



www.stora-drain.be

STORA OPTIMA PLUS

POLYESTER CONCRETE DRAINAGE CHANNEL
WITH PROTECTIVE IRON PROFILE
D400-E600



STORA-DRAIN

In harmony with nature...

LOAD CLASS

according EN1433:2005

The indications A15, B125, C250, D400, E600 or F900 measure the level of test resistance expressed in kN that is statically transmitted to the element being studied under laboratory conditions. For example, grid class C250 means that it transmits a strength of 250kN applied in accordance with EN 1433:2005.

CLASS

A 15

Areas which can only be used by pedestrians and cyclist, and similar A 15 areas such as green spaces.



CLASS

B 125

Footways, pedestrian areas and comparable areas, private car parks or car parking decks.



CLASS

C 250

Kerb sides and non-trafficked areas of hard shoulders and similar.



CLASS

D 400

Load traffic lanes (including pedestrian streets), hard shoulders and parking areas, for all types of road vehicles. Only longitudinal use, never transverse direction.



CLASS

E 600

Areas subjected to high wheel loads. Only longitudinal use, never transverse direction.



CLASS

F 900

Areas subjected to especially high wheel loads (e.g. aircraft pavements). Only longitudinal use, never transverse direction.





STORA-DRAIN

OPTIMA PLUS

POLYESTER CONCRETE DRAINAGE CHANNEL
WITH PROTECTIVE IRON PROFILE

STORA-DRAIN

OPTIMA PLUS

D400 / E600



POLYESTER CONCRETE DRAINAGE CHANNEL WITH PROTECTIVE IRON PROFILE

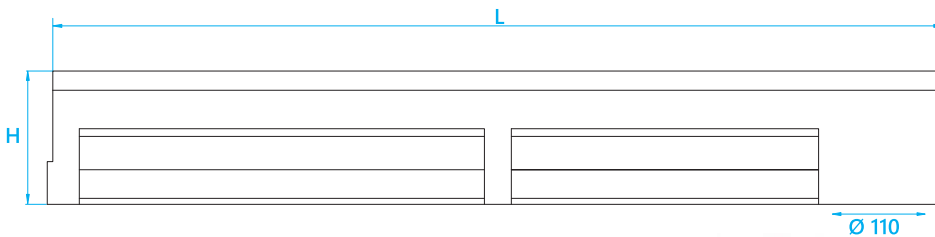
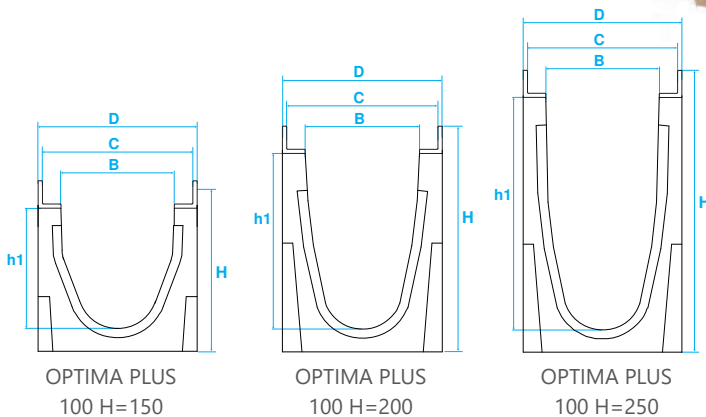
STORA OPTIMA PLUS channels with cast iron protective edge are the ideal solution for surface water drainage in areas with medium to heavy traffic loads. The **STORA OPTIMA PLUS** range offers solutions for surface water drainage in areas such as business parks, industrial estates and car parks that require the ability to withstand heavy loadings.

The **STORA OPTIMA PLUS** channels are available in **B=100/150/200/300** width. The low weight of the channels as well the tongue and groove jointing system simplify the installation. The **STORA OPTIMA PLUS** channels are suitable for loadings up to and including **E600**.

Channel **STORA OPTIMA PLUS**



Channel **STORA OPTIMA PLUS** with cast iron profiles



OPTIMA PLUS 100

OPTIMA PLUS 150

OPTIMA PLUS 200

OPTIMA PLUS

STORA-DRAIN

OPTIMA PLUS 100

CHANNEL + GRATING

D400

- anchorage screw
- ductile iron grating "WAVE"

B=100 C=132 D=140	H	h1	Vert. outlet on channel	hydraulic capacity	KG	units per pallet	waterway area	Article number
channel L=1m	150	110	Ø 110	(2x) 5,92 L/sec	23,60	35	(2x) 0,90 dm ²	SOP10151356
channel L=0,5m cross	150	110	Ø 110	5,92 L/sec	14,40	-	0,90 dm ²	SOP10155356
channel L=1m	200	160	Ø 110	(2x) 5,92 L/sec	27,70	28	(2x) 0,90 dm ²	SOP10201356
channel L=0,5m cross	200	160	Ø 110	5,92 L/sec	17,00	-	0,90 dm ²	SOP10205356
channel L=1m	250	210	Ø 110	(2x) 5,92 L/sec	32,70	28	(2x) 0,90 dm ²	SOP10251356
channel L=0,5m	250	210	Ø 110	5,92 L/sec	19,70	-	0,90 dm ²	SOP10255356

Class D400 : only longitudinal use, never transverse direction.

Half of quantity on one pallet are with possibility to make vertical outlet

STORA-DRAIN

OPTIMA PLUS 100

CHANNEL + GRATING

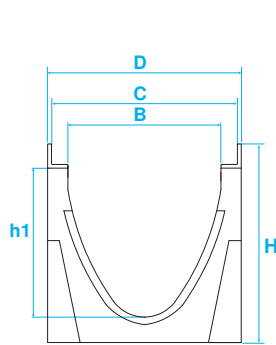
E600

- anchorage screw
- ductile iron grating "WAVE"

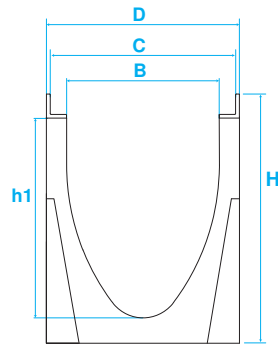
B=100 C=132 D=140	H	h1	Vert. outlet on channel	hydraulic capacity	KG	units per pallet	waterway area	Article number
channel L=1m	150	110	Ø 110	(2x) 5,92 L/sec	26,00	35	(2x) 0,90 dm ²	SOP10151370
channel L=0,5m cross	150	110	Ø 110	5,92 L/sec	15,60	-	0,90 dm ²	SOP10155370
channel L=1m	200	160	Ø 110	(2x) 5,92 L/sec	30,10	28	(2x) 0,90 dm ²	SOP10201370
channel L=0,5m cross	200	160	Ø 110	5,92 L/sec	18,20	-	0,90 dm ²	SOP10205370
channel L=1m	250	210	Ø 110	(2x) 5,92 L/sec	35,10	28	(2x) 0,90 dm ²	SOP10251370
channel L=0,5m	250	210	Ø 110	5,92 L/sec	20,90	-	0,90 dm ²	SOP10255370

Class E600 : only longitudinal use, never transverse direction.

Half of quantity on one pallet are with possibility to make vertical outlet



OPTIMA PLUS 150 H=195



OPTIMA PLUS 150 H=245

STORA-DRAIN

OPTIMA PLUS 150

CHANNEL + GRATING

D400



- anchorage screw
- ductile iron grating "WAVE"

B=150 C=182 D=190	H	h1	Vert. outlet on channel	hydraulic capacity	KG	units per pallet	waterway area	Article number
channel L=1m	195	150	Ø 160	(2x) 10, 20 L/sec	35,10	25	(2x) 1,55 dm ²	SOP15191357
channel L=0,5m cross	195	150	Ø 160	10, 20 L/sec	22,70	-	1,55 dm ²	SOP15195357
channel L=1m	245	200	Ø 160	(2x) 10, 20 L/sec	38,10	20	(2x) 1,55 dm ²	SOP15241357
channel L=0,5m cross	245	200	Ø 160	10, 20 L/sec	26,70	-	1,55 dm ²	SOP15245357

Class D400 : only longitudinal use, never transverse direction.
Half of quantity on one pallet are with possibility to make vertical outlet

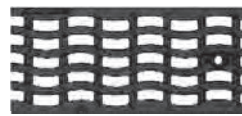
OPTIMA PLUS

STORA-DRAIN

OPTIMA PLUS 150

CHANNEL + GRATING

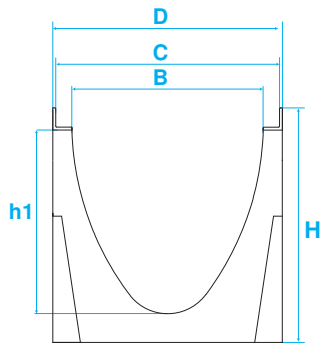
E600



- anchorage screw
- ductile iron grating "WAVE"

B=150 C=182 D=190	H	h1	Vert. outlet on channel	hydraulic capacity	KG	units per pallet	waterway area	Article number
channel L=1m	195	150	Ø 160	(2x) 10, 20 L/sec	42,50	20	(2x) 1,55 dm ²	SOP15191371
channel L=0,5m cross	195	150	Ø 160	10, 20 L/sec	27,50	-	1,55 dm ²	SOP15195371
channel L=1m	245	200	Ø 160	(2x) 10, 20 L/sec	51,30	15	(2x) 1,55 dm ²	SOP15241371
channel L=0,5m cross	245	200	Ø 160	10, 20 L/sec	31,50	-	1,55 dm ²	SOP15245371

Class E600 : only longitudinal use, never transverse direction.
Half of quantity on one pallet are with possibility to make vertical outlet



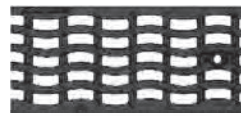
OPTIMA PLUS 200 H=245

STORA-DRAIN

OPTIMA PLUS 200

CHANNEL + GRATING

D400



- anchorage screw
- ductile iron grating "WAVE"

B=200 C=232 D=240	H	h1	Vert. outlet on channel	hydraulic capacity	KG	units per pallet	waterway area	Article number
channel L=1m	245	200	Ø 200	(2x) 14,13 L/sec	46,10	20	(2x) 2,15 dm ²	SOP20241358
channel L=0,5m cross	245	200	Ø 200	14,13 L/sec	28,80	-	2,15 dm ²	SOP20245358

Class D400 : only longitudinal use, never transverse direction.

STORA-DRAIN

OPTIMA PLUS 200

CHANNEL + GRATING

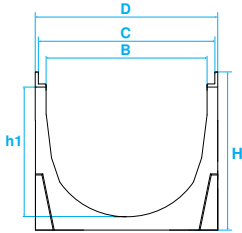
E600



- anchorage screw
- ductile iron grating "WAVE"

B=200 C=232 D=240	H	h1	Vert. outlet on channel	hydraulic capacity	KG	units per pallet	waterway area	Article number
channel L=1m	245	200	Ø 200	(2x) 14,13 L/sec	60,60	16	(2x) 2,15 dm ²	SOP20241372
channel L=0,5m cross	245	200	Ø 200	14,13 L/sec	35,70	-	2,15 dm ²	SOP20245372

Class E600 : only longitudinal use, never transverse direction.



OPTIMA PLUS 300 H=295

STORA-DRAIN

OPTIMA PLUS 300

CHANNEL + GRATING

D400



- anchorage screw
- ductile iron grating "WAVE"

B=300 C=330 D=340	H	h1	Vert. outlet on channel	hydraulic capacity	KG	units per pallet	waterway area	Article number
channel L=1m	295	250	Ø 200	(2x) 19,40 L/sec	74,10	12	(2x) 2,95 dm ²	SOP30291359
channel L=0,5m cross	295	250	Ø 200	19,40 L/sec	36,70		2,95 dm ²	SOP30295359

Class D400 : only longitudinal use, never transverse direction.

OPTIMA PLUS

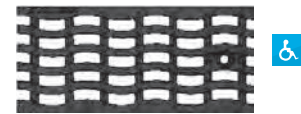
SUMP UNIT 100

D400

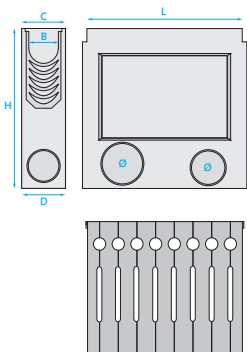


- One part sump unit + bucket + iron grating "WAVE"

E600

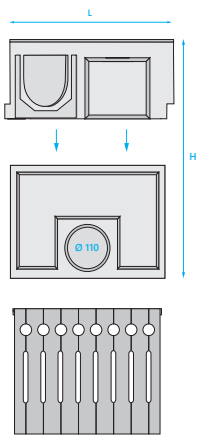


- One part sump unit + bucket + iron grating "WAVE"

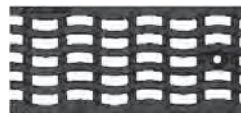


L	500	500
H	500	500
Front/side outlets	Ø 110/160	Ø 110/160
KG	34,70	35,00
Article number	AU12001356	AU12001370

SUMP UNIT 150

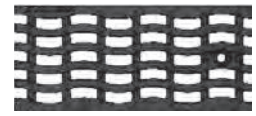


D400



■ Two parts sump unit + bucket
+ iron grating "WAVE"

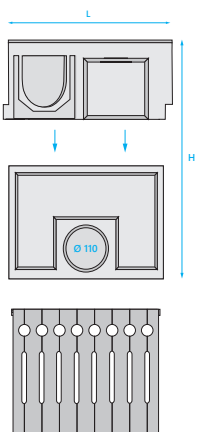
E600



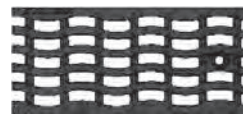
■ Two parts sump unit + bucket
+ iron grating "WAVE"

L	500	500
H	650	650
Front/side outlets	Ø 110/160/200	Ø 110/160/200
KG	42,60	47,30
Article number	AU12101357	AU12101371

SUMP UNIT 200

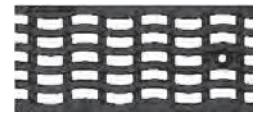


D400



■ Two parts sump unit + bucket
+ iron grating "WAVE"

E600

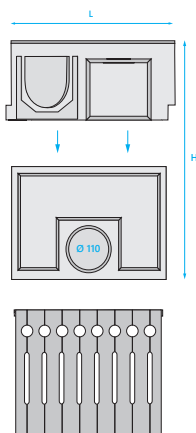


■ Two parts sump unit + bucket
+ iron grating "WAVE"

L	500	500
H	650	650
Front/side outlets	Ø 110/160/200	Ø 110/160/200
KG	58,30	65,20
Article number	AU12201358	AU12201372



SUMP UNIT 300



D400



■ Two parts sump unit + bucket
+ iron grating "WAVE"

L	500
H	650
Front/side outlets	Ø 110/160/200
KG	77,00
Article number	AU12201359

OPTIMA PLUS

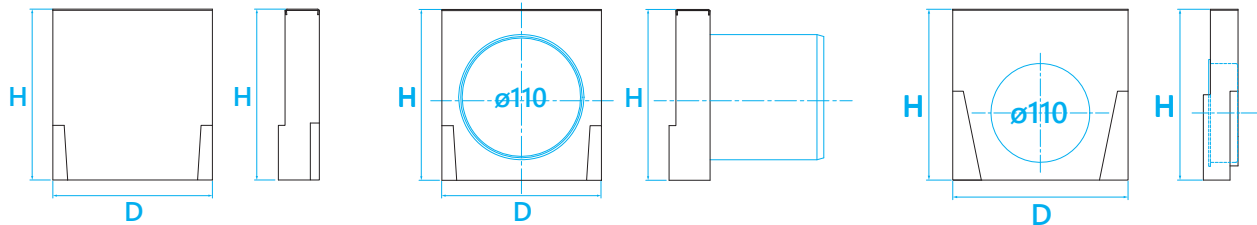
STEPPED FALL 100/150

Type	For channel (H)	KG	Article number
100	H 150/200/250	0,70	AL10000100
150	H 195/245	0,70	AL15000200



ENDCAPS 100/150/200/300

Type	H	Outlet	KG	Article number
100	150	closed	1,40	AE10078000
100	150	Ø 110 with pipe	1,40	AE10088000
100	200	closed	1,80	AE10098000
100	200	Ø 110 with pipe	1,80	AE10108000
100	250	closed	2,20	AE10118000
100	250	Ø 110 with pipe	2,20	AE10128000
150	195	Ø 110 universal	2,20	AE15028000
150	245	Ø 110 universal	2,20	AE15038000
200	245	Ø 160 universal	2,50	AE20018000
300	295	Ø 200 universal	4,50	AE30018000



Closed



With pipe



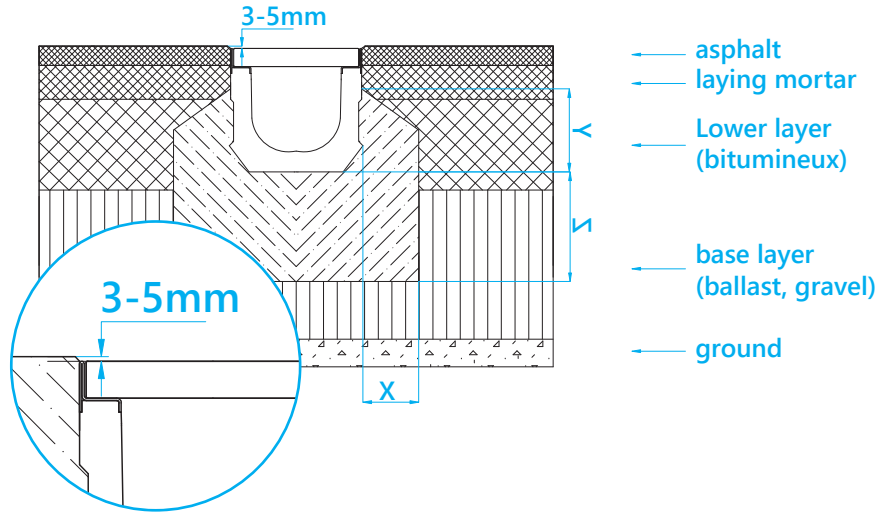
Universal

INSTALLATION INSTRUCTIONS

INSTALLATION EXAMPLE - ASPHALT

CLASS D400 / E600 / F900

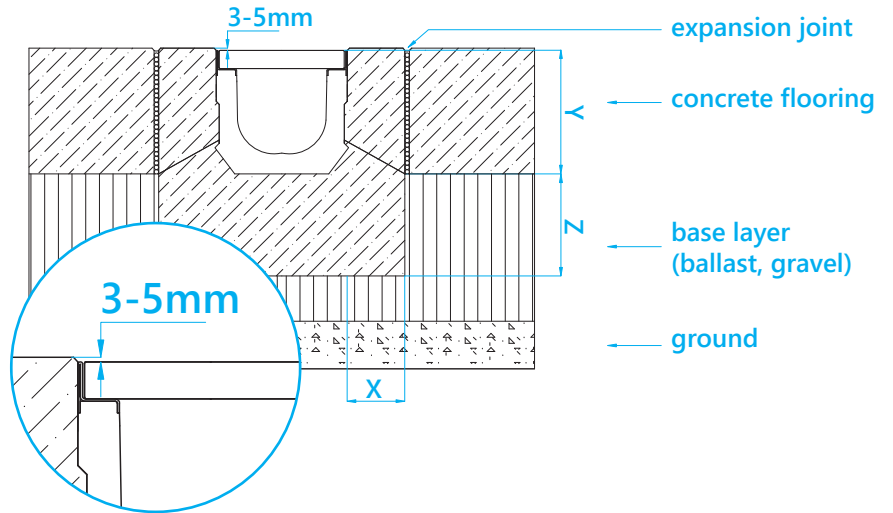
Load Class ac.: PN EN 1433		D400	E600	F900
Minimum compressive concrete strength to:	DIN 1045-2	B25	B25	B25
	DIN EN 206-01	C20/25	C20/25	C20/25
Dimensions	X (mm)	≥ 200	≥ 200	≥ 200
	Y (mm)	Full channel height		
	Z (mm)	≥ 200	≥ 200	≥ 200



INSTALLATION EXAMPLE - CONCRETE

CLASS D400 / E600 / F900

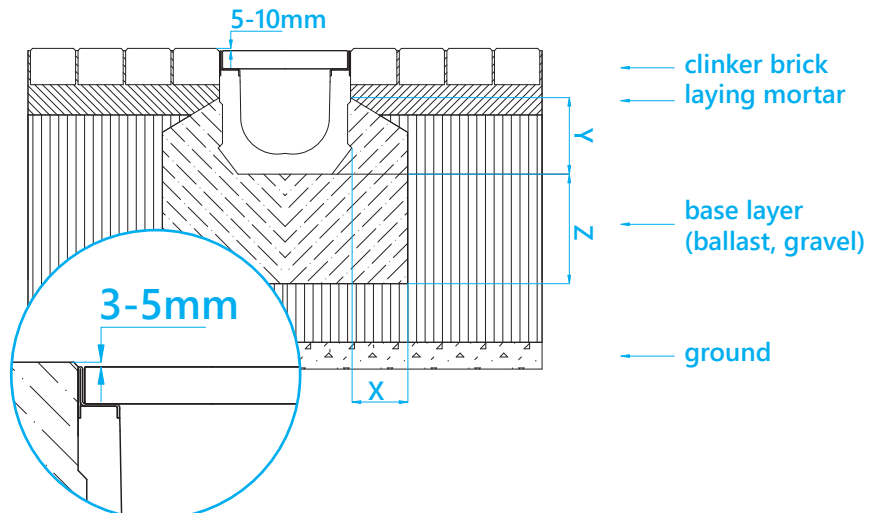
Load Class ac.: PN EN 1433		D400	E600	F900
Minimum compressive concrete strength to:	DIN 1045-2	B25	B25	B25
	DIN EN 206-01	C20/25	C20/25	C20/25
Dimensions	X (mm)	≥ 200	≥ 200	≥ 200
	Y (mm)	Full channel height		
	Z (mm)	≥ 200	≥ 200	≥ 200



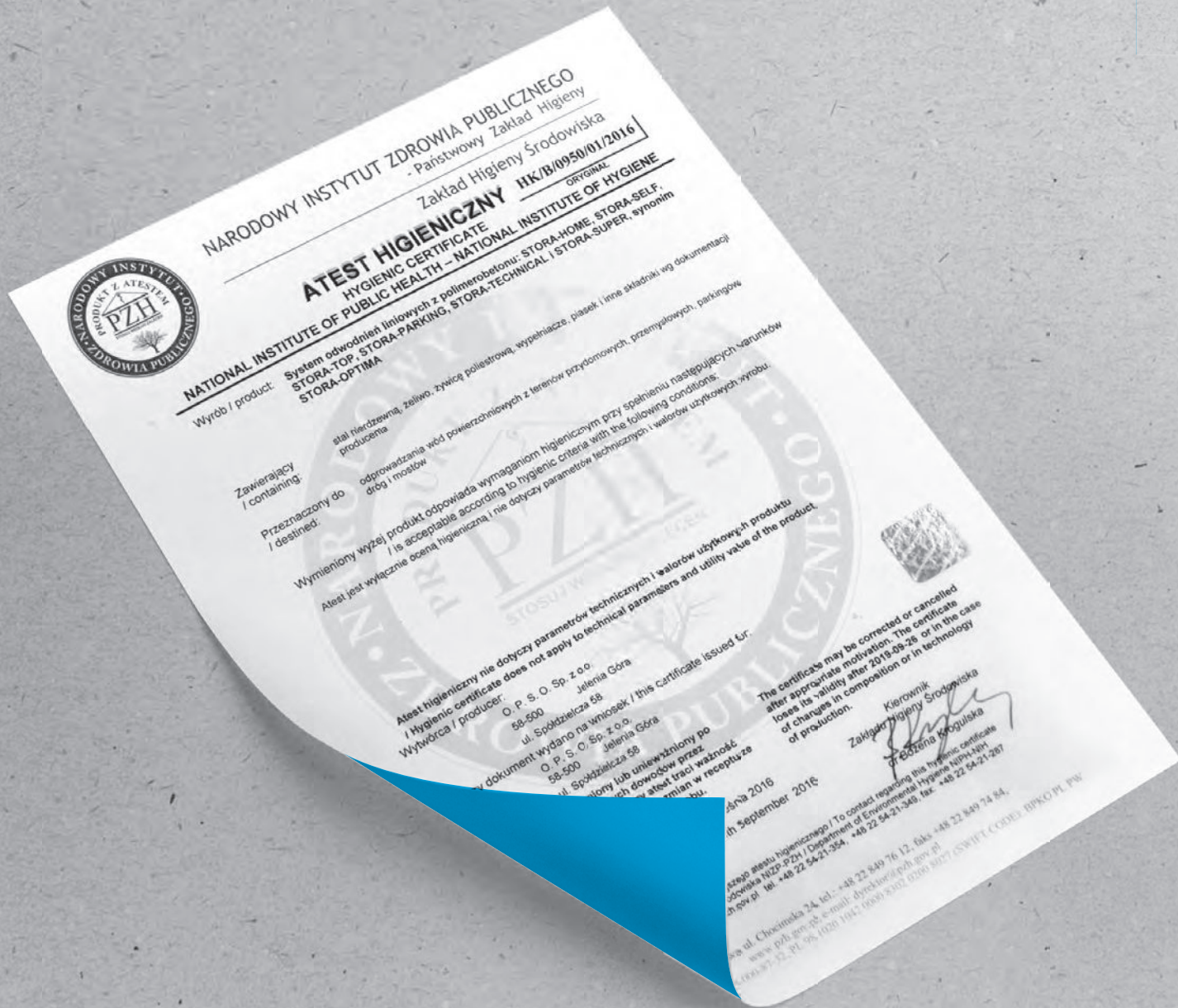
INSTALLATION EXAMPLE - CLINKER BRICK

CLASS D400 / E600 / F900

Load Class ac.: PN EN 1433		D400	E600	F900
Minimum compressive concrete strength to:	DIN 1045-2	B25	B25	B25
	DIN EN 206-01	C20/25	C20/25	C20/25
Dimensions	X (mm)	≥ 200	≥ 200	≥ 200
	Y (mm)	Full channel height		
	Z (mm)	≥ 200	≥ 200	≥ 200



We have Approvals!



Production according to the STANDARD

EN 1433:2005



EN 1433
November 2005

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

ICS 93.080.30

English version

Drainage channels for vehicular
Classification, design and testing
evaluation of

Caniveaux hydrauliques pour l'évacuation des eaux dans les zones de circulation utilisées par les piétons et les véhicules - Classification, prescriptions de conception et d'essai, marquage et évaluation de la conformité

This European Standard was approved by CEN on 9 October 2005 and production place according article 11/5.

CEN members are bound to comply with the CEN/CENELEC Standard the status of a national standard without any additional conditions under the responsibility of a CEN member institution.

This European Standard exists in three official versions. CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom and Turkey.

5. Assessment and verification of constancy of performance.

7. Notified body that performed Type Test:

8. First year of CE marking:

9. Essential characteristics:

Essential characteristics	Properties	Relevant Harmonised Standard
Characteristics	class D400/E600	
a) load bearing capacity	FN 600	PN-EN 1433:2005 + A1:2007 PN-EN 1433:2005 + A1:2007
b) permanent deformation	max. 300mm/50	
Water - Tightness	- pass	
Durability	N	

10. The performance of the product(s) identified in point 2 and 3 in conformity with the declared performance in point 9. This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.

STORA-DRAIN
ODWODNIENIA LINIOWE Z POLIMERBETONU

Performance
00/2016

MA SO

... / width / height / number of pallet

... concrete drainage channel type M for collection and conveyance of surface water from areas: caraways and parking areas. (including pedestrian streets), hard shoulders and protective areas. Drainage channels system with galvanized or stainless steel protective profiles. Channels with iron cast gratings D400/E600.

Article numbers according catalogue of products STORA-DRAIN

nominal width B=150, B=200
length L= 500 and 1000 mm
height H= 195 - 245 mm

O.P.S.O. Sp. z o.o.
ul. Spółdzielcza 58, 58-500 Jelenia Góra, Poland

Production place:
O.P.S.O. Sp. z o.o.
ul. Spółdzielcza 58, 58-500 Jelenia Góra, Poland

Not Applicable

System 3

Baustofftechnologie EMS GmbH, Warendorf
Kwa Zemiabor, Beckum
Labor Number: 1032
Type test report reference No: 15/0435/WP-1; 15/0435/WP-2; 15/0435/WP-3; 15/0435/WP-4; 15/0435/WP-5; 15/0435/WP-6
16/0137/WP-1; 16/0137/WP-2; 16/0137/WP-3;
2015

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JACEK RATALEWICZ
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Jelenia Góra, dnia 02.02.2016

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Peter Meers, Production and Quality Manager

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 **STORA-DRAIN**



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