CHANNELS COMPLY WITH DIN V 19580/EN 1433

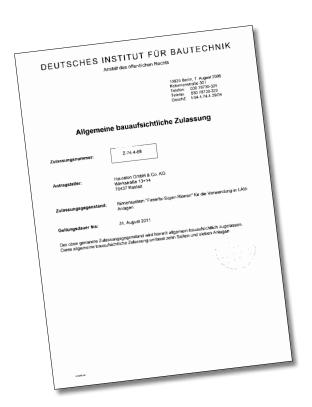
- high lateral strength without supporting grating, during transport and for the installation - including adjusting piece
- U-profiles for highly efficient drainage with selfcleaning effect
- ☐ simple and safe sealing via safety joint
- □ tongue and groove connection for precise installation
- ☐ FASERFIX SUPER KS 100 channels are fitted with 4 mm housing profiles and provide maximum safety
- maximum resistance to the effects of salt and weather, including frost
- ☐ different models for long drainage runs with different degrees of built-in fall
- □ built-in fall of 0.6 % for improved hydraulics and fast drainage speed
- □ large back-pressure volume through construction depths of up to 280 mm
- ☐ large selection of gratings for all types of applications and visual requirements

HAURATON offers the largest range of EN-compliant drainage channels.

#### QUALITY CERTIFICATION IN ACCOR-DANCE WITH DIN EN ISO 9001:2000

As one of the first companies in the building industry, HAURATON achieved quality certification in accordance with DIN EN ISO 9001 back in 1993. Since then, quality standards have been driven up continuously, including regular certification.

The quality requirements of DIN EN ISO 9001:2000 cover not only the products but the whole company, including development, design, production, assembly and customer service. HAURATON's quality management in accordance with DIN EN ISO 9001:2000 provides the highest degree of liability and safety to our customers.



### STANDARDS, APPROVALS AND WARRANTY

HAURATON channels are not only certified in accordance with DIN EN 1433 but also with the considerably more stringent German DIN V 19580. CE mark, external monitoring and conformity statement are guarantees for the engineer that ensure the highest technical standard. The channels' resistance to frost and salt, their robust construction and ability to be sealed ensure that they will provide many years of service. HAURATON was one of the first manufacturers in the building industry to voluntarily offer a guarantee period of 5 years.

We also hold a General Building Control Approval by the DIBt (German Institute for Building Technology) for special applications in industrial locations where liquids that are hazardous to water as per § 19 WHG (Water Resources Act) are handled, stored or decanted, such as tank installations.

#### Channel systems covered by the approval:

FASERFIX SUPER channels, approval no. Z-74.4-68 FASERFIX BIG SL channels, approval no. Z-74.4-67 FASERFIX BIG BL channels, approval no. Z-74.4-66

### **GUGI-DUCTILE IRON MESH GRATINGS**

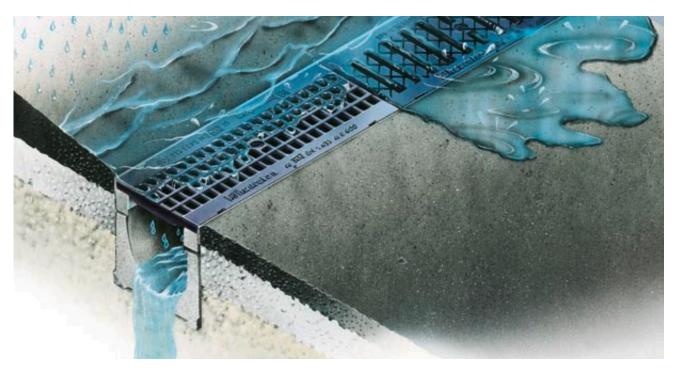
**HAURATON WAS THE FIRST** COMPANY TO INTRODUCE THE GUGI-DUCTILE IRON MESH GRATINGS TO THE MARKET AND HAS CREATED A PERFECT SYMBIOSIS OF HIGH-VOLUME DRAINAGE CAPACITY WITH ROBUST CONSTRUCTION.

### THE BEST IN STRUCTURAL STRENGTH AND DRAINING PERFORMANCE

The GUGI-Ductile iron mesh grating is the ideal combination of large-volume drainage and high structural strength. HAURATON offers the GUGI-Ductile iron mesh grating with its FASERFIX and RECYFIX channels.

The geometry of the GUGI-Ductile iron mesh grating prevents water from flowing right across the grating. At the same time, the grating offers all the high qualities associated with ductile iron. In the GUGI grating, the web in both directions is more solid than that of other gratings, resulting in a significant improvement in stability.

GUGI-Ductile iron mesh gratings are available up to category F 900.



### **BOLTLESS LOCKING SYSTEM SIDE-LOCK**

THE POWER OF INNOVATION AT THE HIGHEST TECHNICAL LEVEL.

### THE TIME-SAVING REVOLUTION OF BOLTLESS LOCKING

SIDE-LOCK is a unique locking system that is fitted completely without accessory parts. Simply lay the grating into its housing on the channel and engage it by stepping on it. When you hear a 'click', the grating is in place, providing full road safety. In order to clean the channels, the grating can be levered up extremely fast using a simple tool (a pry bar or robust screwdriver). SIDE-LOCK thus saves 90 % of the time it takes to fix and release the gratings. SIDE-LOCK has been developed by HAURATON and is protected by patents.

#### **CONVINCING TECHNOLOGY**

The cross-section of the channels remains free allowing the surface water to flow away without restriction. SIDE-LOCK will also lock the gratings in longitudinal direction. This ensures that the gratings cannot 'travel' along the channels and remain reliably in position.

## INTELLIGENT MULTI-FUNCTIONAL STEEL ANGLE HOUSING PROVIDES FLEXIBLE FIXING OPTIONS

SIDE-LOCK will lock the gratings to the channels providing full road safety. In the case of increased loads, particularly in areas of heavy traffic or where additionally safety is required, the gratings can also be bolted to the multi-functional steel angle housing or fixed with a locking handle, giving a degree of flexibility no other channel system can provide.

#### **INSTALLATION**



1. PUT SIDE-LOCK IN PLACE



2. STEP ON IT - 'CLICK' - READY!

#### REMOVING A SIDE-LOCK GRATING



To unlock the grating, insert a flat-headed screwdriver at the marked point.

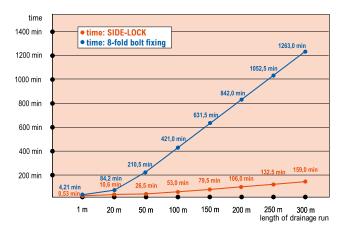


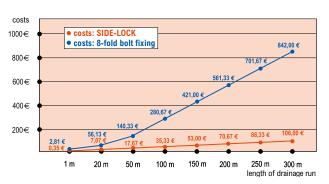
Ductile iron gratings can also be lifted with a pry bar.



### PRACTICAL TEST: TOP EFFICIENCY IS ACHIEVED WITH THE SIDE-LOCK BOLTLESS LOCKING SYSTEM DEVELOPED BY HAURATON

A test demonstrates the advantage over conventional locking systems. In the test a maintenance routine of a channel run was simulated as it would be in practice and investigated to see how long it takes to lift a grating, lay it down beside the channel, pick it up and lock it again. The SIDE-LOCK boltless locking system was tested against a conventional system with 8-fold bolt fixing per linear metre. The results speak for themselves: with the SIDE-LOCK boltless locking system the described process took 31.8 seconds (= 0.53 minutes). The time recorded for the equivalent process, but using gratings with 8-fold bolt fixings, was 4 minutes and 12.6 seconds (= 4.21 minutes). That results in a time saving of 3 minutes and 40.8 seconds per linear metre when using SIDE-LOCK. The diagram shows this huge difference, which becomes even more obvious when you multiply the time factor with an hourly rate of EUR 40.00. Conclusion: users save time and money with SIDE-LOCK!





### **FASERFIX®**

#### **EXTREMELY ROBUST - IN ANY APPLICATION.**

FIBRE-REINFORCED CONCRETE FOR THE MOST HEAVY-DUTY SERVICE.

#### A MATERIAL FOR ALL SITUATIONS

For a long time, drainage channels have been manufactured from conventional concrete. From the beginning of the seventies, HAURATON has been using fibre-reinforced concrete for channel production. By adding exactly dosed quantities of fibres, the strength of the concrete was increased significantly while at the same time reducing its weight. That made it possible to have significantly reduced wall thicknesses. Today, this fibre-reinforced concrete is the material used in all FASERFIX products.

#### **LEARNING FROM NATURE**

Even before the term 'bionics' became popularly known, HAURATON made use of this science in order to take a decisive step forwards in the development of its products. Bionics applies biological principles in technology, following nature's example. Plants and trees are compound fibre materials with cellulose fibres. Likewise, human and animal bones are formed from interlaced fibre bundles, which is how they achieve their great strength

#### **BIOLOGY AND TECHNOLOGY**

The fibre-reinforced concrete used in FASERFIX products follows the example of nature. Just as with trees, plants or bones, the fibres form a densely interwoven network that makes the reinforced concrete extremely strong at the same time, the fibres reduce the density of the material - which is therefore much lighter than traditional concrete.

#### PREPARED FOR ANY APPLICATION

Owing to its unique properties, FASERFIX is used for all kinds of applications. For example in heavy-load areas such as airports, industrial plants and filling stations. But also in areas with a high traffic volume such as motorways or trunk roads. And likewise, in various versions, in private and commercial applications.



#### **HAURATON**



#### **COMPETITOR PRODUCT**



Don't be fooled into believing that a V is the same as a U! Channels with V-profiles have been about for a long time; they are not an innovation. Many years ago, FASERFIX SUPER channels have already been manufactured in this profile in different nominal sizes.

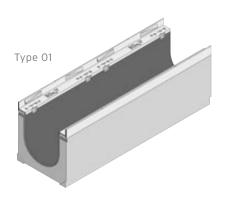
#### **FLOW RATE**

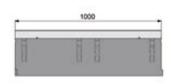
Tests and hydraulic calculations have confirmed that channels with a U-shaped cross section have a draining capacity that is up to 30% greater than that of channels with a V-shaped cross section, assuming the same nominal width and construction height. Conversely that means that channels with a V-shape reach the limit of their capacity much sooner whilst the U-shaped channels will still have reserve capacity. The measured flow rate is the same for both shapes at each point within the channel; likewise the mean flow rate. So it is clear that the U shape has clear advantages over the V shape.

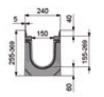
#### **BETTER CLEANING EFFECT**

Imagine that a certain amount of dirt has accumulated at the base of the channel. In the U-shaped channel the the surface area for silt to build up is much greater than in the V-shaped channel. This is a clear indicator for the cleaning performance: whilst both types of channels feature equal flow rates, the U shape offers a greater surface of dirt to the water which carries the dirt away. The channel will clean itself quicker. An additional factor is that due to the increasing restriction of space towards the bottom of the V channel the layer of dirt can only grow upwards, which reduces the cross section available for the draining function.

### FASERFIX®SUPER 150 - Channel lower parts







	Length mm	Width mm	Height mm	Drainage cross- sect. cm²	Weight kg_	Article No.
Type 01	1000	240	255	212	78,0	2000
Type 010	1000	240	309	289	89,0	2042
Type 020	1000	240	369	383	103,0	2044
Type 0105	500	240	255	212	39,0	2049

### FASERFIX®SUPER 150 - Channel lower parts angular





	Length	Width	Height	Drainage cross-	Weight	Article No.
	mm	mm	mm	sect. cm²	kg	
Type 01 E	1000	240	255	223	80,0	2105
Type 010 E	1000	240	309	301	93,5	2106
Type 020 E	1000	240	369	387	105,0	2107



### FASERFIX®SUPER 150 - Gratings, class E 600





	Length mm	Width mm	Height mm	Intake cross- sect. cm²/m	Weight kg	Article No.
GUGI-Ductile iron mesh grating, MW 20/30, black	500	227	40	628	11,5	2068
Ductile iron grating closed, black	500	227	40	0	10,7	2262

### FASERFIX®SUPER 150 - Gratings, class F 900

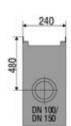


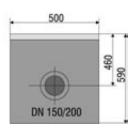
	Length mm	Width mm	Height mm	Intake cross- sect. cm²/m	Weight kg	Article No.
Ductile iron grating SW 150/20, black	500	227	40	710	9,8	2061

#### FASERFIX®SUPER 150 - Accessories



Trash box with galvanised bucket







PVC - connection DN 150



Foul air trap DN 150

	Length mm	Width mm	Height mm	Weight kg	Article No.
Trash box with galvanised bucket	500	240	590	93,0	2052
Foul air trap DN 150	-	-	-	2,0	960
PVC - connection DN 150	-	-	-	0,5	906









End cap closed, galvanised, Type 01



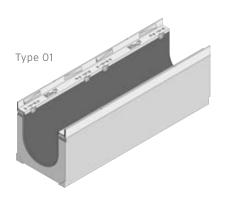
Fixing-system EP, empty conduit in the channel bottom, (2 pieces per running metre)

	Length mm	Width mm	Height mm	Weight kg	Article No.
End cap closed, galvanised, Type 01	-	240	255	0,9	2081
End cap closed, galvanised, Type 010	-	240	309	1,1	2082
End cap closed, galvanised, Type 020	=	240	369	1,3	2083
End cap with horizontal UPVC-outlet DN 150, galvanised, Typ 01	-	240	255	1,5	2091
End cap with horizontal UPVC-outlet DN 150, galvanised, Type 010	-	240	309	1,5	2092
End cap with horizontal UPVC-outlet DN 150, galvanised, Type 020	-	240	369	1,7	2093
Cutting to length of NW 150	-	-	-	-	991
Mitre cuts of NW 150 (two cuts per connection)	-	-	-	-	996
Drilling of connecting holes DN 150	-	-	-	-	973
Inserting of PVC union connectors DN 150*	-	-	-	-	983
Sealing material Masterflex 700 FR Gun Grade, cartridge 450 ml**	-	-	-	1,0	19000
Primer Masterflex 700 A SP, capacity 1000 ml	=	-	-	1,0	20000
Primer Masterflex 700 FE (steel), capacity 1000 ml	=	-	-	1,1	19950
Toolkit for sealing material Masterflex 700 FR Gun Grade	-	-	-	3,1	10025
Fixing-system EP, empty conduit in the channel bottom, (2 pieces per running metre)	-	_	-	-	703
Steelbars for fixing system (2 pieces per running metre)	-	-	-	-	704

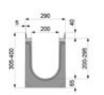
<sup>\*</sup> We can additionally insert SML- or PE-HD outlets on appointment

<sup>\*\*</sup> Consumption for channely type 020: approx. 94 ml per joint. The quality of the stainless steel material is according CNS 1.4301.

### FASERFIX®SUPER 200 - Channel lower parts



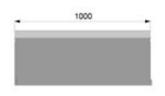


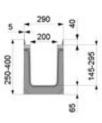


	Length mm	Width mm	Height mm	Drainage cross- sect. cm²	Weight kg_	Article No.
Type 01	1000	290	305	362	103,0	3000
Type 010	1000	290	350	447	114,0	3042
Type 020	1000	290	400	552	125,0	3044
Type 0105	500	290	305	362	51,5	3049

### FASERFIX®SUPER 200 - Channel lower parts angular







	Length	Width	Height	Drainage cross-	Weight	Article No.
	mm	mm	mm	sect. cm²	kg_	
Type 01 E	1000	290	305	386	104,5	3105
Type 010 E	1000	290	350	473	113,5	3106
Type 020 E	1000	290	400	568	124,5	3107



### FASERFIX®SUPER 200 - Gratings, class E 600





	Length mm	Width mm	Height mm_	Intake cross- sect. cm²/m	Weight kg_	Article No.
GUGI-Ductile iron mesh grating MW 20/30, black	500	277	40	818	13,8	3068
Ductile iron grating closed, black	500	277	40	0	13,4	3262

### FASERFIX®SUPER 200 - Gratings, class F 900



	Length mm	Width mm	Height mm	Intake cross- sect. cm²/m	Weight kg	Article No.
Ductile iron grating SW 170/20, black	500	277	40	833	13,6	3061

#### FASERFIX®SUPER 200 - Accessories



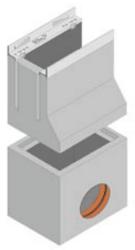
Trash box with galvanised bucket



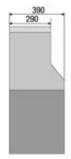


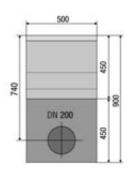


Foul air trap DN 150



Trash box, 2-pieces with galvanised bucket







PVC - connection DN 150

	Length	Width	Height	Weight	Article
	mm	mm	mm	kg	No.
Trash box with galvanised bucket	500	290	582	80,0	3052
Trash box, 2-pieces with galvanised bucket	500	290	900	190,5	3054
Foul air trap DN 150	-	-	-	2,0	960

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### FASERFIX®SUPER 200



Sealing material Masterflex 700 FR Gun Grade, cartridge 450 ml\*\*



End cap closed, galvanised, Type 01



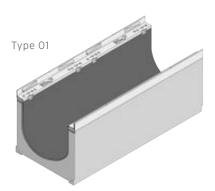
Fixing-system EP, empty conduit in the channel bottom, (2 pieces per running metre)

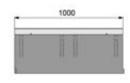
	Length mm	Width mm	Height mm	Weight kg	Article No.
PVC - connection DN 150	-	-	-	0,5	906
End cap closed, galvanised, Type 01	-	290	305	1,3	3081
End cap closed, galvanised, Type 010	-	290	350	1,6	3082
End cap closed, galvanised, Type 020	-	290	400	1,8	3083
End cap with horizontal UPVC-outlet DN 150, galvanised, Type 01	-	290	305	1,6	3091
End cap with horizontal UPVC-outlet DN 150, galvanised, Type 020	-	290	400	2,0	3093
Cutting to length of NW 200	-	-	-	-	992
Mitre cuts of NW 200 (two cuts per connection)	-	-	-	-	997
Drilling of connecting holes DN 200	-	-	-	-	974
Inserting of PVC union connectors DN 200*	-	-	-	-	984
Sealing material Masterflex 700 FR Gun Grade, cartridge 450 ml**	-	-	-	1,0	19000
Primer Masterflex 700 A SP, capacity 1000 ml	-	-	-	1,0	20000
Primer Masterflex 700 FE (steel), capacity 1000 ml	-	-	-	1,1	19950
Toolkit for sealing material Masterflex 700 FR Gun Grade	-	-	-	3,1	10025
Fixing-system EP, empty conduit in the channel bottom, (2 pieces per running metre)	-	-	-	-	703
Steelbars for fixing system [2 pieces per running metre]	-	-	-	-	704

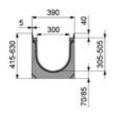
<sup>\*</sup> We can additionally insert SML- or PE-HD outlets on appointment

<sup>\*\*</sup> Consumption for channely type 020: approx. 105 ml per joint. The quality of the stainless steel material is according CNS 1.4301.

### FASERFIX®SUPER 300 - Channel lower parts



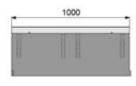


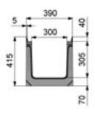


	Length mm	Width mm	Height mm	Drainage cross- sect. cm²	Weight kg	Article No.
Type 01	1000	390	415	803	157,0	4000
Type 020	1000	390	630	1202	260,0	4044
Type 0105	500	390	415	803	75,0	4001

### FASERFIX®SUPER 300 - Channel lower parts angular







	Length mm	Width mm	Height mm	Drainage cross- sect. cm <sup>2</sup>	Weight kg	Article No.
Type 01 E	1000	390	415	900	150,0	4105

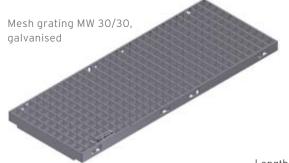
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### FASERFIX®SUPER 300

### FASERFIX®SUPER 300 - Gratings, class C 250







	Length mm	Width mm	Height mm	Intake cross- sect. cm²/m	Weight kg	Article No.
Ductile iron grating SW 2 x 140/20, black	500	377	40	1328	18,7	4064
Mesh grating MW 30/15, galvanised	1000	377	40	2127	32,1	4075
Mesh grating MW 30/15, galvanised	500	377	40	2127	17,0	4076
Mesh grating MW 30/30, galvanised	1000	377	40	2355	29,1	4073
Mesh grating MW 30/30, galvanised	500	377	40	2355	15,2	4074

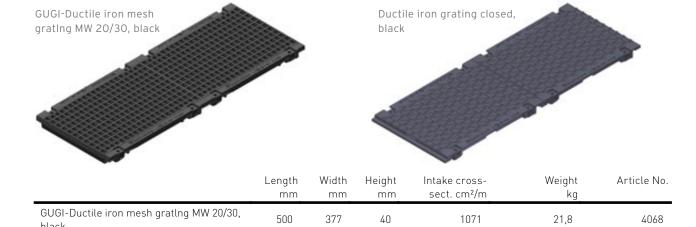
### FASERFIX®SUPER 300 - Gratings, class D 400\*



	Length mm	Width mm	Height mm	Intake cross- sect. cm²/m	Weight kg	Article No.
Ductile iron grating SW 2 x 140/20, black	500	377	40	1328	20,6	4063

<sup>\*</sup> Not for use across the carriageway of highways or motorways in moving traffic.

### FASERFIX®SUPER 300 - Gratings, class E 600



377

40

500

0

21,5

4262

### FASERFIX®SUPER 300 - Gratings, class F 900

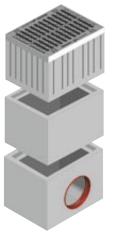


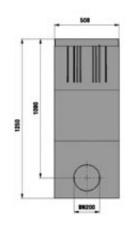
Ductile iron grating closed, black

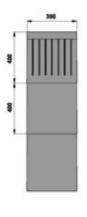
	Length mm	Width mm	Height mm	Intake cross- sect. cm²/m	Weight kg	Article No.
Ductile iron grating SW 170/20, black	500	377	40	1328	23,5	4061



#### FASERFIX®SUPER 300 - Accessories









End cap closed, galvanised, type 01

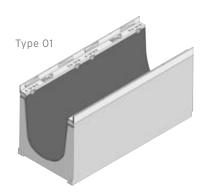
Trash box with galvanised bucket, two parts with ductile iron grating SW 2 x 140/20, black, class F 900

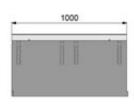
	Length mm_	Width mm_	Height mm_	Weight kg	Article No.
Trash box with galvanised bucket, two parts with ductile iron grating SW 2 x 140/20, black, class F 900	510	390	850	207,0	4052
Intersection units, two parts with ductile iron grating, closed, black, class E 600	510	390	850	207,0	4352
Extension part	510	390	400	82,0	4054
PVC-Connection DN 200	-	-	-	0,8	907
End cap closed, galvanised, type 01	-	390	415	2,5	4081
End cap closed, galvanised, type 020	=	390	630	3,8	4083
End cap with horizontal UPVC-outlet DN 200, galvanised, type 01	-	390	415	3,0	4085
End cap with horizontal UPVC-outlet DN 200, galvanised, type 020	-	390	630	4,5	4088
Cutting to length of NW 300	-	-	-	-	993
Mitre cuts of NW 300 ( two cuts per connection )	-	-	-	-	998
Drilling of connecting holes DN 200	-	-	-	-	974
Inserting of PVC union connectors DN 200*	-	-	-	-	984
Sealing material Masterflex 700 FR Gun Grade, cart-ridge 450 ml**	-	-	-	1,0	19000
Primer Masterflex 700 A SP, capacity 1000 ml	-	-	-	1,0	20000
Primer Masterflex 700 FE (steel), capacity 1000 ml	-	-	-	1,1	19950
Toolkit for sealing material Masterflex 700 FR Gun Grade	-	-	-	3,1	10025
Fixing-system EP, empty conduit in the channel bottom, (2 pieces per running metre)	-	=	-	=	703
Steelbars for fixing system (2 pieces per running metre)	-	-	-	-	704

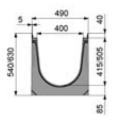
<sup>\*\*</sup> Consumption for channely type 020: approx. 169 ml per joint.

<sup>\*</sup> We can additionally insert SML- or PE-HD outlets on appointment The quality of the stainless steel material is according CNS 1.4301.

### FASERFIX®SUPER 400 - Channel lower parts







	Length mm	Width mm	Height mm	Drainage cross- sect. cm²	Weight kg_	Article No.
Type 01	1000	490	540	1398	248,0	4111
Type 01H	1000	490	630	1758	268,0	4116

### FASERFIX®SUPER 400 - Gratings, class D 400\*

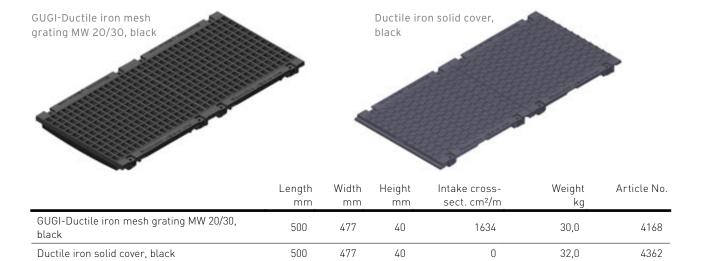


	Length mm	Width mm	Height mm_	Intake cross- sect. cm²/m	Weight kg	Article No.
Ductile iron grating SW 3x 120/20, black	500	477	40	1618	25,0	4163

st Not for use across the carriageway of highways or motorways in moving traffic.



### FASERFIX®SUPER 400 - Gratings, class E 600



#### FASERFIX®SUPER 400 - Gratings, class F 900



	Length mm	Width mm	Height mm_	Intake cross- sect. cm²/m	Weight kg	Article No.
Ductile iron grating SW 3 x 120/20, black	500	477	40	1618	38,7	4161

#### FASERFIX®SUPER 400 - Accessories



Sealing material Masterflex 700 FR Gun Grade, cartridge 450 ml\*\*



End cap closed, galvanised, Type 01



Fixing-system EP, empty conduit in the channel bottom, (2 pieces per running metre)

	Length mm	Width mm	Height mm	Weight kg	Article No.
End cap closed, galvanised, Type 01	-	490	540	4,8	4091
End cap closed, galvanised, Type 01H	-	490	630	5,1	4092
End cap with horizontal UPVC-outlet DN 200, galvanised, Type 01	-	490	540	5,6	4093
End cap with horizontal UPVC-outlet DN 200, galvanised, Typ 01H	-	490	630	5,9	4097
Cutting to length of NW 400	-	-	-	-	985
Mitre cuts of NW 400 (Two parts per connection)	-	-	-	-	949
Drilling of connecting holes DN 200	-	-	-	-	974
Inserting of PVC union connectors DN 200*	-	-	-	-	984
Sealing material Masterflex 700 FR Gun Grade, cartridge 450 ml**	-	-	-	1,0	19000
Primer Masterflex 700 A SP, capacity 1000 ml	-	-	-	1,0	20000
Primer Masterflex 700 FE (steel), capacity 1000 ml	-	=	-	1,1	19950
Toolkit for sealing material Masterflex 700 FR Gun Grade	-	-	-	3,1	10025
Fixing-system EP, empty conduit in the channel bottom, (2 pieces per running metre)		-	-	-	703
Steelbars for fixing system (2 pieces per running metre)	-	-	-	-	704

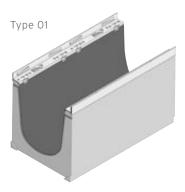
 $<sup>\</sup>ensuremath{^{*}}$  We can additionally insert SML- or PE-HD outlets on appointment

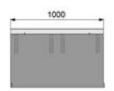
The quality of the stainless steel material is according CNS 1.4301.

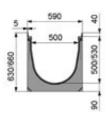
<sup>\*\*</sup> Consumption for channely type 020: approx. 172 ml per joint.



### FASERFIX®SUPER 500 - Channel lower parts







	Length mm	Width mm	Height mm	Drainage cross- sect. cm²	Weight kg	Article No.
Type 01	1000	590	630	2141	303,0	4121

### FASERFIX®SUPER 500 - Gratings, class E 600



	Length mm	Width mm	Height mm_	Intake cross- sect. cm²/m	Weight kg	Article No.
Ductile iron grating SW 3 x 150/20, black	500	577	40	2061	45,0	4182



#### FASERFIX®SUPER 500 - Accessories



Sealing material Masterflex 700 FR Gun Grade, cartridge 450 ml\*\*



End cap closed, galvanised, Type 01



Fixing-system EP, empty conduit in the channel bottom, (2 pieces per running metre)

	Length mm_	Width mm_	Height mm_	Weight kg_	Article No.
End cap closed, galvanised, Type 01	-	590	630	7,5	4096
End cap with horizontal UOVC-outlet DN 200, galvanised, Type 01	-	590	630	8,0	4095
Cutting to length of NW 500	-	-	-	-	989
Mitre cuts of NW 500 (two cuts per connection)	-	-	-	-	959
Drilling of connecting holes DN 200	-	-	-	-	974
Inserting of PVC union connectors DN 200*	-	-	-	-	984
Sealing material Masterflex 700 FR Gun Grade, cart-ridge 450 ml**	-	-	-	1,0	19000
Primer Masterflex 700 A SP, capacity 1000 ml	-	-	-	1,0	20000
Primer Masterflex 700 FE (steel), capacity 1000 ml	-	-	-	1,1	19950
Toolkit for sealing material Masterflex 700 FR Gun Grade	-	-	-	3,1	10025
Fixing-system EP, empty conduit in the channel bottom, (2 pieces per running metre)	-	=	-	=	703
Steelbars for fixing system (2 pieces per running metre)	-	-	-	-	704

 $<sup>^{</sup>st}$  We can additionally insert SML- or PE-HD outlets on appointment

<sup>\*\*</sup> Consumption for channely type 020: approx. 178 ml per joint. The quality of the stainless steel material is according CNS 1.4301.



# LANDSCAPING

THE RANGE FOR DOMESTIC AND LANDSCAPING





#### THE RANGE FOR DOMESTIC AND LANDSCAPING

LANDSCAPING

INNOVATIVE PRODUCTS FOR GARDENING AND LANDSCAPING FOR IMAGINATIVE DESIGNS AND RELIABLE SURFACE DRAINAGE.

ties of our environment and helps bridge the gap between the built environment and nature.

functional criteria.

tion process with initial measuring up through to installation and completion. We provide deanywhere within a short time frame - just in time for the products to be installed on site without

Our LANDSCAPING products always reflect the latest state of technology and comply with all internal processes - our customers' guarantee for reliable design and long-lasting solutions.







PERFECT SUPPORT FOR YOUR DESIGNS



RECYFIX®PLUS



RECYFIX® STANDARD



SLOTTED CHANNELS

UNOBTRUSIVE DESIGN - LARGE DRAINAGE CAPACITY



FASERFIX®STANDARD RELIABLE DRAINAGE



RECYFIX®POINT FASERFIX®POINT

POINT DRAINAGE



DACHFIX®

PERFECT DRAINAGE FOR FACADES AND FLAT ROOFS



**RECYFIX® GREEN SUPER** 

VERY STRONG AND ENVIRONMENTALLY FRIENDLY



#### **RECYFIX®**GREEN STANDARD

**ENVIRONMENTALLY FRIENDLY, LIGHT AND ROBUST** 



**RECYFIX®** STREIF

FOR CLEANER ENTRANCES



#### **LINEFIX®**

FOR FLEXIBLE BORDER EDGING



#### **SPECIAL SOLUTIONS**

SEE THE DESPECTIVE PRODUCT SECTIONS

# PERFECT SUPPORT FOR YOUR DESIGNS

A SUPERIOR DRAINAGE SYSTEM STARTS AT THE DESIGN PHASE. WE PROVIDE COMPETENT SUPPORT, INCLUDING CALCULATIONS FOR THE HYDRAULIC SPECIFICATION, LAY OUT PLANS FOR DRAINAGE CHANNELS OR CUSTOM-DESIGNED SOLUTIONS.

### USE OUR EXPERTISE TO YOUR BEST ADVANTAGE

Our internal and external sales staff are truly experts in the design of drainage systems. Their extensive technical and product knowledge is your guarantee for expert consulations – and hence the best possible solution for all requirements. We will support your individual building project from project-related tender documents through to production and in-time delivery on site – even where the brief calls for unusual duties and design.



#### NON-STANDARD PARTS - CUSTOM-DESIGNED TO YOUR REQUIREMENTS

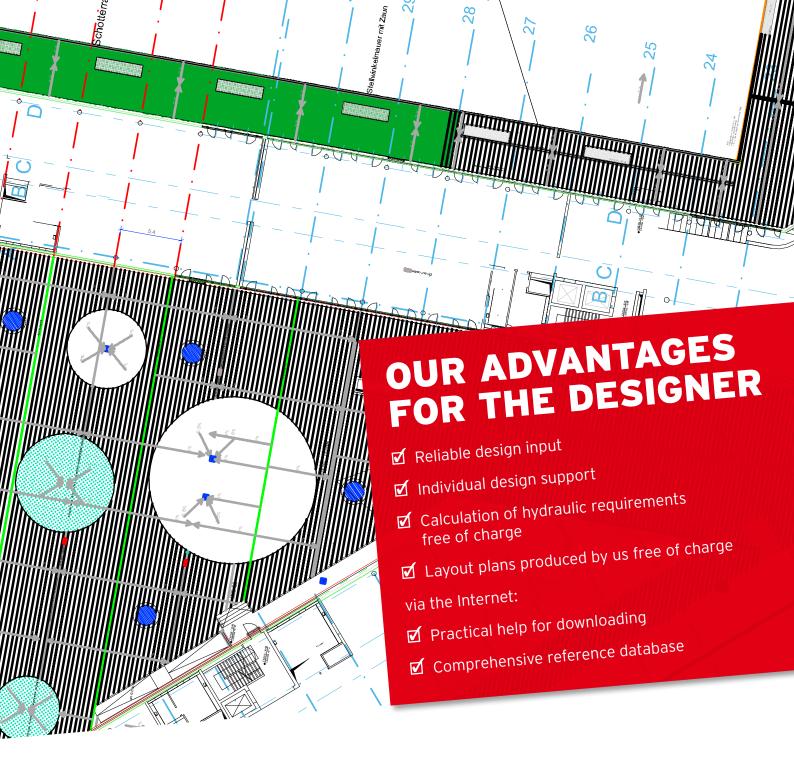
Not all drainage situations can be resolved with the standard production range of products. For this reason we produce non-standard parts in accordance with customers' specifications. In that way a perfect solution can be found for all situations.

### RELIABLE DESIGN DATA BASED ON HYDRAULIC CALCULATIONS

All projects have their own specific requirements which need to be matched by individual drainage systems. In order to be able to assess your project professionally regarding type and scope, we will calculate the hydraulic requirements for you free of charge. The staff at our CAD department just need a few data such as the size of the area to be drained, surface covering, intensity of rainfall, type of channels, etc. - just talk to one of our internal or field sales staff!

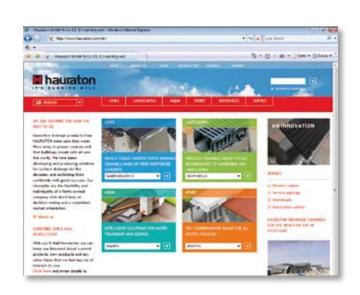
### DETAILED INSTALLATION PLANS WITH COMPLETE PARTS LIST

In addition, we will produce a detailed installation plan for your project. The CAD-produced drawings show the exact location of drainage channels, including the positions of end caps, TRASH BOXes and other fittings. They will also include a complete parts list including the quantity and designation of the required products. These installation plans are provided by us also free of charge.



#### HAURATON IN THE INTERNET

Visit www.hauraton.com where you can find all required information: product information with picture documentation, always up to date, tender proposals for downloading, a comprehensive reference database with numerous projects throughout Europe and a tool for you to compile and print out or save your individual catalogue. There is a fast and competent online service to respond to your enquiries at any time.



### RELIABLE PRODUCTS FOR YOUR DESIGNS

ALL HAURATON PROCESSES AND PRODUCTS ARE STRICTLY MONITORED. THAT IS HAURATON'S GUARANTEE TO ITS CUSTOMERS TO ENSURE A HIGHLY RELIABLE PRODUCT.

#### DIN EN 1433 / CE-MARK HAURATON CHANNELS COMPLY WITH DIN EN 1433

- U-profiles for highly efficient drainage with self-cleaning effect
- ☐ long-life seals easy to apply
- □ tongue and groove connection for precise installation
- maximum resistance to the effects of salt and weather, including frost
- ☐ different depths for long drainage runs with varying degrees of fall
- □ built-in fall of 0.6 % for improved hydraulics and fast drainage speed
- □ large back-pressure volume through construction depths of up to 280 mm
- ☐ large selection of gratings for all types of applications and visual requirements

HAURATON one of the largest ranges of DIN-compliant drainage channels.

### QUALITY CERTIFICATION IN ACCORDANCE WITH DIN EN ISO 9001:2000

As one of the first companies in the building industry, HAURATON achieved quality certification in accordance with DIN EN ISO 9001 back in 1993. Since then, quality standards have been driven up continuously, including regular certification.

The quality requirements of DIN EN ISO 9001:2000 cover not only the products but the whole company, including development, design, production, assembly and customer service. HAURATON's quality management in accordance with DIN EN ISO 9001:2000 provides the highest degree of reliability and safety to our customers.





### **RECYFIX®CHANNELS**



# AT A GLANCE

- lacktriangle Easy to handle due to low weight
- ✓ 100% recyclable
- ✓ Made of pure recycled PE-PP
- ✓ Highly chemical-resistant
- ✓ Leakproof and UV-stabilised

### STANDARDS, APPROVALS AND WARRANTY

HAURATON channels are not only certified in accordance with DIN EN 1433 but also with the considerably more stringent German DIN V 19580. CE-mark, external monitoring and conformity statement are guarantees for the designer that ensure the highest technical standard. The channels are frost and salt resistant and completely watertight, this combined with their robust construction ensures that they will provide many years of service. HAURATON was one of the first manufacturers in the building industry to voluntarily offer a guarantee period of 5 years.

For a number of FASERFIX SUPER channels and FASER-FIX BIG channels we also hold a General Building Control Approval by the DIBt (German Institute for Building Technology) for special applications in industrial locations where liquids that are hazardous to water as per §19 WHG (Water Resources Act) are handled, stored or decanted, such as tank installations. For further details please consult the **CIVILS catalogue.** 





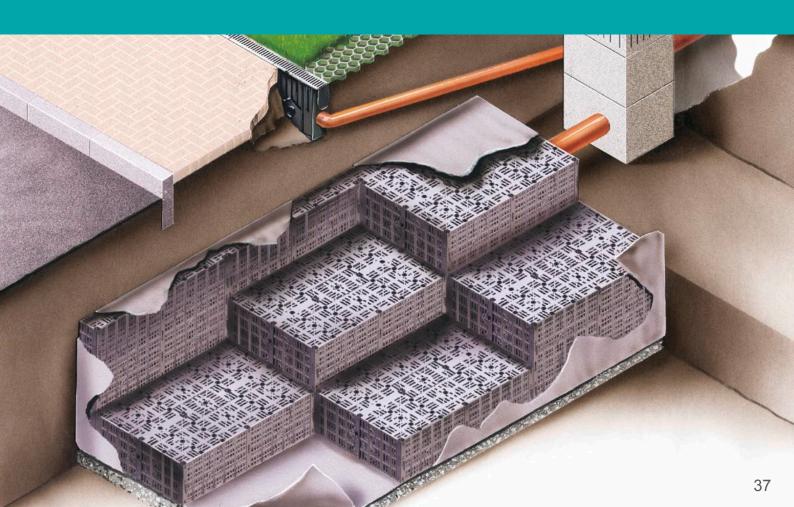
RECYFIX PE-PP is the basis for many rugged and durable products for many areas of application.



# AQUA

THE RANGE FOR INFILTRATION SOLUTION





## THE RANGE FOR INFILTRATION SOLUTION

EFFECTIVE INFILTRATION SYSTEMS SUPPORT THE NATURAL WATER CYCLE AND PROVIDE SUSTAINABLE SUPPORT FOR VITAL RESOURCES.

Water is one of the most valuable resources on earth. Water means life. However, in densely ,populated countries the natural water cycle is significantly affected by ground surfaces being sealed off. Natural infiltration of rainwater is reduced more and more, resulting in the groundwater level sinking and ground drying out.

In order to counteract these developments we require systems that store rainwater at the place of precipitation and then release it gradually back into the natural cycle. With our infiltration products we offer an intelligent way of achieving this. The HAURATON storage elements are suitable for installation underneath traffic areas in trading and housing estates as well as under drives with passenger car usage in private residential areas. The areas above the system remain usable.

HAURATON supports the design team by providing calculations for the sizing of the infiltration system and construction details, ensuring long-term functionality of the installation. With the help of our expert knowledge and advice for installation and servicing, contractors find it easy to deliver perfect results.

HAURATON works in accordance with the regulations for infiltration systems and offers customers a service based on the latest state of technology.





THE HAURATON DESIGNER PACKAGE



**DRAINFIX**®BLOC STABLE, SAFE AND EXTREMELY STRONG



**DRAINFIX®TWIN**HIGH VOLUME IN THE SMALLEST SPACE



# **SPORT**

THE RANGE FOR SPORTS FACILITIES





## THE RANGE FOR SPORTS FACILITIES

MODERN BUILDING PRODUCTS SPECIALLY DESIGNED FOR SPORTS FACILITIES

Modern sports arenas in Germany enjoy an excellent reputation throughout the world. The FIFA World Cup 2006 as well as other internationally important competitions in our country have demonstrated that our stadiums offer ideal conditions for athletes as well as spectators.

But it is not only in Germany where HAURATON has supplied products for reliable surface drainage – the company's products have gone into other sports arenas with world-class sporting events, such as the Summer Olympics 2004 in Athens or the European Football Cup 2004 in Portugal. Our specially designed product range for sports facilities is evidence of our extensive competence in this field and has not failed to impress designers, engineers, clients and contractors alike.

facilities. The products made from RECYFIX recycled PE-PP or FASERFIX concrete ensure excellent drainage and thus help in preventing accidental injuries to athletes. Contractors like the products because they are easy and efficient to install, allowing contracts to be finished within budget and on time. HAURATON supports engineers and architects with project-specific specification proposals and expert technical advice from the initial survey through to completion.

SPORTFIX products by HAURATON have been developed in accordance with the requirements of the different World Sporting Associations and will be continually updated to meet current standards.





THE HAURATON DESIGNER PACKAGE



## SPORTFIX®

PERFECT DRAINAGE - SAFE PAST THE POST

**SPORTFIX**®CHANNELS

**SPORTFIX**® FIXING FOR ARTIFICIAL TURF

**SPORTFIX**®SOFT KERBS

**SPORTFIX**®SAND TRAPS

**SPORTFIX**®WATER JUMP KIT

**SPORTFIX**®TURF EDGING PLATE

**SPORTFIX®** DISH CHANNELS

**SPORTFIX®** DISTRIBUTION SHAFTS

## THE HAURATON DESIGNER PACKAGE

**HAURATON DEVELOPS INNOVATIVE PRODUCTS** AND SUPPORTS ARCHITECTS AND ENGINEERS IN THE DESIGN AND IMPLEMENTATION OF SPORTS FACILITIES.

## INDIVIDUAL DESIGN SUPPORT

You can contact our field sales staff at any time they are able to offer expert and qualified advice. On request we will produce CAD-based installation plans for you. We are happy to work out solution proposals for your specific drainage requirements. We are also experienced in designing solutions for rehabilitation projects.



Our members of staff will be pleased to pay you a visit at your office or on site to provide expert advice.

## PROPOSED TENDER PROPOSALS

We are happy to work out project-specific tender proposals for your building project based on detailed information obtained about your building site. Why not give us a call!

## **INSTALLATION INSTRUCTIONS**

General installation instructions are available for all products in the HAURATON sport range. These instructions will be supplied with all deliveries but we are also happy to send out separate copies.

## FASERFIX SUPER CHANNELS, RECYFIX CHANNELS

FASERFIX SUPER channels and RECYFIX channels are the perfect solution for draining grandstands and external works. FASERFIX SUPER channels are available in nominal widths from 100 to 500 mm and RECYFIX channels from 100 to 300 mm. Gratings are available in various designs and materials to qualify for different load classes in accordance with EN 1433.

For more information please refer to our catalogues **CIVILS** and **LANDSCAPING**.





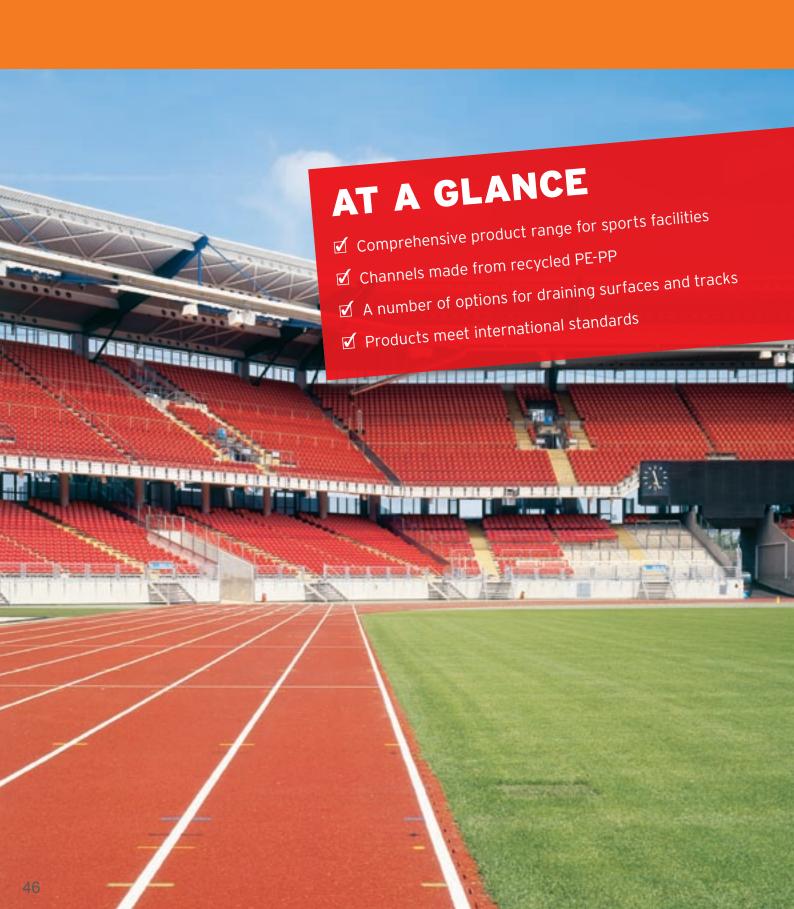
FASERFIX SUPER KS 100 Channels in front of the Estádio Da Luz in Lisbon

## **SPORTFIX®**

**PERFECT DRAINAGE - SAFE PAST THE POST.**THE COMPREHENSIVE PRODUCT RANGE FOR ALL SPORTS FACILITIES.







## **SPORTFIX®**

## PERFECT DRAINAGE - SAFE PAST THE POST.

THE COMPREHENSIVE PRODUCT RANGE FOR ALL SPORTS FACILITIES.





## **MATERIAL**

SPORTFIX channels and trash boxes are manufactured from 100% recycled PE-PP which makes them lightweight and easy to install. The material is highly durable, UV-stabilised, environmentally neutral and impervious to liquids. Steel frames are incorporated at the top of the channels and ensure that covers/gratings are securely locked to the base. The steel frame also provides a permanent joint between track surface and channel.

SPORTFIX slotted channels are supplied with slotted covers made from dip coated steel. The inlet slots of SPORTFIX Super slotted channels consist of EPDM inserts that are initially closed. After the surfacing of the track has been applied, these inserts can be opened very easily.



Channels made of PE-PP, with tongue and groove connection for exact installation, with integrated, KTL-coated steel angle housing. Also available as slotted channel



■ SPORTFIX®Cover made of UV-resistant, unbreakable plastic, both-sided inlet, with fixing feather



■ Trash box with pipeconnection possibility DN 100/150

## **SPORTFIX®**

## PERFECT DRAINAGE - SAFE PAST THE POST.

THE COMPREHENSIVE PRODUCT RANGE FOR ALL SPORTS FACILITIES.

## **REQUIREMENTS**

On sports fields and sports arenas it is mandatory that surface water is drained away quickly and reliably. Drainage channels used for this purpose have to comply with current standards as well as meet the IAAF requirements. Sports facilities should be designed and equipped to ensure that athletes do not sustain serious injuries during falls or accidents.



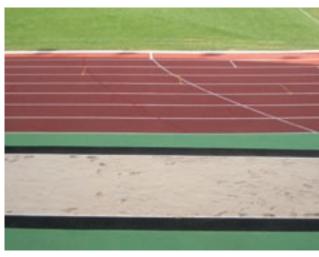
## **SOLUTION**

The SPORTFIX range offers products that meet these requirements, e.g. drainage channels made from 100% recycled PE-PP, soft kerbs with elastic rubber padding, sand traps, water jump kits and distribution boxes.

## **APPLICATION AREAS**

- □ sports grounds with elastic layer running tracks
- □ sports grounds with artificial turf surfaces
- hockey fields
- ☐ jump pits
- water ditches
- small playgrounds
- tennis courts
- □ playgrounds and playing fields
- swimming pools











### **BESPOKE SOLUTIONS**

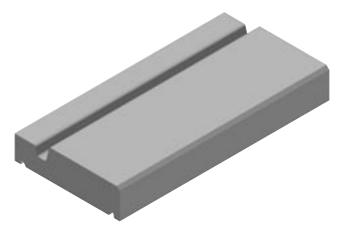
Estádio da Luz, Lisbon, Portugal: slotted channel with raised turf edge for barrier-free transition to the pitch.

In the stadium which is the home of the famous football club Benfica Lisbon and where the final match of the European Cup 2004 took place, the whole inside was drained using HAURATON SPORTFIX channels.

All transitions to the pitch had to be visually unobtrusive and barrier-free - that was the briefing by the design team. The solution was provided by a SPORTFIX channel designed and manufactured with a turf edge that matches the height of the adjacent green drainage mats exactly. The product provides a neat separation of the pitch from the surrounding tracks and yet is nearly invisible. And at the same time, surface water is reliably drained away.

SPORTFIX dish channel with seepage groove for tear-free connection of elastic layer surface finishes.

SPORTFIX dish channels are simple but effective drainage products. A new version of the SPORTFIX dish channel was designed for a project in "Weißkeißel" in Saxony where an elastic layer sports surface had to be installed: the additional locking groove now ensures that the elastic layer surface material is connected without the risk of tearing. Simple, economical and very effective.



SPORTFIX dish channel with locking groove for tearfree connection of plastic surface finishes.



Sports ground "Weißkeißel"