Technical data sheet

Fortis heavy-duty drainage channel with grate or slotted attachment

Manufacturer

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Status: 05/24

Product description

The Fortis drainage channel is a concrete channel for line drainage for heavy-duty applications. The load is transferred via the channel body, which is placed in a sufficiently dimensioned concrete surround (*foundation and back support*).

The channel is available in the nominal sizes DN 100 and 150 mm. Four heights (*80, 150, 175, 200 mm*) are available for the nominal width DN 100. The nominal width DN 150 is supplied with a height of 200 mm and the width DN 200 has 300 mm.

Either grates (*mesh grate, longitudinal bar grate or cast grate*) or slotted tops are possible as covers. Both variants are available in stainless steel or hot-dip galvanised steel. A concealed grate lock is provided for the grates.

The channel is equipped with a tongue and groove system with integrated rubber seal. When installed correctly, the system is self-sealing. Further sealing work is not necessary.

Load classes

With grate cover:
Up to class D 400 (*height 80, 150, 175, 200 and 300 mm*).

With slotted top:
The slot attachments are available with two different sheet thicknesses.

Sheet thickness 1.5 mm:	following class C 250
Sheet thickness 3.0 mm:	following class D 400

Dimensions

External dimensions of the channel body:

Total width:	155 mm	(*nominal dimension DN 100*)
	206 mm	(*nominal dimension DN 150*)
	257 mm	*(nominal dimension DN 200)*
Total heights:	80 mm /150 mm / 175 mm / 200 mm	(*nominal dimension DN 100*)
	200 mm	(*nominal dimension DN 150*)
	300 mm	*(nominal dimension DN 200)*

The standard delivery length is 1,000 mm. Elements with a length of 500 mm are available as accessories.

Slot attachment dimensions

The height of the slotted top is 160 mm from the top edge of the channel body for all channel dimensions.

Discharge coefficient

The calculation of the necessary gutter cross-section is carried out after specifying framework data (*rainwater yield / drainage area / gutter length / position of the* spigots).

Inlet cross-sections of the covers

Grates:

DN 100:

Inlet width: 150 mm

Heavy duty mesh grating (*MW 10x30 mm*)	1.239 cm^2/m
Longitudinal bar grating 20x3 mm	1.053 cm^2/m
Longitudinal bar grating 7x7 mm	483 cm^2/m
Cast iron grate Prisma	214 cm^2/m
Cast iron grate Zippa	444 cm^2/m

DN 150:

Inlet width: 200 mm

Heavy duty mesh grating (*MW 10x30 mm*)	1.357 cm^2/m
Longitudinal bar grating 20x3 mm	1.313 cm^2/m
Longitudinal bar grating 7x7 mm	613 cm^2/m
Cast iron grate Prisma	313 cm^2/m
Cast iron grate Zippa	626 cm^2/m

DN 200:

Inlet width: 250 mm

Heavy duty mesh grating (*MW 10x30 mm*) 1.652 cm^2/m

Slot attachment:

The inlet cross-section of the slot tops is 100 cm^2/m for all dimensions.

Materials used

We use only European material from Germany, Sweden, France and Italy for our drainage channels and gratings.

Material specification channel body

Waterproof concrete from our own production
Wall thickness: 20 mm
Base thickness: 20 mm

Material specifications frames

The frames are available in stainless steel V2A or hot-dip galvanised steel.

Material specifications Grates

We use stainless steel V2A (*1.4301*) or hot-dip galvanised steel for both the mesh gratings and the longitudinal bar gratings. The Hydra Linearis 7 x 7 mm longitudinal bar grating is supplied exclusively in V2A. The Prisma and Zippa cast gratings are made of cast steel (*EN-GJS-500-7*).

Material specification slotted attachments

The slot attachments are available in stainless steel or hot-dip galvanised steel.

Important notes

The drainage channel must be set in concrete (foundation and lateral back supports). The relevant dimensions and the minimum requirements for the concrete are listed in the installation and use instructions.

The gutter is provided with a seal at the factory. When professionally installed according to our installation and usage instructions, the connection of two gutter elements is therefore permanently tight.

The installation must be permanently 2-3 mm below the road surface. When installing on a sealed concrete slab (*balconies, roof areas*), a protective film (*made of suitable material, e.g. EPDM film*) must be installed between the gutter and the sealing membrane at least in the width of the gutter in order to permanently protect the sealing.

The channel body must be set in concrete of grade C20/25.

Our installation instructions apply.

Accessories

The following accessories can be supplied:

- 500 mm elements with and without drain socket

- ends

- sink boxes

- revision and flushing cisterns (for the channels with slotted attachments)

Processing and care instructions

The drainage channels must also be installed, if necessary, according to the specifications of the waterproofing manufacturers (e.g. *bitumen manufacturers, sheeting manufacturers, etc.*); precautionary measures must be taken if necessary.

Dust particles of other metals or general cutting of components with flying sparks on the product are generally to be avoided. If dust particles or soiling of other metals are present, these must be removed immediately with appropriate cleaning agents.

The gutters must not be cleaned with strong acids or bases, but by hand with a broom or, if necessary, with a high-pressure cleaner. If the gutter is used under canopies or roofing, it should be checked regularly for contamination and flushed as necessary, as only little water is drained away and more deposits occur.

Further installation & usage instructions as well as information on the material can be found under: https://www.richard-brink.de/en/downloads/overview.html

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