DRAINAGE SYSTEMS





Drainage gutters Made of GRP and metal – light and robust

We have been producing and processing glass fiber reinforced polyester / GRP for over 65 years.

Thanks to its excellent material characteristics, this thermosetting plastic is used in all industries where durability and structural stability is essential. GRP has become an integral and indispensable component in car engineering, shipbuilding and the aerospace industry.

WOLFA, pioneer in the production of glass fiber reinforced windows, has been using this material as a sheet molding compound (SMC), a mixture of polyester resin, mineral filling material and a high portion of glass fibers. The glass fiber compound and the thermosetting polyester resin guarantee greatest stabil-

ity and shape retention even under extreme conditions.

Unlike traditional thermoplastics, SMC cannot be reshaped by heat once it has hardened, and retains its sturdy and stable characteristics even when exposed to extreme temperature fluctuations,

Compared to gutters made of concrete or polymer concrete, **WOLFA** GRP gutters convince not only with their high break-resistance but also with their light weights which clearly reduce transport and handling costs.



Drainage gutter Fixo 110, Fixo 150, AquaStop Drain 150 AquaStop 100/6VD



Drainage gutters 100/8.5S and 100/8V



Slot drain type 100/6VS, type 100/8VS, type 100/VS line



Flat gutter AquaStop Mini, Klassik, Maxi Ultra, Ultra 150, Premium



Drainage gutters 100/6 and 100/6V



Drainage gutters
100V line and 100/10T

WOLF drainage systems made of GRP / Production







Production of GRP products



Drainage gutter 150F



Drainage gutters 150K



Drainage gutter 150/V line



Drainage gutter 200F



Drainage gutters 200/V line



Yard catch basin

SPECIALIST IN THE PRODUCTION AND PROCESSING OF GRP – FOR OVER 65 YEARS









WOLFA gutter bodies are made of glass fiber reinforced polyester and compression-molded (SMC). The thermosetting plastic material is weather-proof and inherently stable. The material does not become brittle, It resists ultraviolet radiation, wear and tear and a large number of chemicals.

GRP - the tried and tested material

resistant to deicing salt

easy handling

heat-proof

frost-proof

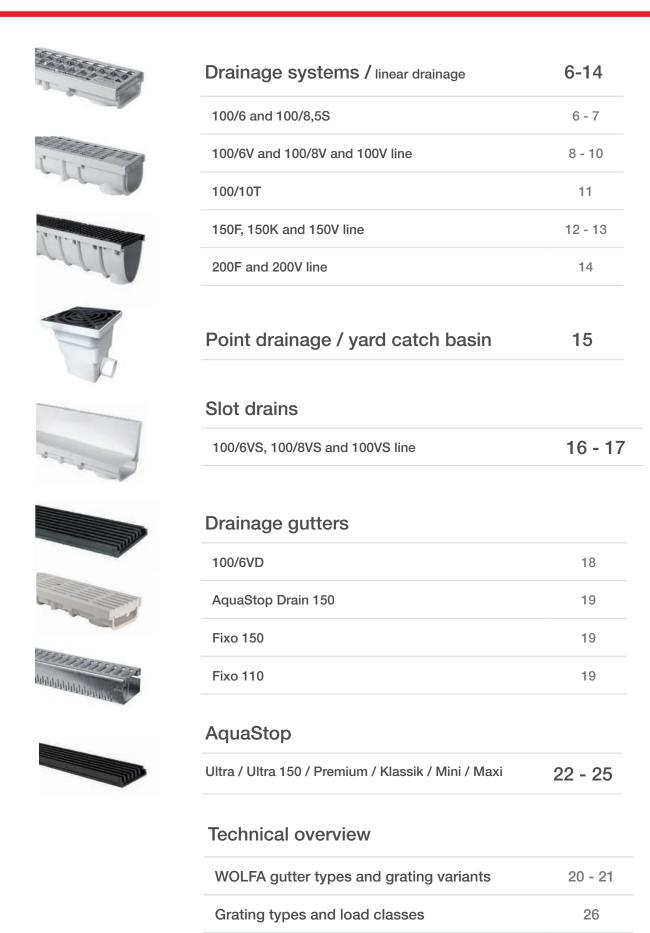


easy to clean

extremely high load capacity

UV-resistant

resistant to chemicals



Installation instructions

27

WOLFA drainage gutters

The ideal gutter for linear drainage around private homes. Thanks to the clipped gratings, the gutter is easy to clean without any need of tools. The plug-in connection with safety seam allows a fast and easy installation.

Both gutters can be drained over a downspout (nominal width 100).

Drainage gutter 100/6

Load class A 15



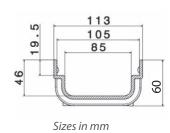
- Installation height: 60 mm
- Width: 113 mm, inner width: 85 mm
- Drain spout: NW 100

Drainage gutter 100/8.5S

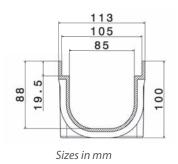
Load class A 15



- Installation height: 100 mm
- Width: 113 mm, inner width: 85 mm
- Drain spout: NW 100







For further technical data see page 21

Accessories 100/6

- Metal strips for gutter fastening on the unfinished floor
- Gutter end guard
- Drain connection kit NW 100 with intake filter, odor stop and two lateral end guards.
- Variable elbow piece (for corner, T or cross connections)
- Gutter elevation

Accessories 100/8,55

- Metal strips for gutter fastening on the unfinished floor
- Gutter end guard
- Drain connection kit NW 100 with intake filter, odor stop and two lateral end guards.
- Variable elbow piece (for corner, T or cross connections)
- 90-degree corner angle size 48 x 36 cm (for 100/8.55 only)
- Gutter elevation

Accessories



Gutter elevation



Variable elbow piece 100/6 for corner, T or cross connections



Grating variants 100/6 and 100/8.5S



Slotted grating A 15



Pressure-locked grating MW 30/30 A 15



Pressure-locked grating MW 30/10 A 15



Modern Design - versatile, easy to install and equipped with tailor-made accessories

The WOLFA gutters with a nominal width of 95 mm are available in three different heights and shapes. Depending on the gutter type and grating, the gutters can be used in many different ways and for loads of up to class D 400. Simple and compact plug-in connection by means of a safety seam. One catch basin for all three sizes. All gratings are screwed.

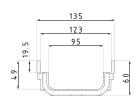
Flat gutter 100/6V

Load class A 15 - C 250



- Installation height: 60 mm
- Width: 135 mm, inner width: 95 mm
- Drain spout: NW 100

Sizes in mm



Colors:



light gray



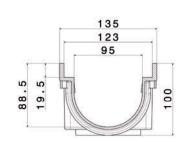
charcoal gray

Drainage gutter 100/8V

Load class A 15 - C 250



- Installation height: 100 mm
- Width: 135 mm, inner width: 95 mm
- Drain spout: NW 100

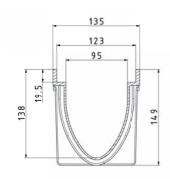


Drainage gutter 100V

Load class A 15 - D 400



- Installation height: 149 mm
- Width: 135 mm, inner width: 95 mm
- Drain spout: NW 100



For further technical data see page 21

Accessories 100/6V and 100/8V

- Metal strips for gutter fastening on the unfinished floor
- Gutter end guard
- Drain connection kit NW100 with intake filter odor stop and two lateral end guards.
- Adapter for catch basin
- Catch basin
- Drain connection ring 100 NW 50 with lateral outlet
- Variable elbow piece for corner, T or cross connection
- Gutter elevation



Variable elbow piece 100/6V



Drain connection kit for all types

Accessories 100V line

- Gutter end guard
- Drain connection kit NW100 with intake filter odor stop and two lateral end guards.
- Lateral NW 100 drain connection
- Drain connection ring 100 NW 50 with lateral outlet
- Variable elbow piece for corner, T or cross connection
- Catch basin 100V line



Catch basin (with adapter) for all types



Lateral outlet connection NW 100 for 100V line

Grating variants

100/6V, 100/8V and 100V line

Thanks to the large variety of grating variants for load class A 15 – D 400, these gutters are suitable for all areas around the house, for commercial as well as public places. All gratings are screwed. Easy plug-in connection by means of a safety seam.











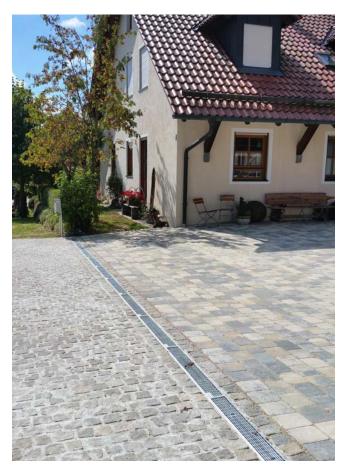








Drainage gutters 100/6V, 100/8V and 100/V line



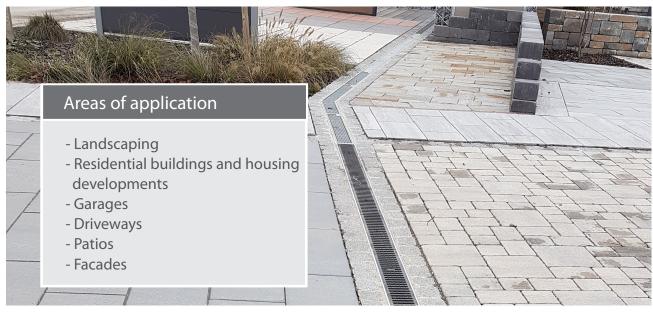
Drainage gutter 100/V line with pressure-locked grating MW 30/10



Drainage gutter 100/V line with pressure-locked grating 30/10



GRP bar grating, charcoal gray, 100/V line



Drainage gutter 100/V line

Drainage gutter 100/10T

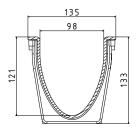
Load class A 15

The gutter for many applications with surface-mounted, screwed-in-place slotted grating or longitudinal V2A bar grating. The entire gutter body is covered by the grating, i.e. the gutter edges are completely protected.



- Width: 135 mm, inner width: 98 mm
- Drain spout: NW 100





Sizes in mm

For further technical data see page 21

Grating variants 100/10T





Accessories 100/10T

- Gutter end guard
- Drain connection kit NW 100
- Lateral NW 100 drain connection
- Catch basin



Catch basin



I ateral drain connection

Areas of application

- Garages
- Driveways
- Patios
- Facades

Drainage gutters 150F, 150K and 150V line

Load class A 15 - D 400

The PROFI gutters with a nominal width of 164 mm are available in three different installation heights. Thanks to the many different grating variants for load classes A 15 - D 400, the 150 gutter can also be used on commercial premises. All gratings with fourfold security and extra sturdy 8-mm thick GRP edges.

Drainage gutters 150F

Load class A 15 - D 400

Drainage gutter 150K

Load class A 15 - D 400

Drainage gutter 150V line

Load class A 15 - D 400



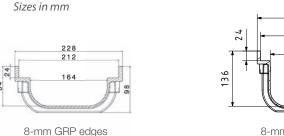
- Installation height: 98 mm
- Width: 228 mm, inner width: 164 mm
- Drain spout: NW 125

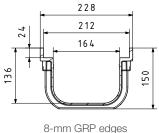


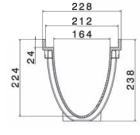
- Installation height: 150 mm
- Width: 228 mm, inner width: 164 mm
- Drain spout: NW 125



- Installation height: 238 mm
- Width: 228 mm, inner width: 164 mm
- Drain spout: NW 125
- integrated, galvanized 4-mm steel upon request







8-mm GRP edges

Colors:



light gray

For further technical data see page 21

Accessories

- Metal strip for fastening on unfinished floors (for 150F and 150K)
- Gutter end guard
- Drain connection kit with discharge nozzle NW 125 Mud bucket and odor stop
- Adapter for catch basin for 150F and 150K
- Catch basin



Catch basin

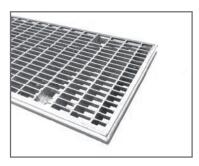


Lateral drain connection NW 125 for 150V line

Grating variants 150F, 150K and 150V line



Pressure-locked grating MW 30/30 A 15 and B 125



Pressure-locked grating MW 30/10 A 15 and B 125



Cast iron grating (2-part component) C 250 and D 400



Areas of application

- Landscaping
- Residential buildings and housing developments
- Garages
- Driveways
- Patios
- Facades
- Underground parking entrances

Drainage gutter 200F and 200V line

Load class A 15 - D 400

The new large PROFI gutters for the intake of large quantities of water.

These WOLFA gutters with a nominal width of 210 mm are available with an installation height of 238 mm or as flat gutter with an installation height of only 98 mm! All gratings with fourfold security. Easy plug-in connection by means of a safety seam. With extra sturdy 8-mm thick GRP edges.

Flat gutter 200F

Load class B 125 - D 400



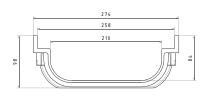
- Installation height: 98 mm
- Width: 274 mm, inner width: 210 mm
- Drain spout: NW 125

Drainage gutter 200V line

Load class B 125 - D 400



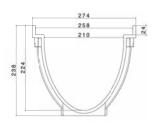
- Installation height: 238 mm
- Width: 274 mm, inner width: 210 mm
- Drain spout: NW 125



8-mm GRP edges



For further technical data see page 21



Accessories 200F

- Metal strips for gutter fastening on the unfinished floor
- Gutter elevation
- Gutter end guard
- Drain connection kit with discharge nozzle NW 125 Mud bucket and odor stop
- Adapter for catch basin
- Catch basin

Accessories 200V line

- Gutter end guard
- Drain connection kit with discharge nozzle NW 125
 Mud bucket and odor stop
- Lateral NW 150 drain connection
- Catch basin 200V line with 4-side drain connection possibility NW 150 and NW 200

Catch basin 200V line with drain connection possibility NW 150 or NW 200 on four sides, galvanced mud trap and one gutter end guard; with GRP edges or steel edges (upon request).



Yard catch basin

The light alternative

The WOLFA yard catch basin is made of glass fiber reinforced polyester/GRP. The grating is screwed in place.

A dvantagesat a glance:

- Low weight
- Extremely break-resistant and solid
- Resistant to many types of chemicals, oil and liquid manure
- Temperature-resistant and dimensionally stable, also suited for installation in hot asphalt
- Easy installation, low installation costs



Yard catch basin with cast iron grating class B 125 and odor stop

Colors:



light gray



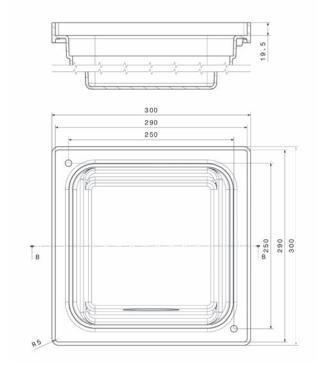
charcoal gray

Technical Data

- Installation height: 350 mm
- Width: 300 mm
- Depth: 300 mm
- Drain spout: NW 100
- Load class B125



With detachable, hot-dipped mud trap and NW 100 drain connection





Slot drain

The smart drainage system

The WOLFA slot drain made of GRP is the most elegant solution when sophisticated architectural requirements need to be met. It allows an efficient channel drainage of facades, entrance areas, stairways, public places and other sealed surfaces.

The slotted top is 105 mm high and replaces the broad drainage gutter cover. With its opening width of merely 10 mm and optional colors charcoal and light gray, the slot drain perfectly fits the looks and design of any environment.

The 6-mm GRP edges guarantee permanent and corrosion-proof material durability. Neither is car traffic a problem for the slot drain. To meet all drainage requirements, the range comprises drain gutter types 100/6VS, 100/8VS and 100/VS



WOLFA slot drain 100/VS line



light gray

charcoal gray

Areas of application

- Facades
- Stairways
- Public places
- Residential buildings

All the advantages at a glance:

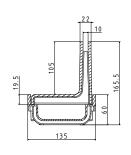
- Attractive yet inconspicuous look
- Integrated tongue and groove connection
- Flexible drainage performance
- Extremely robust and dimensionally stable
- Corrosion-proof
- Resistant to frost and heat
- Light weight



WOLFA slot drain 100/6VS **Load class D 400**



- Installation height: 165 mm
- Width: 135 mmm, Inner width: 10 mm
- Drain spout: NW 100



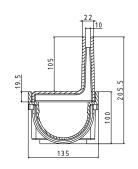
Accessories

- Sheet metal strips
- Gutter elevation
- Catch basin with inspection cap
- Gutter end guard
- Adapter for catch basin
- Drain connection kit
- Inspection cap
- Keys for inspection cap

WOLFA slot drain 100/8VS **Load class D 400**



- Installation height: 2055 mm
- Width: 135 mmm. Inner width: 10 mm
- Drain spout: NW 100



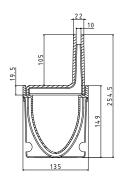


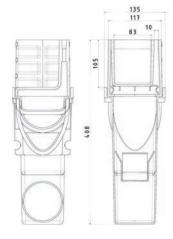
Catch basin with inspection cap

WOLFA slot drain 100VS line **Load class D 400**



- Installation height: 254 mm
- Width: 135 mmm. Inner width: 10 mm
- Drain spout: NW 100





For easy cleaning and maintenance, WOLFA provides catch basins for all three drain gutter systems. Two special keys allow the removal of the inspection box and easy cleaning of the mud bucket. A height-adjustable elevation is available for gutters 100/ 6VS and 100/ 8VS.



Keys for inspection cap





Drainage gutter 100/6VD

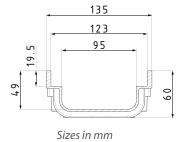
Load class A 15

For the intake, infiltration or drainage of surface water from patios and balconies, or for facade drainage. Gratings safe for pedestrians and wheelchair users. All gratings are screwed.

Technical Data

Installation height 60 mm Width 135 mm, inner width 95 mm Length: 1000 mm

Drain spout NW 100 or NW 50 laterally



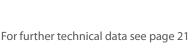
Colors:



light gray



charcoal gray







Gutter covers



Longitudinal GRP bar grating, charcoal gray



Plastic grating



Pressure-locked grating MW 30/30



V2A perforated design grating



Longitudinal GRP bar grating, light gray



VA2 slotted grating



Pressure-locked grating MW 30/10



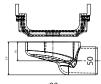
Longitudinal V2A bar grating

Accessories 100/6VD

- Sheet metal strips
- Gutter end guard
- Drain connection kit NW100 with intake filter, odor stop and two lateral end quards.
- Drain connection ring NW 50 with lateral outlet
- Adapter for catch basin
- Catch basin 100/V line without adapter
- Variable elbow piece 100/6V
- Elevation without metal strips



Drain connection ring NW 50 with lateral outlet





Areas of application

- Patios
- Balconies
- Facades

Drainage gutter Fixo

Load class A 15

Made of galvanized sheet steel, WOLFA drainage gutter Fixo is perfectly suited for surface de-watering and the drainage of the water-bearing layer between covering and fill material such as gravel and stone chippings.

The gutters come with an installation height of 75 mm and can be easily strung together via plug-in connectors. They may be covered with galvanized slotted gratings or pressure-locked gratings with 30/30 and 30/10 mesh widths. The gratings are inserted (standard) but can also be consigned as screwed-in-place version.





Box gutter Fixo 110 with slotted grating

Accessories

gutter end plate lateral T-channel

lateral connecting piece

Grating lock (2 pieces per meter),

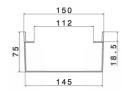
Technical data Fixo 110



- Installation height: 75 mm, other heights upon request
- Width: 110 mmInner width: 105 mmLength: 1000 mm
- **Technical data Fixo 150**



- Installation height: 75 mm, other heights upon request
- Width: 150 mm.
- Inner width: 145 mm
- Length: 1000 mm

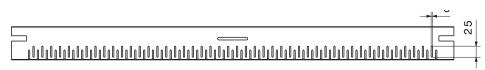


Areas of application

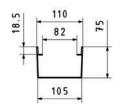
- Patios
- Balconies
- Facades



T-channel
Width x height x length in mm
100 x 30 x 1000



Other installation heights and widths can be supplied on request.



Drainage gutter AquaStop Drain 150 Flat gutter AquaStop Ultra 150

The WOLFA gutters AquaStop Drain 150 and AquaStop Ultra 150 have a sober yet elegant design. In order to safely discharge the surface water, we developed a new drain connection especially for patios, balconies and areas with limited space for floor installation.



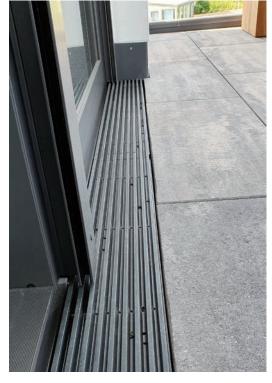
- Installation height: 25 mm
- Width: 150 mm
- Slot width: 10 mm
- Drain spout: NW 50, NW 100, NW 125



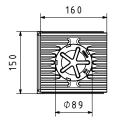
AquaStop Drain 150 (with drainage bore hole)



AquaStop Ultra 150

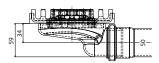


AquaStop Drain 150 (with drainage hole)



Straight intake filter with detachable inspection flap and drain connection possibility NW 125 or NW 100



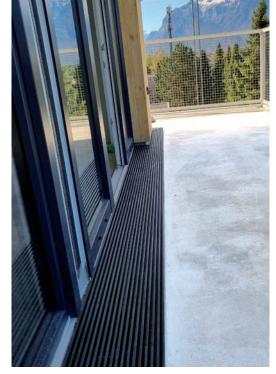


Drain connection ring NW 50 with lateral outlet

Areas of application



- Patios
- Balconies
- Facades



AquaStop Ultra 150

Technical overview: WOLFA drainage gutters and grating variants							
Types →	100/6	100/8,5 S	100/6V	100/8V	100/10T	100V line	
Gutter body material	GRP	GRP	GRP	GRP	GRP	GRP	
Length	100 cm / 50 cm	100 cm / 50 cm	100 cm / 50 cm	100 cm / 50 cm	100 cm / 50 cm	100 cm / 50 cm	
Installation width	11.3 cm	11.3 cm	13.5 cm	13.5 cm	13.5 cm	13.5 cm	
Height	6 cm	10 cm	6 cm	10 cm	13.3 cm	14.9 cm	
Inner width	8.5 cm	8.5 cm	9.5 cm	9.5 cm	9.8 cm	9.5 cm	
Weight	1.4 kg 0.7 kg	1.75 kg 0.9 kg	1.5 kg 0.8 kg	2.3 kg 1.2 kg	2.6 kg	2.4 kg 1.2 kg	
Color	light gray	light gray	light gray + charcoal gray	light gray + charcoal gray	light gray	light gray + charcoal gray	
Nominal width / drain spout	NW 100	NW 100	NW 100	NW 100	NW 100	NW 100	
Load capacity	A 15	A 15	A 15 - C 250	A 15 - C 250	A 15	A 15 - D 400	
Grating	inserted	inserted	screwed in place	screwed in place	screwed in place	screwed in place	
Cross section in cm ²	22.0	55.5	27.0	55.8	95.3	90.4	
Liter/meter	2.2	5.6	2.7	5.60	9.5	9.0	

Types	150K With 8-mm GRP edge	150F With 8-mm GRP edge	150V line With 8-mm GRP edge	200F With 8-mm GRP edge	200V line With 8-mm GRP edge	
Gutter body material	GRP	GRP	GRP	GRP	GRP	
Length	100 cm / 50 cm	100 cm / 50 cm	100 cm / 50 cm	100 cm / 50 cm	100 cm / 50 cm	
Installation width	22.8 cm	22.8 cm	22.8 cm	27.4 cm	27.4 cm	
Height	15.0 cm	9.8 cm	23.8 cm	9.8 cm	23.8 cm	
Inner width	16.4 cm	16.4 cm	16.4	21 cm	21.0 cm	
Weight	3.9 kg 1.9 kg	3.9 kg 1.9 kg	5.8 kg 2.9 kg	4.4 kg 2.2 kg	6.0 kg 3.0 kg	
Color	light gray	light gray	light gray	light gray	light gray	
Nominal width / drain spout	NW 125	NW 125	NW 125	NW 125	NW 125	
Load capacity	A 15 - D 400	A 15 - D 400	A 15 - D 400	B 125 - D 400	B 125 - D 400	
Grating	screwed in place	screwed in place	screwed in place	screwed in place	screwed in place	
Cross section in cm ²		91.5	257.6	119.1	332.9	
Liter/meter		9.2	25.8	11.9	33.3	

Flat gutter AquaStop

The WOLFA AquaStop drainage gutter without grating is perfectly suited for the drainage of residual or melt water in underground parking and multi-level carparks. The multi-channel gutter with its extremely low build of just 25, 30 or 38 mm is made of GRP material and therefore highly resilient. The safety seam guarantees bottom waterproofness.

AquaStop Mini

car-trafficable



AquaStop Klassik

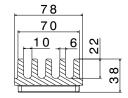
Load class D 400



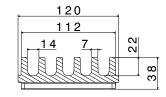
AquaStop Maxi

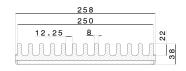
Car and truck trafficable.





Sizes in mm







AquaStop in concrete



AquaStop in pavement



AquaStop in asphalt

Advantages that convince:

- Installation height of just 25, 30 or 38 mm
- Maintenance-free without grating
- Rattle-free and abrasion-proof
- Resistant to a multitude of chemicals
- Extremely high load capacity
- Easy to clean

Areas of application

- Multi-level carparks
- Underground parking
- Industrial buildings

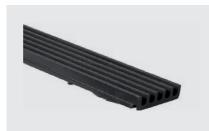
AquaStop Premium

Load class E 600



- Installation height: 30 mm
- Width: 120 mm
- Slot width: 10 mm
- Drain spout: NW 100



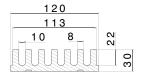


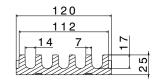
- Installation height: 25 mm
- Width: 120 mm
- Slot width: 14 mm
- Drain spout: NW 100, NW 125

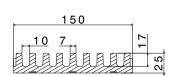
AquaStop Ultra 150

Load class E 600



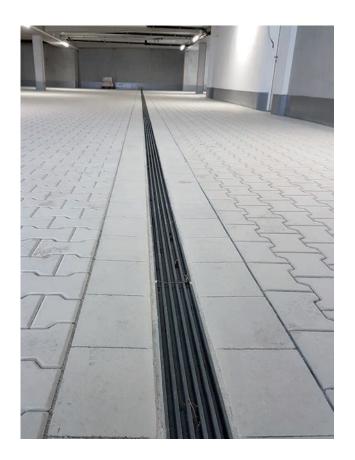


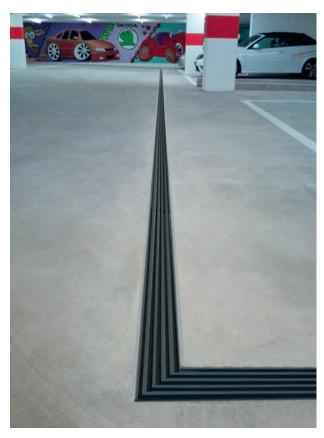


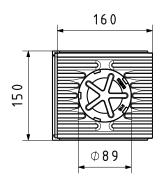




AquaStop gutter with elevation and installation cover for keeping the components clean during installation







Straight intake filter with detachable inspection flap and drain connection NW 125 or NW 100.





Accessories:

The AquaStop gutter can also be supplied with screwed-on sheet metal strips which allow easy installation on unfinished floors. The consignment includes an installation cover plate which keeps the gutter body clean during installation.

The variable elbow piece allows gutter connection on four sides. The open sides can be closed with a gutter end guard. The detachable inspection flap allows fast and easy cleaning of the drain spout.

Accessories





Straight intake filter for all types



Variable elbow piece for all types (except AquaStop Mini)



Installation cover plate for all types



Gutter elevation for height adjustment from 30 to 300 mm for all types



Metal strips for all types



Drain connection ring NW 70 for AquaStop Mini



Drain connection ring NW 125 for all types (except AquaStop Mini)



Drain connection ring with odor stop NW 100 for AquaStop, for all types (except AquaStop Mini)



Drain reducer piece NW 125/100 for AquaStop and AquaStop-Ultra and AquaStop Ultra 150



Drain connection ring NW 50 for all types (except AquaStop Mini)



Lateral gutter end guard for all types



Variable curve piece allows inclinations of up to 7° for AquaStop-Ultra



Cleaning rake all types

Real-life solutions



Example 1 *Installation with gutter elevation*





Example 2 *Installation in existing recess*



WOLFA gutter system overview

Gutter types and grating variants and their load classes according to DIN EN 1433

_		Grating model / load class									
Gutter type	Slotted Plastic gratings gratings		Pressure-locked gratings		Cast iron gratings	V2A stainless steel gratings			Slotted top of GRP	Conformity according to	
	Galvanized	Plastic grating	GRP longitu- dinal bar grating	Mesh width 30/30 mm	Mesh width 30/10 mm		Slotted VA2 grating	Longitu- dinal VA2 bar grating	VA2 design grating		DIN EN 1433 / DIN 19580
100/6	A 15	-	-	A 15	A 15	-	-	-	-	-	Х
100/6V	A 15	B 125	A 15	A 15 C 250	A 15 C 250	C 250	A 15 C 250	A 15	A 15	D 400	Х
100/8.55	A 15	-	-	A 15	A 15	-	-	-	-	-	Х
100/8V	A 15	B 125	A 15	A 15 C 250	A 15 C 250	C 250	A 15 C 250	A 15	A 15	D 400	Х
100/10T	A 15	-	-	-	-	-	-	A 15	-	-	Х
100V line	A 15	B 125	A 15	A 15 C 250	A 15 C 250	C 250 D400	A 15 C 250	A 15	A 15	D 400	х
150 F	-	-	-	A 15 B 125	A 15 B 125	C 250 D 400		-	-		х
150V with GRP or steel edges	-	-	-	A 15 B 125	A 15 B 125	C 250 D 400	-	-	-	-	Х
150 K	-	-	-	A 15 B 125	A 15 B 125	C 250 D 400					Х
200/V	-	-	-	B 125	B125	C250 D 400	-		-		Х
AquaStop Mini	Multi-channel gutter without grating, car-trafficable										
AquaStop Klassik		Multi-channel gutter without grating - load class up to D 400								Х	
AquaStop Ultra	Multi-channel gutter without grating - load class up to D 400									Х	
AquaStop Ultra 150	Multi-channel gutter without grating - load class up to E 600									Х	
AquaStop Premium	Multi-channel gutter without grating - load class to E 600										
AquaStop Maxi		Multi-channel gutter without grating - load class to D 400									

Each application its perfect gutter

Load classes as set forth in DIN 1433

Class A 15*

Pedestrian areas and bike tracks

Class B 125*

Parking areas for cars and sidewalks

Class C 250*

Road and sidewalk shoulders Road sides

Class D 400*

Road lanes, parking areas, pedestrian areas and similar Sealed traffic areas

Class E 600*

Surfaces that must bear high wheel loads, e.g. Industrial and military premises

*Test load in kN as set forth in DIN EN 1433

Sample installations *WOLFA* drainage gutters

Prior to installation, identify the required load class as set forth in DIN EN 1433.

General guidelines:

The flat gutters 100/6 and 100/6V as well as the AquaStop systems designed for underground parking and parking decks must be installed flush with the driveway.

We recommend gutter installation with the proposed sheet metal strips. This allows easy drilling of dowel holes and fastening of the gutters on the unfinished concrete floor. Gutter joints and end plates must be sealed as set forth in DIN EN 1433 with a permanently elastic material (Terostat MS 9360 by Henkel).

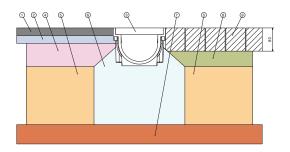
Schematic installation diagram

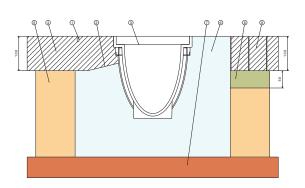
Load classes A 15 / B 125

- 1 Bituminous surface course, approx. 4 cm thick
- 2 Binder course
- 3 WOLFA drainage gutter, variant in dependence of the load class
- 4 Bituminous base
- 5 Base
- 6 Concrete mortar bed ≥6 cm (class A 15) and ≥ 10 cm (Class B 125) around the gutter
- 7 Undisturbed ground as level ground
- 8 Pavement bedding in stone chippings or sand
- 9 Pavers

Load classes A 250 / D 400/ E 600

- 1 Dummy joint in concrete layer (distance approx. 15 cm)
- 2 Expansion joint for stress relief (distance approx. 15 cm)
- 3 WOLFA drainage gutter, variant in dependence of the load class
- 4 Concrete driveway surface as needed for the expected load
- 5 Base
- 6 Concrete mortar bed \geq 15 cm (class C 250),
 - ≥ 20 cm (class D 400),
 - ≥ 30 cm (class E 600) around the gutter
- 7 Undisturbed ground as level ground
- 8 Pavement bedding in stone chippings or sand
- 9 Pavers





More durable and weather-proof *WOLFA* quality products made from glass fiber reinforced polyester (GRP):

Casement window systems Window well systems GRP insulating elements Foot scraper casings

Plastic barn windows Plastic gratings Plastic feed mangers Plastic feed troughs



GRP casement window systems



GRP window wells



GRP insulating elements



Foot scraper casings



Plastic barn windows



Plastic gratings



