

RECYFIX® HICAP® F

Technical Guide D17.8

High capacity drainage system for the highest load category.



07.23 | DRAINAGE | D178 HAURATON HICAP F

Applications

Airports

Industrial estates

Ports

Product Attributes

High-performance drainage system

Suitable for heavy duty traffic areas up to Class F 900kN

Easy to handle and install

Three unique slot inlet designs

Approval/ Standards

Load rating as per EN 1433

Quality

ISO 9001:2008 Quality Management System

We are the supply partner of choice for New Zealand's civil construction industry, specialising in water and infrastructure based solutions.

RECYFIX® HICAP® F

High capacity drainage system for the highest load category.

Applications

- Airports
- Industrial estates
- Container terminals
- Ports
- Motor racing circuits and test tracks

Requirements

- High hydraulic requirements
- High loads
- Large surface areas to drain

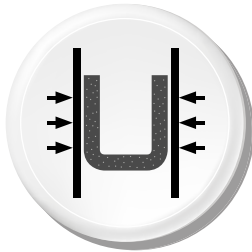
Solutions

- Drainage and retention in one component
- Large selection of nominal widths
- Less manholes and outlets
- Provides uniform visual appearance in large projects
- No separate gratings
- No expensive pipe installations required
- High hydraulic capacity
- Easy to maintain



FIG. 1 Airport Newquay, England

The benefits of RECYFIX® HICAP® F Channels



Top inlet made of high-quality ductile iron and channel body from sustainable PP

- Material: ductile iron EN GJS-500-7
 - 23 times higher tensile strength and 9 times higher compressive strength as polymer concrete
 - Various gratings
 - Surface is extremely robust/ indestructible
- = Safety



Fast & easy installation

- Easy to handle and install
 - Integrated tongue and groove joint
 - Installation in one component
 - Less pipe installations
- = Cost saving



Link & Lock facilitates the installation

- Innovative linking system for ductile iron tops
 - Easy and quick alignment of each channel metre
- = Cost savings



Individual Solutions

- Possible radial installation
 - Cable and pipe installations can be laid through funnel
 - Ductile Iron top on the surface can be interrupted while the channels on the underground continue
- = Flexibility



Wide range

- Various gratings, also available with KTL coating for extra corrosion protection
 - Uniform design also in different nominal widths
- = Flexibility



High stability

- Designed for extreme conditions, especially for applications in heavy road traffic up to class F 900kN
- = Flexibility



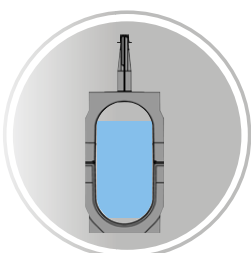
Channel body made from sustainable material

- Material from 100 % recycled PP
 - Very light and unbreakable material
- = Security



Various Connecting Possibilities

- End cap with storm water system connection option
 - Simple corner and T-connections
 - End cap adapter for connecting the next nominal width
 - Various options for pipe connections exists on the channel
- = Flexibility



Large retention volume

- Drainage and retention in one component
 - High capacity and back-pressure capacity due to a variety of sizes
 - Fewer trash boxes and pipe connections required
- = Flexibility/Security

Components

Load Classes

European Standard EN 1433



Load Class F 900kN
Approximate Wheel Load 30,000kg

1 RECYFIX® HICAP® F 1000 made of PP with inlet adaptor and integrated ductile iron top

2 RECYFIX® HICAP® F 3000 made of PP with inlet adaptor and integrated ductile iron top

3 RECYFIX® HICAP® F 5000 made of PP with inlet adaptor and integrated ductile iron top

4 RECYFIX® HICAP® F Trash box with galvanised angle housing and ductile iron grating with SIDE-LOCK for flexible connection of different nominal sizes

5 RECYFIX® HICAP® F 8000 made of PP with inlet adaptor and integrated ductile iron top
6 RECYFIX® HICAP® F 10000 made

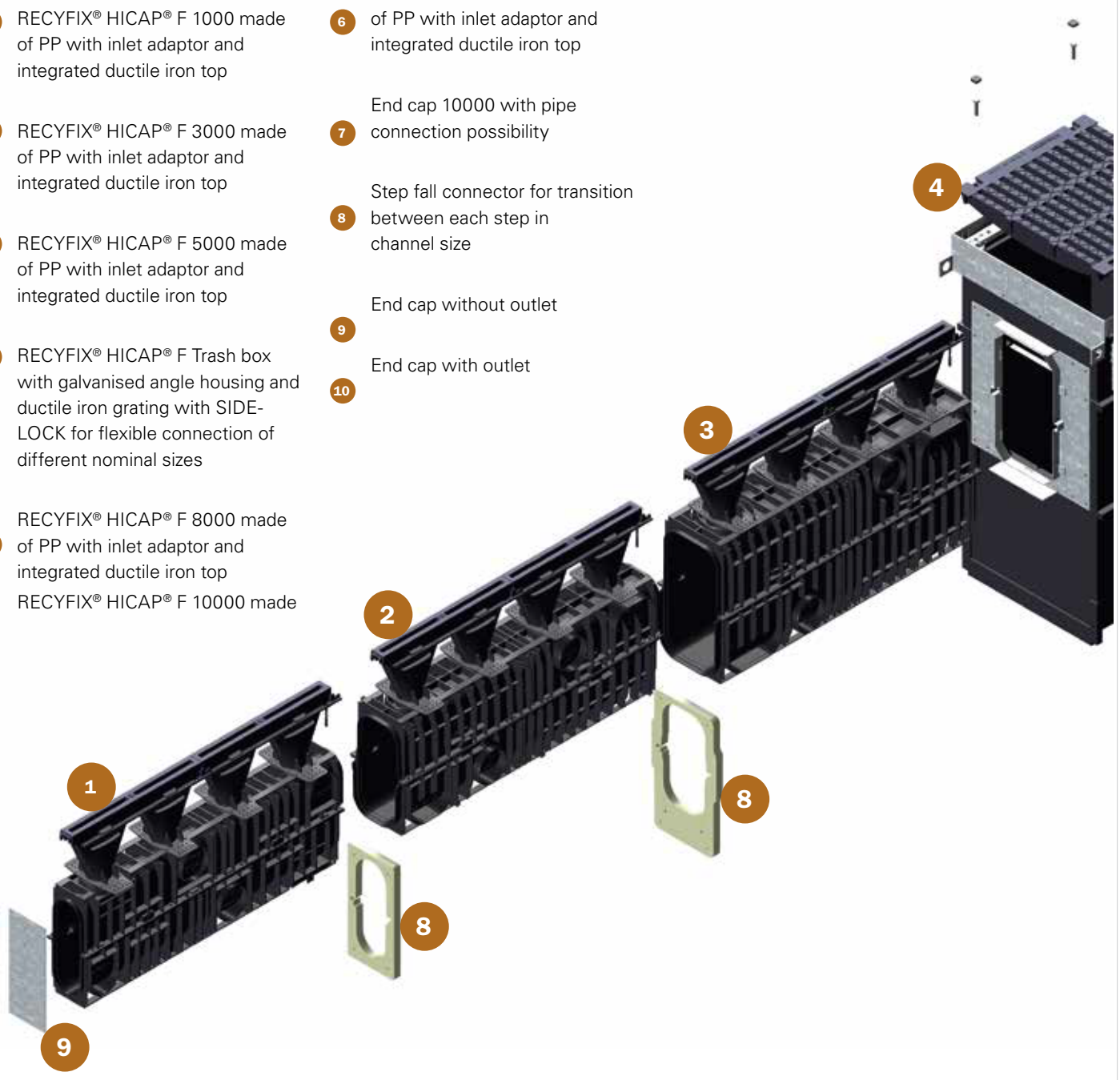
6 of PP with inlet adaptor and integrated ductile iron top

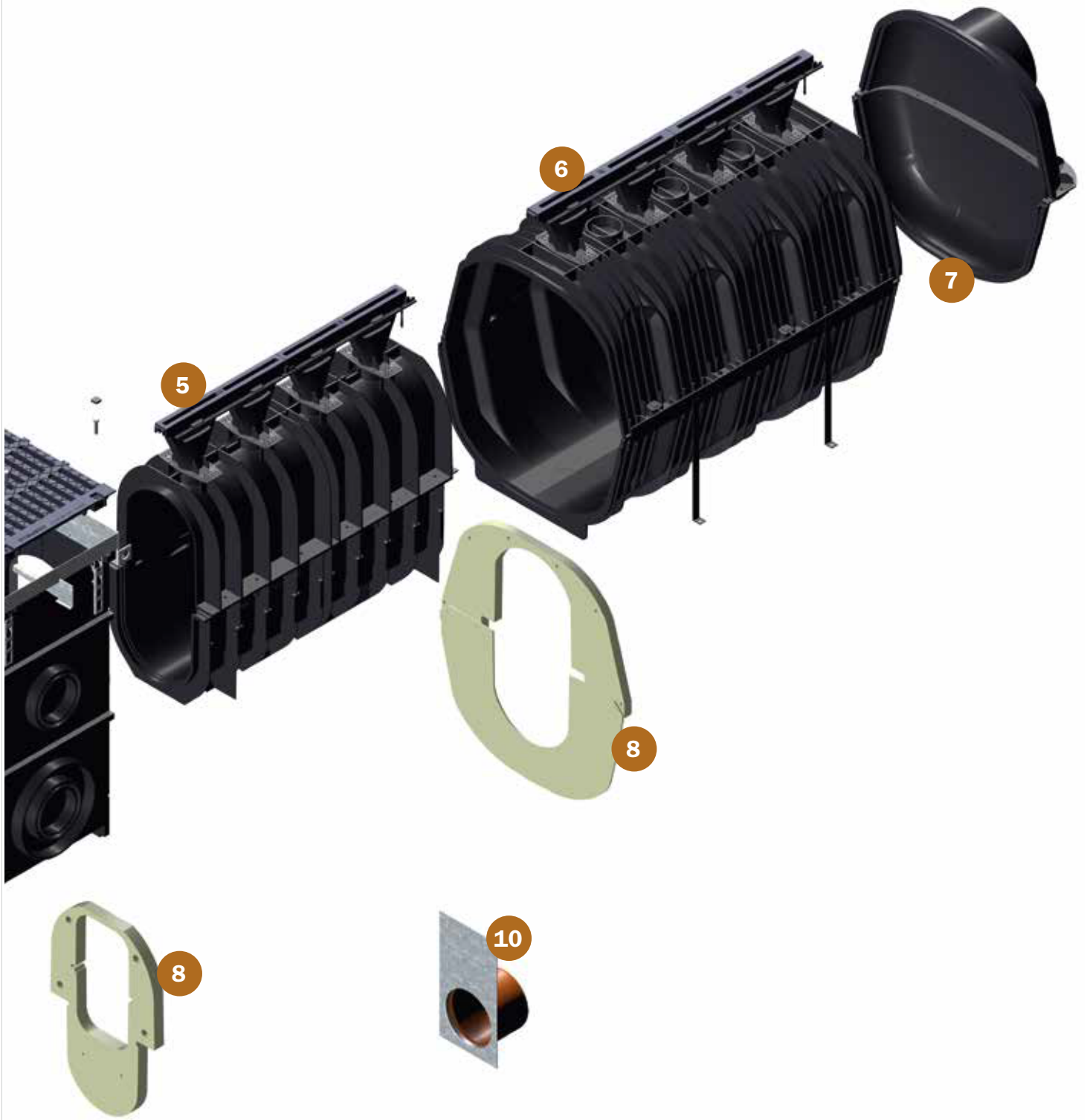
7 End cap 10000 with pipe connection possibility

8 Step fall connector for transition between each step in channel size

9 End cap without outlet

10 End cap with outlet





RECYFIX® HICAP® F 1000

Class F 900kN



FIG. 2

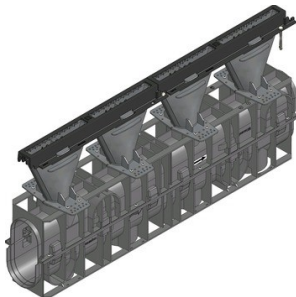
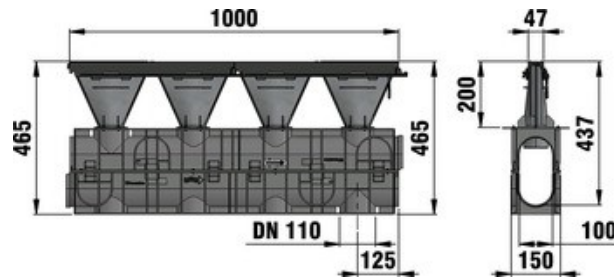


FIG. 3

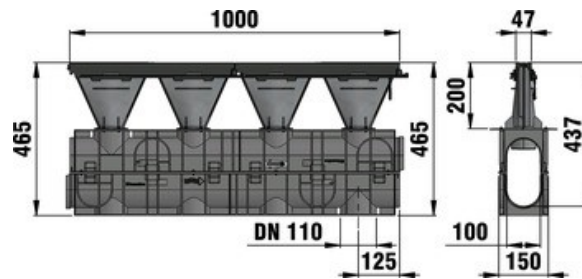
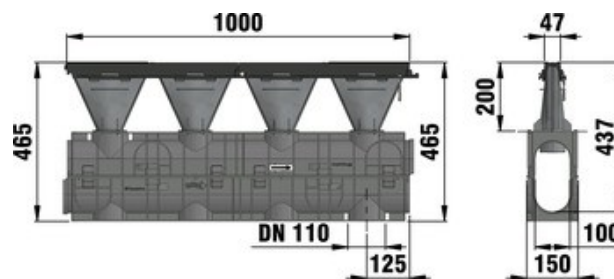


FIG. 4



D17.8 HAURATON HICAP F | DRAINAGE | PG 6

TABLE 1 RECYFIX® HICAP® F 1200 F 900kN

Code	Description	Intake cross-sect cm ² /m	Drainage cross-sect cm ²	Weight kg	Figure #
CHH01402300	Channel HICAP F 1200 DI Mesh 13 x 28mm	172	184	10.8	2
CHH01402303	Channel HICAP F 1200 DI Slotted 28mm	248	184	9.9	3
CHH01402306	Channel HICAP F 1200 DI Slotted 14mm	124	184	10.8	4

Note: Standard funnel height is 200mm, also available in 300mm on request.

Accessories



FIG. 5

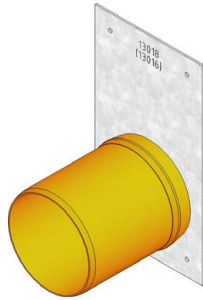


FIG. 6

TABLE 2 RECYFIX® HICAP® F 1000 F 900kN Accessories

Code	Description	Length mm	Width mm	Height mm	Figure #
CHH01402309	End Cap HICAP F 1000mm Galv Blank	-	140	250	5
CHH01402312	End Cap HICAP F 1000mm Galv with 100mm PVC Outlet	-	140	250	6

RECYFIX® HICAP® F 2000

Class F 900kN



FIG. 7

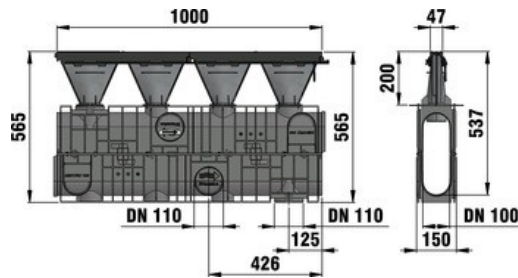


FIG. 8

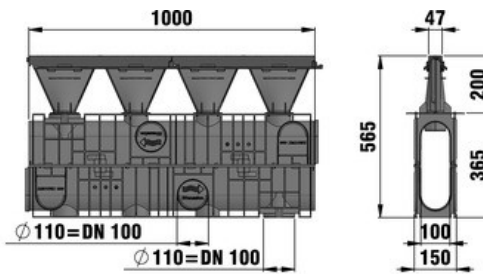


FIG. 9

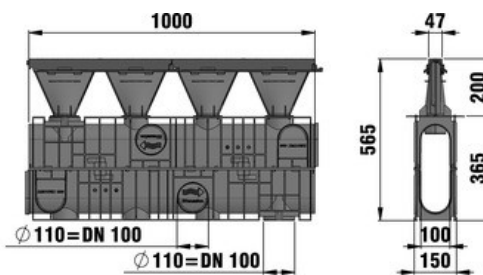


TABLE 3 RECYFIX® HICAP® F 2200 F 900kN

Code	Description	Intake cross-sect cm ² /m	Drainage cross-sect cm ²	Weight kg	Figure #
CHH01402315	Channel HICAP F 2200 DI Mesh 13 x 28mm	172	284	13.2	7
CHH01402318	Channel HICAP F 2200 DI Slotted 28mm	248	284	11.2	8
CHH01402321	Channel HICAP F 2200 DI Slotted 14mm	124	284	11.6	9

Note: Standard funnel height is 200mm, also available in 300mm on request.

Accessories



FIG. 10

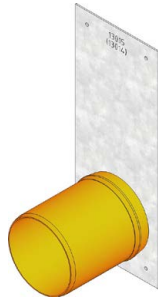


FIG. 11

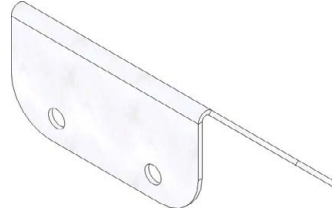


FIG. 12

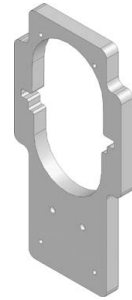


FIG. 13

TABLE 4 RECYFIX® HICAP® F 2000 F 900kN Accessories

Code	Description	Length mm	Width mm	Height mm	Figure #
CHH01402324	End Cap HICAP F 2000mm Galv Blank	-	140	350	10
CHH01402327	End Cap HICAP F 2000mm Galv with 100mm PVC Outlet	-	140	350	11
CHH01402330	Step-Fall Ramp HICAP F 2000-1000 Galv	99	97	95	12
CHH01402333	Step-Fall Connector HICAP F 2000-1000 Galv	-	180	245	13

RECYFIX® HICAP® F 3000

Class F 900kN

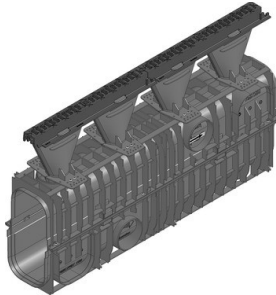


FIG. 14

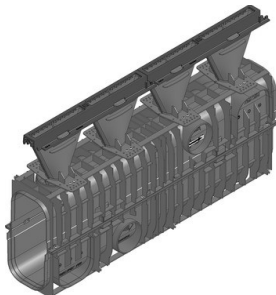
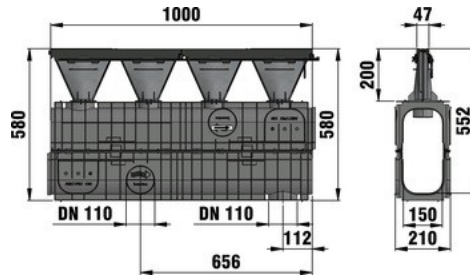


FIG. 15

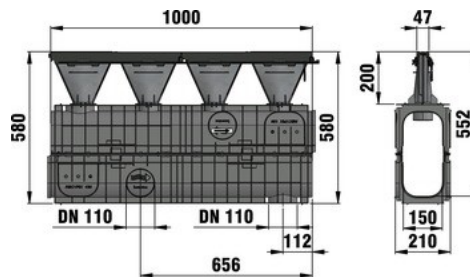
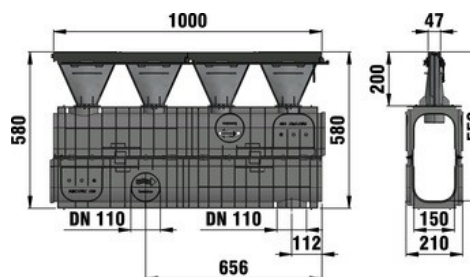


FIG. 16



D178 HAURATON HICAP F | DRAINAGE | PG 10

TABLE 5 RECYFIX® HICAP® F 3200 F 900kN

Code	Description	Intake cross-sect cm ² /m	Drainage cross-sect cm ²	Weight kg	Figure #
CHH01402336	Channel HICAP F 3200 DI Mesh 13 x 28mm	172	460	12.4	14
CHH01402339	Channel HICAP F 3200 DI Slotted 28mm	248	460	11.3	15
CHH01402342	Channel HICAP F 3200 DI Slotted 14mm	124	460	12.0	16

Note: Standard funnel height is 200mm, also available in 300mm on request.

Accessories



FIG. 17

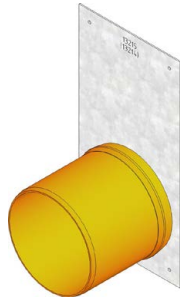


FIG. 18

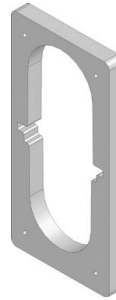


FIG. 19

TABLE 6 RECYFIX® HICAP® F 3000 F 900kN Accessories

Code	Description	Length mm	Width mm	Heigh mm	Figure #
CHH01402345	End Cap HICAP F 3000mm Galv Blank	-	190	370	17
CHH01402348	End Cap HICAP F 3000mm Galv with 150mm PVC Outlet	-	190	370	18
CHH01402351	Step-Fall Connector HICAP F 3000-2000 Galv	-	180	345	19

RECYFIX® HICAP® F 5000

Class F 900kN



FIG. 20

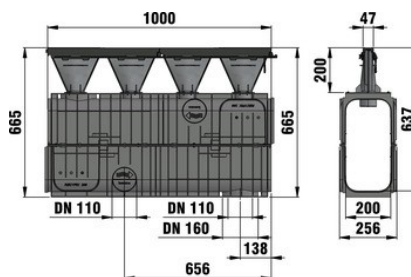


FIG. 21

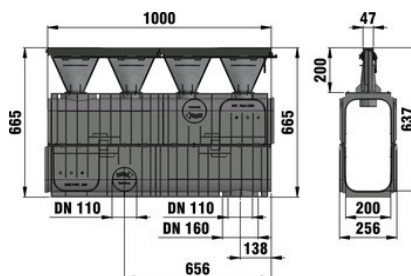
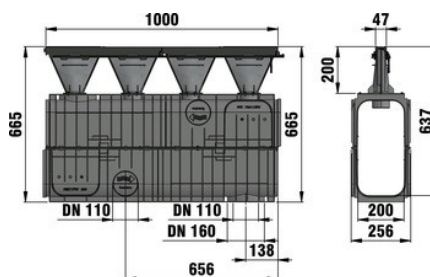


FIG. 22



D178 HAURATON HICAP F | DRAINAGE | PG 12

TABLE 7 RECYFIX® HICAP® F 5200 F 900kN

Code	Description	Intake cross-sect cm ² /m	Drainage cross-sect cm ²	Weight kg	Figure #
CHH01402354	Channel HICAP F 5200 DI Mesh 13 x 28mm	172	790	13.9	20
CHH01402357	Channel HICAP F 5200 DI Slotted 28mm	248	790	12.7	21
CHH01402360	Channel HICAP F 5200 DI Slotted 14mm	124	790	13.5	22

Note: Standard funnel height is 200mm, also available in 300mm on request.

Accessories



FIG. 23

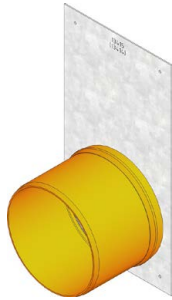


FIG. 24

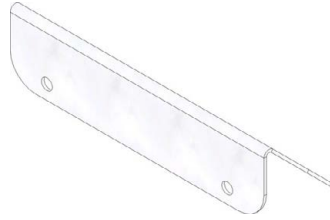


FIG. 25

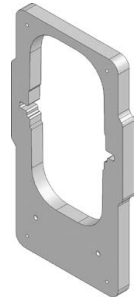


FIG. 26

TABLE 8 RECYFIX® HICAP® F 5000 F 900kN Accessories

Code	Description	Length mm	Width mm	Height mm	Figure #
CHH01402363	End Cap HICAP F 5000mm Galv Blank	-	240	450	23
CHH01402366	End Cap HICAP F 5000mm Galv with 175mm PVC Outlet	-	240	450	24
CHH01402369	Step-Fall Ramp HICAP F 5000-3000 Galv	84	197	80	25
CHH01402372	Step-Fall Connector HICAP F 5000-3000 Galv	-	250	462	26

RECYFIX® HICAP® F 8000

Class F 900kN

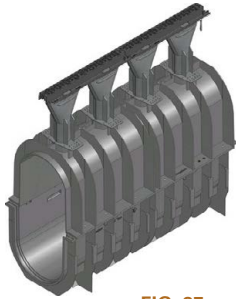


FIG. 27

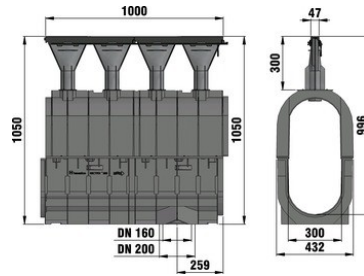


FIG. 28

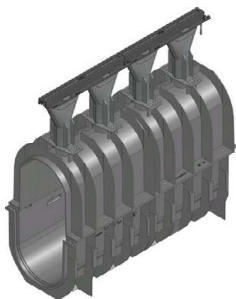
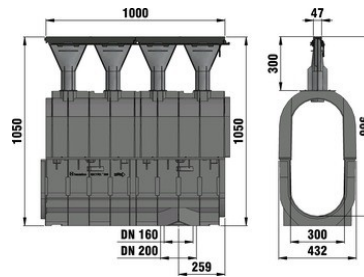


FIG. 29

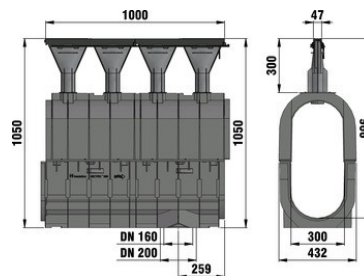


TABLE 9 RECYFIX® HICAP® F 8300 F 900kN

Code	Description	Intake cross-sect cm ² /m	Drainage cross-sect cm ²	Weight kg	Figure #
CHH01402375	Channel HICAP F 8300 DI Mesh 13 x 28mm	172	1714	24.1	27
CHH01402378	Channel HICAP F 8300 DI Slotted 28mm	248	1714	22.3	28
CHH01402381	Channel HICAP F 8300 DI Slotted 14mm	124	1714	23.8	29

Note: Standard funnel height is 300mm.

Accessories



FIG. 30



FIG. 31

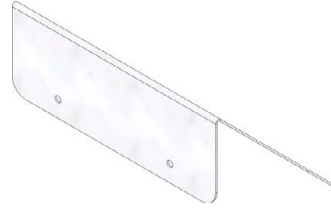


FIG. 32

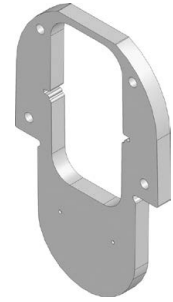


FIG. 33

TABLE 10 RECYFIX® HICAP® F 8000 F 900kN Accessories

Code	Description	Length mm	Width mm	Height mm	Figure #
CHH01402384	End Cap HICAP F 8000mm Galv Blank	-	420	720	30
CHH01402387	End Cap HICAP F 8000mm Galv 175 PVC Outlet	-	420	734	31
CHH01402390	Step-Fall Ramp HICAP F 8000-5000 Galv	258	291	254	32
CHH01402393	Step-Fall Connector HICAP F 8000-5000 Galv	-	432	693	33

RECYFIX® HICAP® F 10000

Class F 900kN

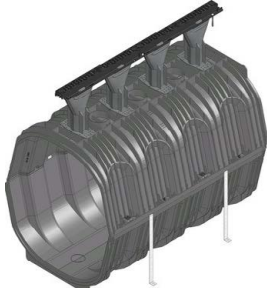


FIG. 34

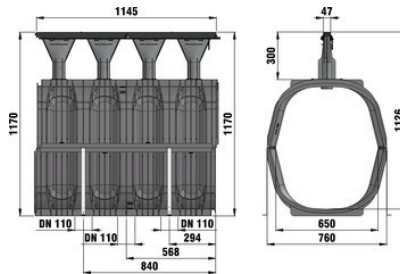


FIG. 35

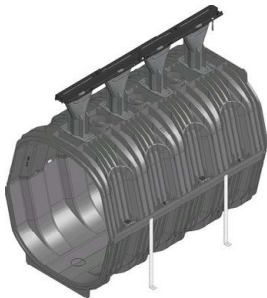
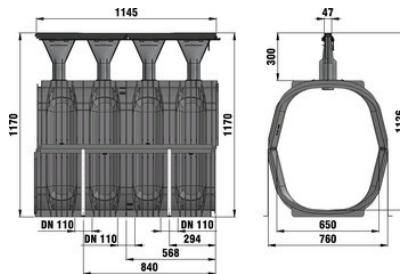
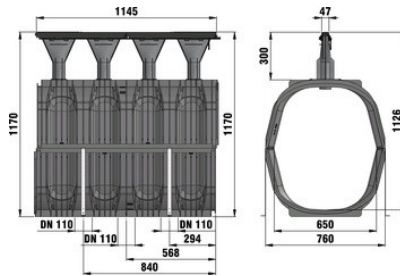


FIG. 36



D178 HAURATON HICAP F | DRAINAGE | PG 16

TABLE 11 RECYFIX® HICAP® F 10300 F 900kN

Code	Description	Intake cross-sect cm ² /m	Drainage cross-sect cm ²	Weight kg	Figure #
CHH01402396	Channel HICAP F 10300 DI Mesh 13 x 28mm	172	4430	31.2	34
CHH01402399	Channel HICAP F 10300 DI Slotted 28mm	248	4430	31.2	35
CHH01402402	Channel HICAP F 10300 DI Slotted 14mm	124	4430	32.2	36

Note: Standard funnel height is 300mm.

Accessories

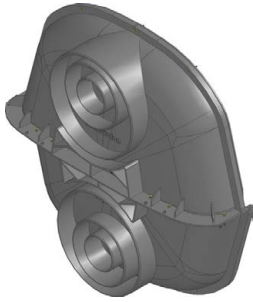


FIG. 37

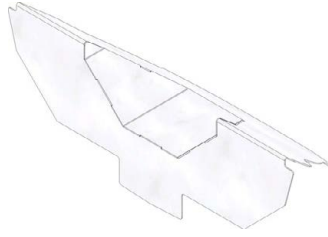


FIG. 38

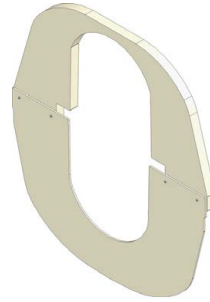


FIG. 39

TABLE 12 RECYFIX® HICAP® F 10000 F 900kN Accessories

Code	Description	Length mm	Width mm	Height mm	Figure #
CHH01402405	End Cap HICAP F 10000 Connector Outlet	-	803	822	37
CHH01402408	Step-Fall Ramp HICAP F 10000-8000 Galv	280	686	255	38
CHH01402411	Step-Fall Connector HICAP F 10000-8000 Galv	-	759	846	39

RECYFIX® HICAP® F Trash Boxes

Class E 600kN

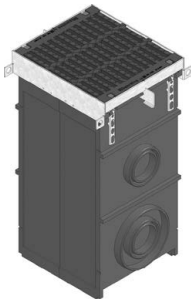


FIG. 40

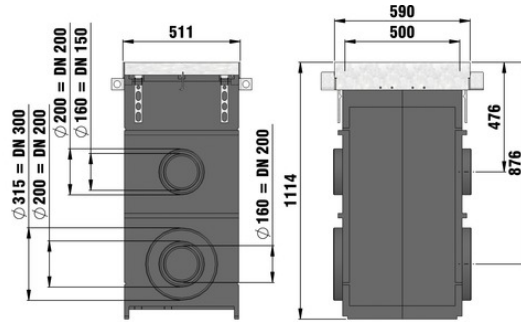


FIG. 41

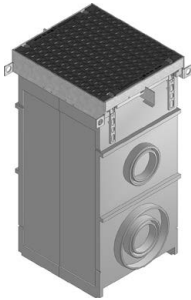


FIG. 42

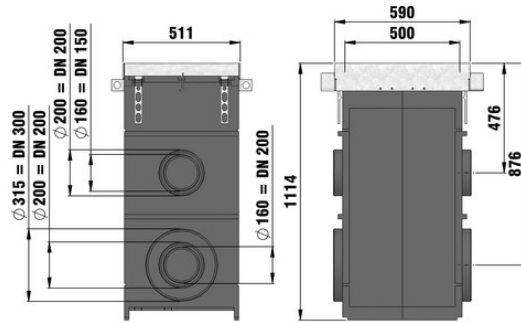


FIG. 43

D178 HAURATON HICAP F | DRAINAGE | PG 18

TABLE 13 RECYFIX® HICAP® E 600kN Trash Boxes

Code	Description	Length mm	Width mm	Height mm	Figure #
CHH01402414	Trash Box HICAP F DI Slotted 140 x 20mm	511	590	1114	40 & 41
CHH01402417	Trash Box HICAP F DI Solid Cover	511	590	1114	42 & 43
CHH01402420	Trash Box Connector HICAP F 1000	-	-	-	-
CHH01402423	Trash Box Connector HICAP F 2000	-	-	-	-
CHH01402426	Trash Box Connector HICAP F 3000	-	-	-	-
CHH01402429	Trash Box Connector HICAP F 5000	-	-	-	-
CHH01402432	Trash Box Connector HICAP F 8000	-	-	-	-
CHH01402405	*End Cap HICAP F 10000 Connector Outlet	-	803	822	37

Note: CHH01402405 is also used as a Trash Box Connector for HICAP F 10000

Installation Guidelines

Installation example in asphalted areas class A 15 - F 900

* y = Channel height plus camber

Category according to EN 1433 / DIN 19580	A 15	B 125	C 250	D 400**	E 600	F 900	Applying to following systems: RECYFIX HICAP F 1200, 2200, 3200, 5200
Foundation: width x / thickness z / height y (in cm)	10 / 15 / *	10 / 15 / *	10 / 15 / *	15 / 15 / *	15 / 20 / *	15 / 20 / *	
The named concrete quality is a minimum quality***							
EN 206-1 / DIN 1045-2	quality of concrete stretcher	C 30/37 XF 4	C 30/37 XF 4	C 30/37 XF 4	C 30/37 XF 4	C 30/37 XF 4	Format DIN A4 scale 1:8
	with danger of frost on the lateral support	C 30/37 XD 1	C 30/37 XD 1	C 30/37 XD 1	C 30/37 XD 1	C 30/37 XD 1	
The installation examples / advise constantly are adapted to the technical conditions. With new editions older expenditures lose their validity. Before planning or installation please verify the current version at www.hauraton.com in building construction is a sealing layer below the channels necessary.		Date: 23.10.2018		Our general installation instructions apply.		 Unit 4, Frenchs Avenue LU6 1BH Dunstable / Bedfordshire Tel. +44 1582 50 1380 technical@hauraton.co.uk	
** Not for use in continuously frequented areas of carriageways or motorways *** European Standard. C 20/25 = minimum 25mPa, C 30/37 = minimum 37mPa		0000097861.dwg EBBw		RF-HICAP-F-1200 Einbaubeispiel Klasse F 900 in Asphalt			

Installation example in asphalted areas class A 15 - F 900

* y = Channel height plus camber

Category according to EN 1433 / DIN 19580	A 15	B 125	C 250	D 400**	E 600	F 900	Applying to following systems: RECYFIX HICAP F 8300, 10300
Foundation: width x / thickness z / height y (in cm)	10 / 15 / *	10 / 15 / *	10 / 15 / *	15 / 15 / *	15 / 20 / *	15 / 20 / *	
The named concrete quality is a minimum quality***							
EN 206-1 / DIN 1045-2	quality of concrete stretcher	C 30/37 XF 4	C 30/37 XF 4	C 30/37 XF 4	C 30/37 XF 4	C 30/37 XF 4	Format DIN A4 scale 1:12
	with danger of frost on the lateral support	C 30/37 XD 1	C 30/37 XD 1	C 30/37 XD 1	C 30/37 XD 1	C 30/37 XD 1	
The installation examples / advise constantly are adapted to the technical conditions. With new editions older expenditures lose their validity. Before planning or installation please verify the current version at www.hauraton.com in building construction is a sealing layer below the channels necessary.		Date: 23.10.2018		Our general installation instructions apply.		 Unit 4, Frenchs Avenue LU6 1BH Dunstable / Bedfordshire Tel. +44 1582 50 1380 technical@hauraton.co.uk	
** Not for use in continuously frequented areas of carriageways or motorways *** European Standard. C 20/25 = minimum 25mPa, C 30/37 = minimum 37mPa		0000097936.dwg EBBw		RF-HICAP-F-8300 Einbaubeispiel Klasse F 900 in Asphalt			

Installation example concrete class A 15 - F 900

* y = Channel height plus camber

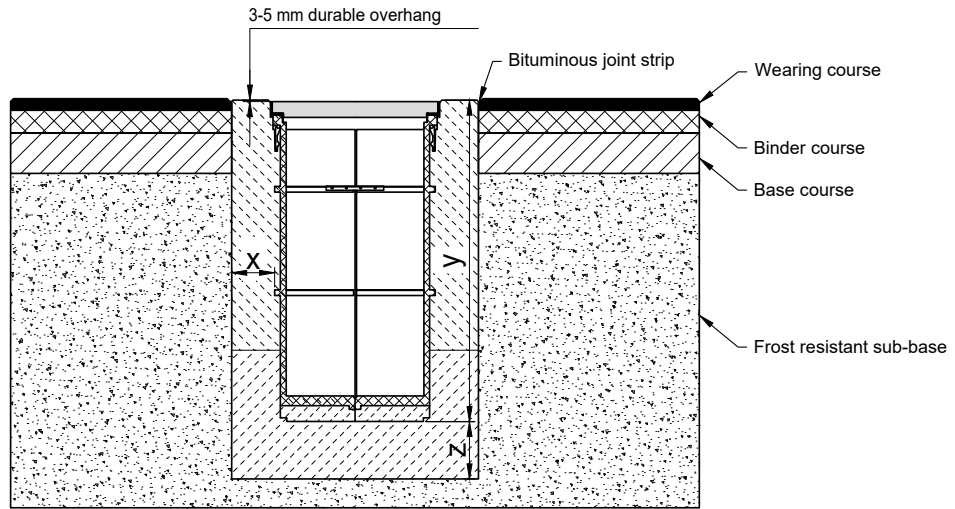
Category according to EN 1433 / DIN 19580	A 15	B 125	C 250	D 400**	E 600	F 900	Applying to following systems: RECYFIX HICAP F 1200, 2200, 3200, 5200
Foundation: width x / thickness z / height y (in cm)	10 / 15 / *	10 / 15 / *	10 / 15 / *	15 / 15 / *	15 / 20 / *	15 / 20 / *	
The named concrete quality is a minimum quality***							
EN 206-1 / DIN 1045-2	without danger of frost on the lateral support	C 30/37 XF 4	C 30/37 XF 4	C 30/37 XF 4	C 30/37 XF 4	C 30/37 XF 4	Format DIN A4 scale 1:10
	with danger of frost on the lateral support	C 30/37 XD 1	C 30/37 XD 1	C 30/37 XD 1	C 30/37 XD 1	C 30/37 XD 1	
The installation examples / advise constantly are adapted to the technical conditions. With new editions older expenditures lose their validity. Before planning or installation please verify the current version at www.hauraton.com in building construction is a sealing layer below the channels necessary.		Date: 23.10.2018		Our general installation instructions apply.		 Unit 4, Frenchs Avenue LU6 1BH Dunstable / Bedfordshire Tel. +44 1582 50 1380 technical@hauraton.co.uk	
** Not for use in continuously frequented areas of carriageways or motorways *** European Standard. C 20/25 = minimum 25mPa, C 30/37 = minimum 37mPa		0000098003.dwg EBBw		RF-HICAP-F-5200 Einbaubeispiel Klasse F 900 in Beton			

Installation example concrete class A 15 - F 900

* y = Channel height plus camber

Category according to EN 1433 / DIN 19580	A 15	B 125	C 250	D 400**	E 600	F 900	Applying to following systems: RECYFIX HICAP F 8300, 10300
Foundation: width x / thickness z / height y (in cm)	10 / 15 / *	10 / 15 / *	10 / 15 / *	15 / 15 / *	15 / 20 / *	15 / 20 / *	
The named concrete quality is a minimum quality***							
EN 206-1 / DIN 1045-2	quality of concrete stretcher	C 30/37 XF 4	C 30/37 XF 4	C 30/37 XF 4	C 30/37 XF 4	C 30/37 XF 4	Format DIN A4 scale 1:12
	with danger of frost on the lateral support	C 30/37 XD 1	C 30/37 XD 1	C 30/37 XD 1	C 30/37 XD 1	C 30/37 XD 1	
The installation examples / advise constantly are adapted to the technical conditions. With new editions older expenditures lose their validity. Before planning or installation please verify the current version at www.hauraton.com in building construction is a sealing layer below the channels necessary.		Date: 23.10.2018		Our general installation instructions apply.		 Unit 4, Frenchs Avenue LU6 1BH Dunstable / Bedfordshire Tel. +44 1582 50 1380 technical@hauraton.co.uk	
** Not for use in continuously frequented areas of carriageways or motorways *** European Standard. C 20/25 = minimum 25mPa, C 30/37 = minimum 37mPa		0000097937.dwg EBBw		RF-HICAP-F-8300 Einbaubeispiel Klasse F 900 in Beton			

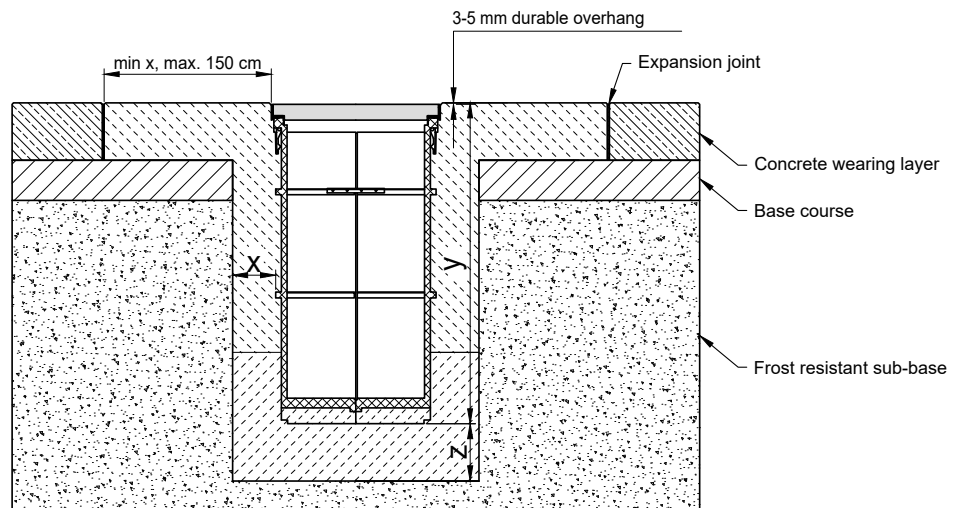
Installation example
in asphalted areas class E 600



* y = Channel height plus camber

Category according to EN 1433 / DIN 19580	A 15	B 125	C 250	D 400**	E 600	F 900	Applying to following systems: RECYFIX HICAP Trash box 500
Foundation: width x / thickness z / height y (in cm)					15 / 20 / *		
The named concrete quality is a minimum quality***					C 30/37 XF 4 C 30/37 XD 1		
EN 206-1 / DIN 1045-2	quality of concrete stretchers with danger of frost on the lateral support						
The installation examples / advise constantly are adapted to the technical conditions. With new editions older expenditures lose their validity. Before planning or installation please verify the current version at www.hauraton.com In building construction is a sealing layer below the channels necessary.				Date: 23.10.2018	Our general installation instructions apply.		Format DIN A4 scale 1:15
** Not for use in continuously frequented areas of carriageways or motorways *** European Standard C 20/25 = minimum 25mPa, C 30/37 = minimum 37mPa				0000067004.dwg	EBBw		hauraton Unit 4, Frenchs Avenue LU6 1BH Dunstable / Bedfordshire Tel. +44 1582 50 1380 technical@hauraton.co.uk
RF-HICAP-S-500 Einlaufkasten Einbaubeispiel Klasse E 600 in Asphalt							

Installation example
concrete class E 600



* y = Channel height plus camber

Category according to EN 1433 / DIN 19580	A 15	B 125	C 250	D 400**	E 600	F 900	Applying to following systems: RECYFIX HICAP Trash box 500
Foundation: width x / thickness z / height y (in cm)					15 / 20 / *		
The named concrete quality is a minimum quality***					C 30/37 XF 4 C 30/37 XD 1		
EN 206-1 / DIN 1045-2	quality of concrete stretchers with danger of frost on the lateral support						
The installation examples / advise constantly are adapted to the technical conditions. With new editions older expenditures lose their validity. Before planning or installation please verify the current version at www.hauraton.com In building construction is a sealing layer below the channels necessary.				Date: 23.10.2018	Our general installation instructions apply.		Format DIN A4 scale 1:15
** Not for use in continuously frequented areas of carriageways or motorways *** European Standard C 20/25 = minimum 25mPa, C 30/37 = minimum 37mPa				0000066986.dwg	EBBw		hauraton Unit 4, Frenchs Avenue LU6 1BH Dunstable / Bedfordshire Tel. +44 1582 50 1380 technical@hauraton.co.uk
RF-HICAP-S-500 Einlaufkasten Einbaubeispiel Klasse E 600 in Beton							



FIG. 44 Balice Airport, Poland

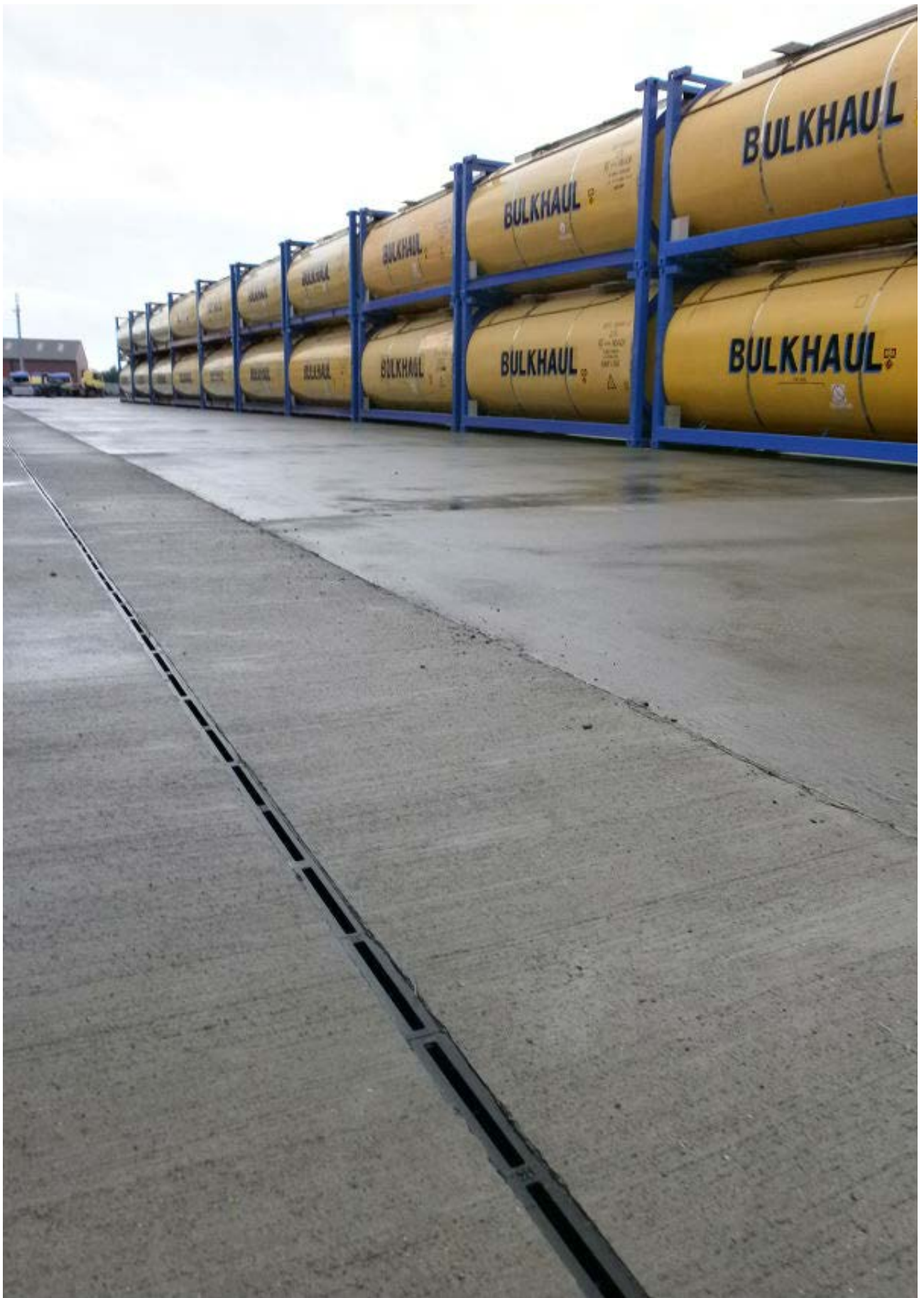


FIG. 45 Middlesbrough - Teesside Bulkhaul Container Yard, UK

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