



ACO DRAIN® ParkDeck - drainage
for multi-level parking buildings
and underground garages



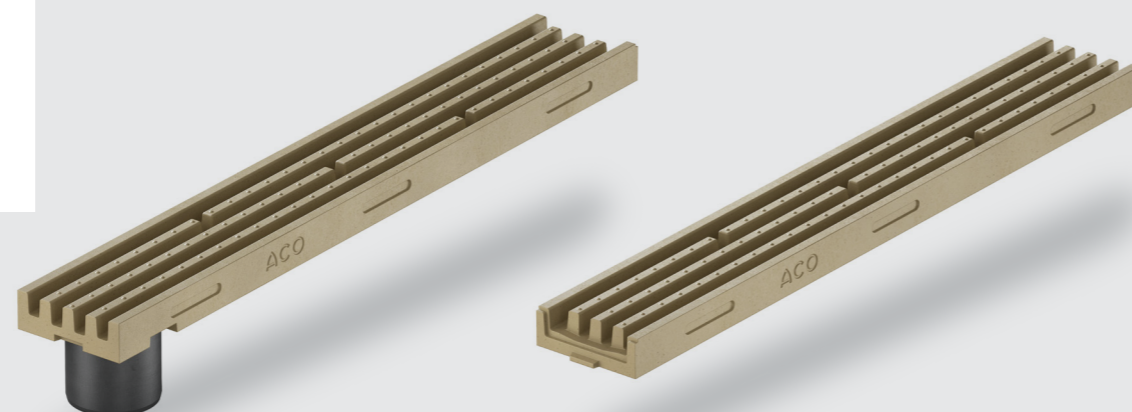
ACO DRAIN® ParkDeck channels

These channels have been developed specially for the drainage of multi-level parking buildings and underground garages. Channels are made according to EN1433, load class A15 - C250, completely made of ACO polymer concrete that is frost, salt and chemicals resistant.

ACO DRAIN® Multislot 150

Monolithic low comb channel

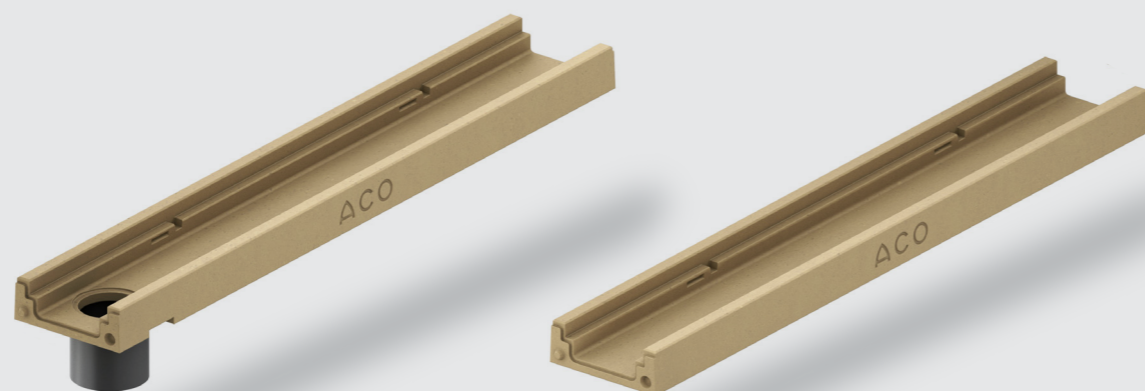
See more on page 6



ACO DRAIN® Deckline P

Parking houses and underground garages channel

See more on page 9

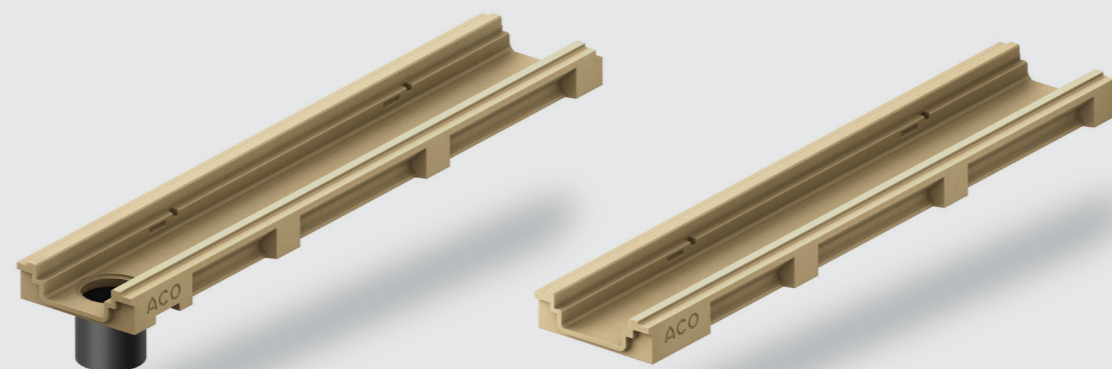


NEW!

ACO DRAIN® Deckline P OS

Parking houses and underground garages channel with extended edge

See more on page 14



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What influences the lifetime of drainage in parkdecks?

Water in parking buildings usually comes from dripping water and melting snow from cars. The incidental amount depends on traffic frequency, season and length of the driveway or entrance to the building. The drainage system needs to collect this water which can be contaminated with petrol, oil, and – most important – de-icing salt. Unlike outside, where rain can sweep away these salts, inside the building it remains in the drainage channel after the water evaporates. To prevent early corrosion, ACO DRAIN® Parkdeck channels are made from only highly resistant materials. Suitable gratings if needed are made from galvanized steel or stainless steel. For the lifetime of the building ACO strongly recommends exclusively using run-off drainage systems channels like Multislot 150, Deckline P and Deckline P OS which are designed for easy maintenance and cleaning in parking facilities.

What are the key factors of effective parkdeck drainage?

Areas such as parkdecks are usually associated with different types of buildings, e.g. shopping centers, offices, public facilities or residential buildings. Multi-level parking areas come with specific characteristics and specific requirements due to their construction, such as:

Water tightness:

Water from leaking drainage systems can seriously damage the building structure. Only 100% water tight systems are suitable for parking buildings.

Installation height:

Shallow slab constructions require drainage systems with a shallow maximum installation height.

Dynamic forces:

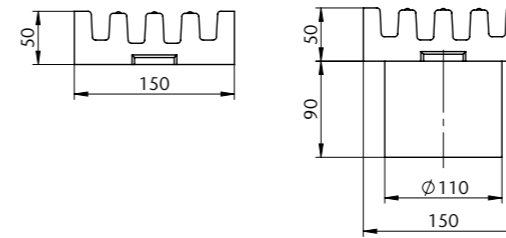
Turning or accelerating wheels and a high traffic frequency cause immense dynamic forces. Load classes up to C250 and it must be proven that the products are durable and robust enough for this challenging environment.

Zero Aggressive conditions:

Emulsions of water with dirt, oil and de-icing salt require resistant materials to avoid corrosion or early wearing.





Multislot 150








Product information

- Maximum load class: C 250
- Channel material: polymer concrete
- Channel profile - comb
- Channel type: no slope
- Edges: Polymer concrete
- Certificated by EN1433
- Channel height: 50 mm

Multislot channel

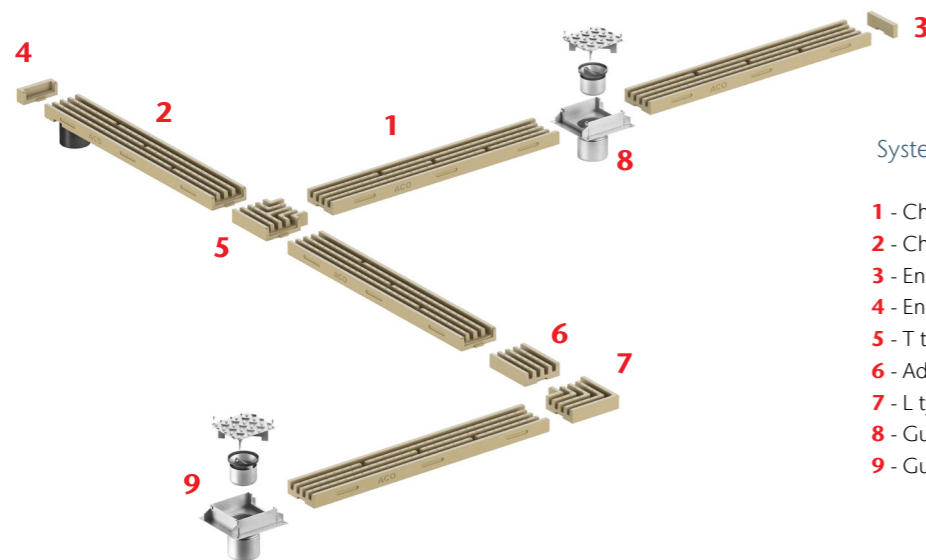
Product	Dimensions					
	Length mm	Width mm	Height mm	Weight kg	PU pcs./pallet	Item no. natural
 Multislot channel	1000	150	50	12,30	40	135213
 Multislot channel with outlet	1000	150	50	12,10	40	135214

Accessories

Product	Dimensions					
	Length mm	Width mm	Height mm	Weight kg	PU pcs./pallet	Item no. natural
 Multislot end cap beginning of the channel	20	150	50	0,35	20	135215
 Multislot end cap end of the channel	40	150	50	0,51	20	135216
 Multislot L type connection element	200	200	50	3,00	45	135226
 Multislot T type connection element	200	200	50	2,90	45	135227
 Multislot adapter to change laying direction	200	150	50	2,50	54	135228

ACO DRAIN® Multislot 150

Monolithic low comb channel



System components

- 1 - Channel
- 2 - Channel with outlet
- 3 - End cap - beginning of the channel
- 4 - End cap - end of the channel
- 5 - T type connection
- 6 - Adapter
- 7 - L type connection
- 8 - Gully including cover and FAT
- 9 - Gully end including cover and FAT








Typical applications

- Underground car garages
- Underground multi-level car parks
- Shall be used mostly for evaporation of water in garages

Product benefits:

- Polymer concrete system, easy to seal
- Corrosion resistant system
- Fast and easy assembly
- No moving parts that can cause noise
- Recommended solution for concrete and asphalt surfaces
- Low height with minimum impact to the floor structure
- ACO SF safety groove at both ends to make channels 100% watertight
- Lighter solution than other polymer concrete channels
- Line shape variations made by using different kind of an accessories connections
- Could be cut on demand to required shapes
- Easy to clean using common accessories
- Friendly for wheelchairs and bicycles

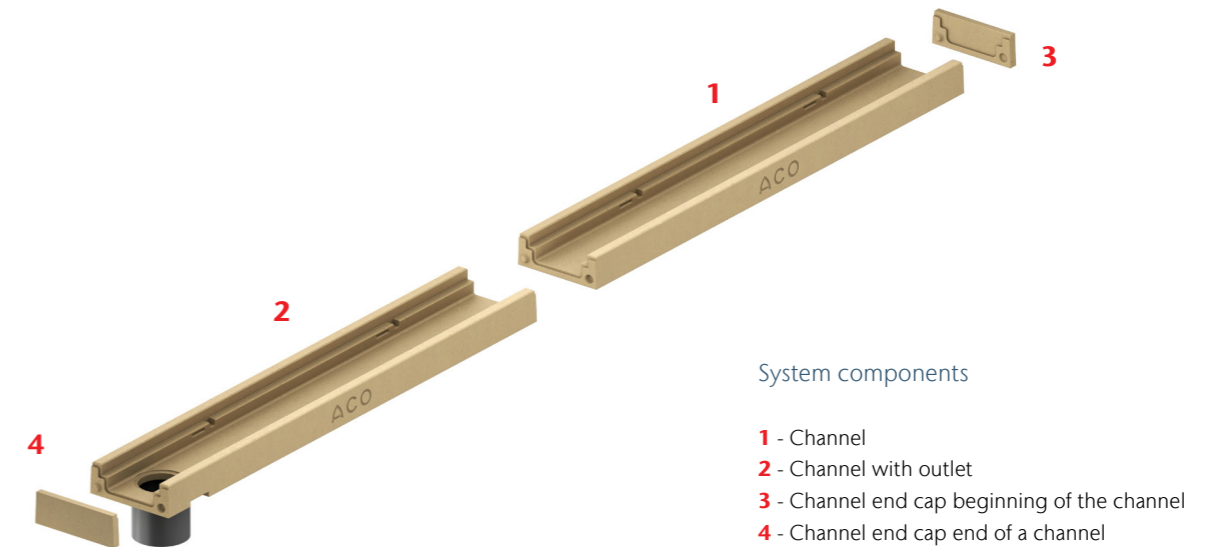
Accessories

Product	Dimensions					PU pcs./pallet	Item no.
	Length	Width	Height	Weight			
	mm	mm	mm	kg	natural		
	Multislot 150 gully including cover and FAT	215	215	179	2,90	30	449195
	Multislot 150 gully end including cover and FAT	215	215	179	3,00	30	449196
	Multislot 150 installation cover, t=1	1000	150	25,7	1,80	100	449197
	Multifix 1 - galvanized steel	100	310	331	1,50	100	447813*
	Multifix 1 - stainless steel	100	310	331	1,81	100	448753*
	EG raising piece with double clam. flange DN100	360	360	250	4,00	40	01043
	Polyester bonding compound				0,90	10	02163



ACO DRAIN® Deckline P

Shallow channel for multi-level parking buildings and underground garages



System components

- 1 - Channel
- 2 - Channel with outlet
- 3 - Channel end cap beginning of the channel
- 4 - Channel end cap end of a channel

Typical applications

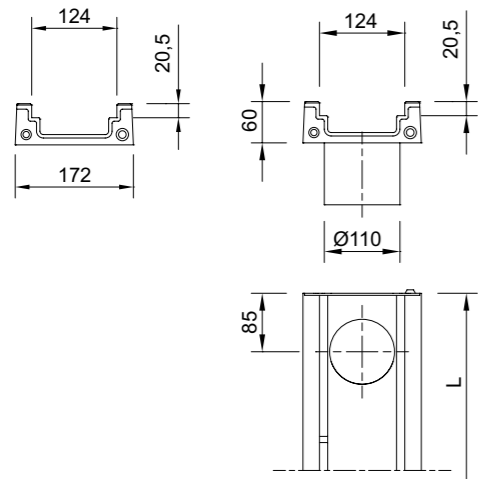
- Underground car garages
- Parking houses and multi-level car parks

Product benefits:

- Polymer concrete system, easy to seal
- Corrosion resistant system with no steel parts
- Easy assembly
- Recommended solution for concrete surfaces
- Low height with minimum impact to floor structure
- ACO SF safety groove at both ends to make channels 100% watertight
- Connected with Drainlock system grating for easy assembly and disassembly
- Pre-treated adhesive surface for 100% watertight bonding and bond strength

*Installation recommendations for Multifix 1, Multifix 2 and Multifix 3 to be found on page 24 and 25



Decline P100






Product information

- Channel material and edges: polymer concrete
- Channel type: no slope
- Maximum load class: C250
- Certificated EN1433
- Channel height 60 mm










Decline P100

Product	Dimensions						PU	Item no.
	Length	Width	Width	Height	Weight			
	mm	NW/100	mm	mm	kg	pcs./pallet		
 Decline P100	1000	100	172	60	12,10	40	135070	
 Decline P100 with outlet	1000	100	172	60	11,70	20	135071	

Accessories

 Decline P100 end caps beginning / end of the channel	20		172	60	0,40	24	135076
 Decline P100 end caps with pipe DN 50 Stainless steel 1.4301	42		175	75	0,24	105	449188
 Decline P100 end caps with pipe DN 50 Galvanized steel 1.3007	42		175	75	0,23	105	449189

Extended accessories

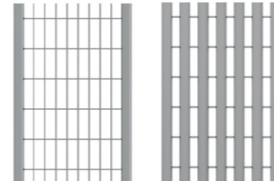
Product	Dimensions					PU	Item no.
	Length	Width	Height	Weight			
	mm	mm	mm	kg	pcs./pallet		
 EG raising piece with double clam. flange DN 100	360	360	250	4,00	40	01043	
 FAT for Decline P	73	80	87	0,30	100	445989	
 ACO DRAIN® Silt basket for vertical outlet D110	125	88	76	0,29	55	132378	
 Sieve for Decline P		90	4	0,11	25	445988	
 Multifix 1 - galvanized steel	100	310	331	1,50	100	448753*	
 Multifix 1 - stainless steel	100	310	331	1,81	100	447813*	
 Multifix 2 - galvanized steel	100	360	331	1,66	100	448754*	
 Multifix 2 - stainless steel	100	360	331	1,97	100	447814*	
 Polyester bonding compound				0,90	10	02163	

*Installation recommendations for Multifix 1, Multifix 2 and Multifix 3 to be found on page 24 and 25

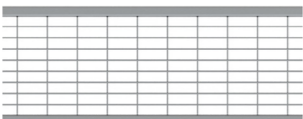
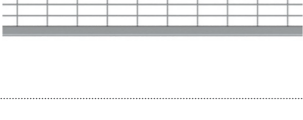



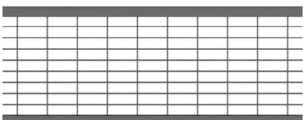
Gratings

Load class B 125

- Gratings certified to EN 1433
- With integrated Drainlock locking



Gratings



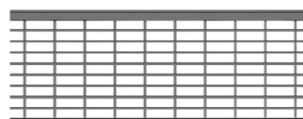
Product	Dimensions						PU pcs./ pallet	Item no.
	Length	Width	Inlet opening measurement	Intake area	Weight			
	mm	mm	mm		kg			
	Mesh grate Q+ - Galvanized steel	1000	123	30 x 10	845	3,13	150	132560
		500	123	30 x 10	845	1,60	100	132561
	Mesh grate Q+ - Stainless steel	100	123	30 x 10	845	3,20	100	132559
		500	123	30 x 10	845	1,60	100	132542
	Linear U-profile grate - Galvanized steel	1000	123	8	430	4,80	100	132555
		500	123	8	430	1,90	100	132550
	Linear U-profile grate - Stainless steel	100	123	8	430	4,80	100	132556
		500	123	8	430	1,93	100	132551
	Linear triangle grate - Stainless steel	1000	123	6	465	3,85	100	132557
		500	123	6	465	1,74	100	132552
	Q+ Mesh grate grey - Painted	1000	123	30 x 10	845	3,20	100	449282
		500	123	30 x 10	845	1,60	100	449283

Load class C 250



- Gratings certified to EN 1433
- With integrated Drainlock locking



Gratings

Product	Dimensions						PU pcs./ pallet	Item no.
	Length	Width	Inlet opening measurement	Intake area	Weight			
	mm	mm	mm		kg			
	Mesh grate Q+ - Galvanized steel	1000	123	30 x 10	800	4,14	100	132880
		500	123	30 x 10	800	2,06	100	132881
	Mesh grate Q+ - Stainless steel	100	123	30 x 10	800	4,18	100	132882
		500	123	30 x 10	800	2,00	100	132883
	Q+ Mesh grate grey - Painted	1000	123	30 x 10	800	4,20	100	449284
		500	123	30 x 10	800	2,10	100	449285

Grating accessories

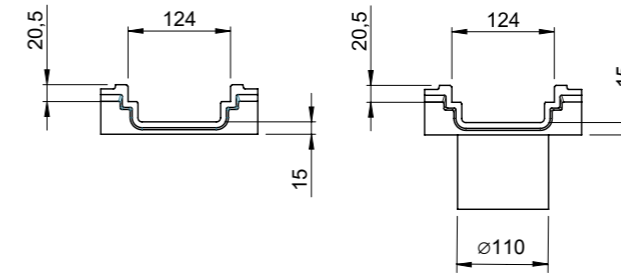
Description	Suitable for	Weight	PU	Item no.
		kg	pcs./pallet	
 Cover grating hook ■ For lifting cover gratings ■ Galvanised steel	■ Cover gratings	0,3	200	01290
 Cover grating hook, small ■ For lifting cover gratings ■ Steel, black lacquered	■ Grid Q+ ■ Composite ■ U-profiles ■ Triangle profiles	0,25	200	01367



ACO DRAIN® Deckline P OS

Shallow channel for multi-level parking buildings and underground garages



Deckline P100 OS






Product information

- Channel material and edges: polymer concrete
- Channel type: no slope
- Maximum load class: C250
- Certificated EN1433
- Channel height 60 mm
- Continuous linear polymer concrete flange for secure connection of waterproof insulation layer to the channel.

Deckline P100 OS

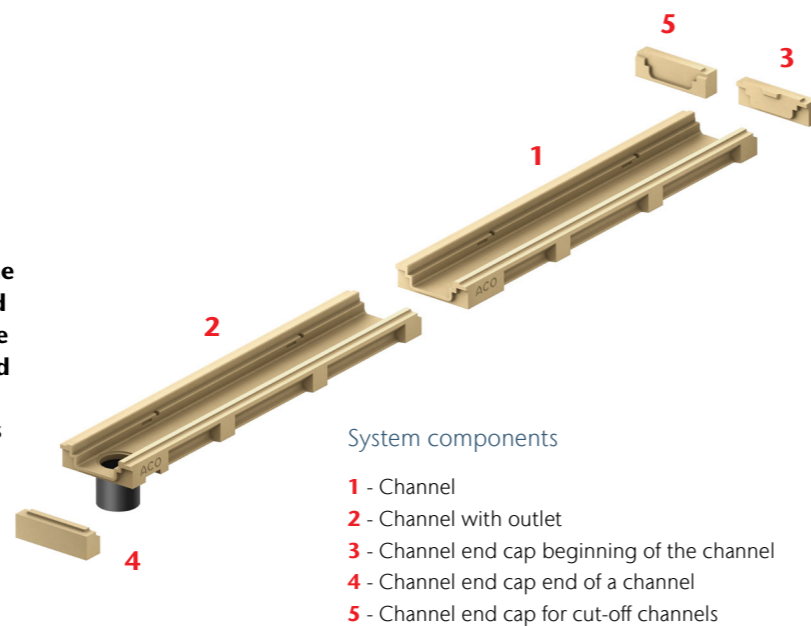
Product	Dimensions				Weight	PU	Item no.
	Length	Width NW/100	Width	Height			
	1000	100	172	60	11,08	40	447756
	1000	100	172	60	11,60	32	4474757

Accessories

	Deckline P100 OS end caps beginning of the channel	40	100	172	60	0,76	24	447758
	Deckline P100 OS end caps end of the channel	40	100	172	60	0,95	24	447759
	Deckline P100 OS end caps for trimming	40	100	172	60	0,90	24	447760

NEW!

Parking deck drainage - ACO DRAIN® Deckline P OS is the latest addition to the ACO parking deck range for garages and parking decks with surface coatings. The polymer concrete channel with all-round coating flange and low construction height satisfies the special requirements for garages and parking decks.



System components

- 1 - Channel
- 2 - Channel with outlet
- 3 - Channel end cap beginning of the channel
- 4 - Channel end cap end of a channel
- 5 - Channel end cap for cut-off channels







Product benefits:

- Polymer concrete system, easy to seal
- Corrosion resistant system with no steel parts, flange from polymer concrete
- Easy assembly
- Recommended solution for concrete surfaces
- Low height with minimum impact to floor structure
- ACO SF safety groove at both ends to make channels 100% watertight
- Connected with Drainlock system grating for easy assembly and disassembly
- Pre-treated adhesive surface for 100% watertight bonding and bond strength

Typical applications

- Underground car garages
- Parking houses and multi-level car parks

Extended accessories

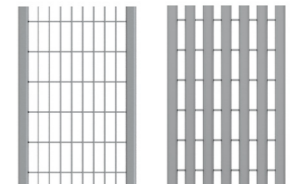
Product	Dimensions					PU	Item no.
	Length	Width	Height	Weight			
	mm	mm	mm	kg	pcs./pallet		
	EG raising piece with double clam. flange DN 100	360	360	250	4,00	40	01043
	FAT for Deckline P	73	80	87	0,30	100	445989
	ACO DRAIN® Silt basket for vertical outlet D110	125	88	76	0,29	55	132378
	Sieve for Deckline P		90	4	0,11	25	445988
	Multifix 1 - galvanized steel	100	310	331	1,50	100	448753*
	Multifix 1 - stainless steel	100	310	331	1,81	100	447813*
	Multifix 2 - galvanized steel	100	360	331	1,66	100	448754*
	Multifix 2 - stainless steel	100	360	331	1,97	100	447814*
	Polyester bonding compound				0,90	10	02163

*Installation recommendations for Multifix 1, Multifix 2 and Multifix 3 to be found on page 24 and 25

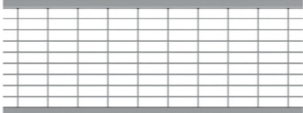




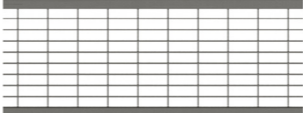
Gratings

Load class B 125

- Gratings certified to EN 1433
- With integrated Drainlock locking



Gratings



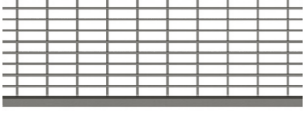
Product	Dimensions						PU	Item no.
	Length	Width	Inlet opening measurement	Intake area	Weight			
	mm	mm	mm	mm²	kg	pcs./pallet		
	Mesh grate Q+ - Galvanized steel	1000	123	30 x 10	845	3,13	150	132560
	Mesh grate Q+ - Galvanized steel	500	123	30 x 10	845	1,60	100	132561
	Mesh grate Q+ - Stainless steel	100	123	30 x 10	845	3,20	100	132559
	Mesh grate Q+ - Stainless steel	500	123	30 x 10	845	1,60	100	132542
	Linear U-profile grate - Galvanized steel	1000	123	8	430	4,80	100	132555
	Linear U-profile grate - Galvanized steel	500	123	8	430	1,90	100	132550
	Linear U-profile grate - Stainless steel	100	123	8	430	4,80	100	132556
	Linear U-profile grate - Stainless steel	500	123	8	430	1,93	100	132551
	Linear triangle grate - Stainless steel	1000	123	6	465	3,85	100	132557
	Linear triangle grate - Stainless steel	500	123	6	465	1,74	100	132552
	Q+ Mesh grate grey - Painted	1000	123	30 x 10	845	3,20	100	449282
	Q+ Mesh grate grey - Painted	500	123	30 x 10	845	1,60	100	449283

Load class C 250



- Gratings certified to EN 1433
- With integrated Drainlock locking



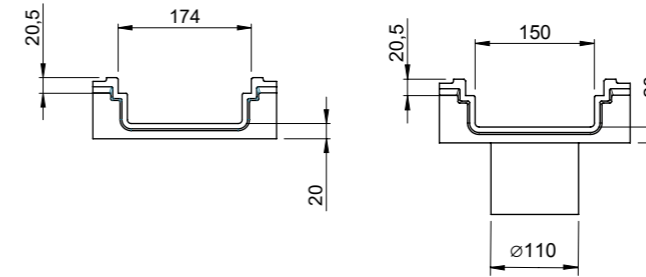
Gratings

Product	Dimensions				Weight kg	PU pcs./pallet	Item no.	
	Length	Width	Inlet opening measurement	Intake area				
	mm	mm	mm	mm				
	Mesh grate Q+ - Galvanized steel	1000	123	30 x 10	800	4,14	100	132880
		500	123	30 x 10	800	2,06	100	132881
	Mesh grate Q+ - Stainless steel	1000	123	30 x 10	800	4,18	100	132882
		500	123	30 x 10	800	2,00	100	132883
	Q+ Mesh grate grey - Painted	1000	123	30 x 10	800	4,20	100	449284
		500	123	30 x 10	800	2,10	100	449285

Grating accessories

Description	Suitable for	Weight		PU	Item no.
		kg	pcs./pallet		
 <p>Cover grating hook</p> <ul style="list-style-type: none"> ■ For lifting cover gratings ■ Galvanised steel 	<ul style="list-style-type: none"> ■ Cover gratings 	0,3	200	100	01290
 <p>Cover grating hook, small</p> <ul style="list-style-type: none"> ■ For lifting cover gratings ■ Steel, black lacquered 	<ul style="list-style-type: none"> ■ Grid Q+ ■ Composite ■ U-profiles ■ Triangle profiles 	0,25	200	100	01367



Deckline P150 OS






Product information

- Channel material and edges: polymer concrete
- Channel type: no slope
- Maximum load class: C250
- Certificated EN1433
- Channel height 60 mm
- Continuous linear polymer concrete flange for secure connection of waterproof insulation layer to the channel.








Deckline P150 OS

Product	Dimensions						PU pcs./pallet	Item no.
	Length	Width NW/100	Width	Height	Weight			
	mm	mm	mm	mm	kg			
	Deckline P150 OS	1000	150	225	80	18,20	24	447874
	Deckline P150 OS with outlet	1000	150	225	80	17,90	21	447875



Accessories

	Deckline P150 end caps beginning of the channel	40	150	225	80	1,30	96	447876
	Deckline P150 end caps end of the channel	40	150	225	80	1,60	96	447877
	Deckline P150 end caps for trimming	40	150	225	80	1,60	96	447878

Extended accessories

Product	Dimensions					PU	Item no.
	Length	Width	Height	Weight	Weight		
	mm	mm	mm	kg	pcs./pallet		
 EG raising piece with double clam. flange DN 100	360	360	250	4,00	40	40	01043
 FAT for Deckline P	73	80	87	0,30	100	100	445989
 ACO DRAIN® Silt basket for vertical outlet D110	125	88	76	0,29	55	55	132378
 Sieve for Deckline P		90	4	0,11	25	25	445988
 Multifix 3 - galvanized steel	100	410	331	2,13	100	100	448755*
 Multifix 3 - stainless steel	100	410	331	1,83	100	100	447815*
 Polyester bonding compound				0,90	10	10	02163

Grating accessories

Description	Suitable for	Weight		PU	Item no.
		kg	pcs./pallet		
 Cover grating hook ■ For lifting cover gratings ■ Galvanised steel	■ Cover gratings	0,3	200	200	01290
 Cover grating hook, small ■ For lifting cover gratings ■ Steel, black lacquered	■ Grid Q+ ■ Composite ■ U-profiles ■ Triangle profiles	0,25	200	200	01367

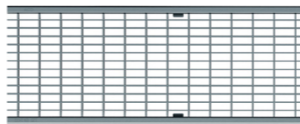

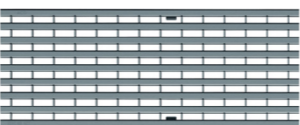


*Installation recommendations for Multifix 1, Multifix 2 and Multifix 3 to be found on page 24 and 25

Gratings

Load class B 125

- Gratings certified to EN 1433
- With integrated Drainlock locking

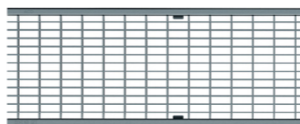

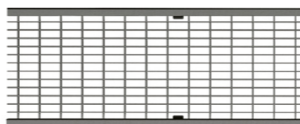
Gratings

Product	Dimensions					PU	Item no.
	Length	Width	Inlet opening measurement	Intake area	Weight		
	mm	mm	mm	mm²	kg		
	1000	173	30 x 10	1182	5,40	100	133601
	500	173	30 x 10	1182	2,70	50	133602
	100	173	30 x 10	1182	5,30	100	133603
	500	173	30 x 10	1182	2,70	50	133604
	1000	173	9	687	5,10	100	133625
	500	173	9	687	2,50	100	133626
	100	173	9	687	5,10	100	133627
	500	173	9	687	2,60	100	133628
	1000	173	6	668	6,40	48	133633
	500	173	6	668	3,10	24	133634

Load class C 250

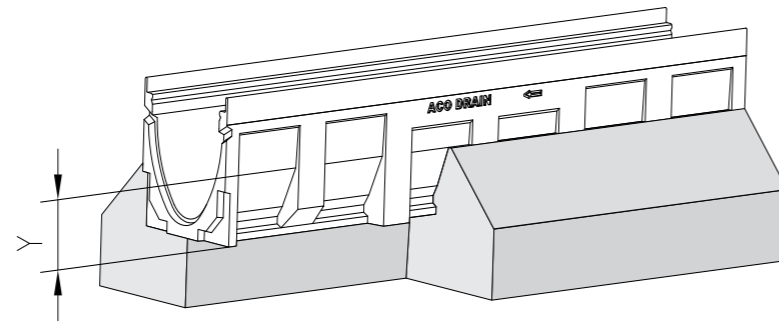
- Gratings certified to EN 1433
- With integrated Drainlock locking

Gratings

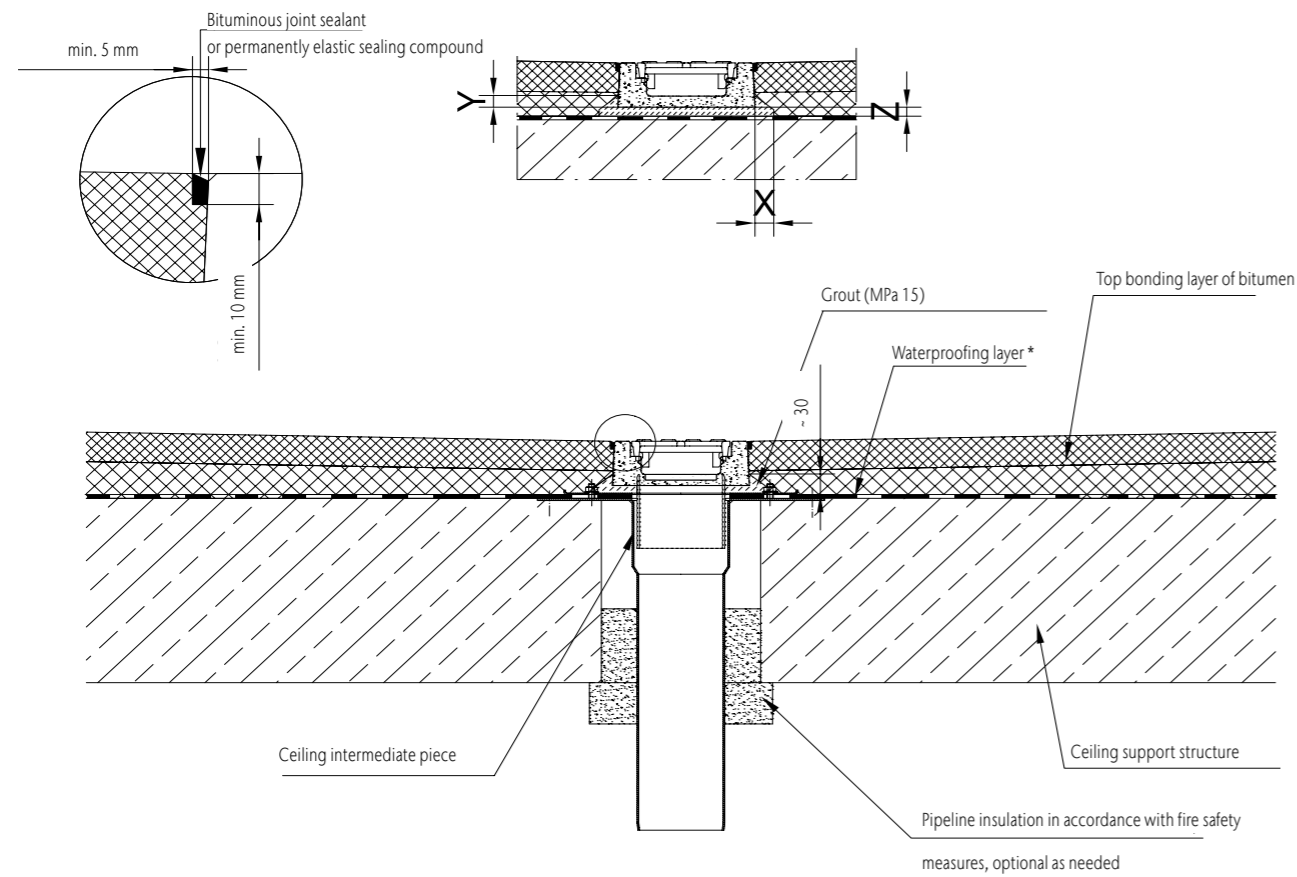
Product	Dimensions					PU	Item no.
	Length	Width	Inlet opening measurement	Intake area	Weight		
	mm	mm	mm	mm²	kg		
	1000	173	30 x 10	1182	5,70	100	133605
	500	173	30 x 10	1182	2,80	50	133606
	100	173	30 x 10	1182	5,70	100	133607
	500	173	30 x 10	1182	2,90	50	133608
	1000	173	6	668	5,70	50	448804
	500	173	6	668	2,80	50	448805

Overview of embedding details

The construction dimension Y is specified in the relevant ACO embedding details and determines the minimum amount of concrete for lateral stabilization of the channel body. This value may vary depending on the height of the channel and the thickness of the subsequent top layer.

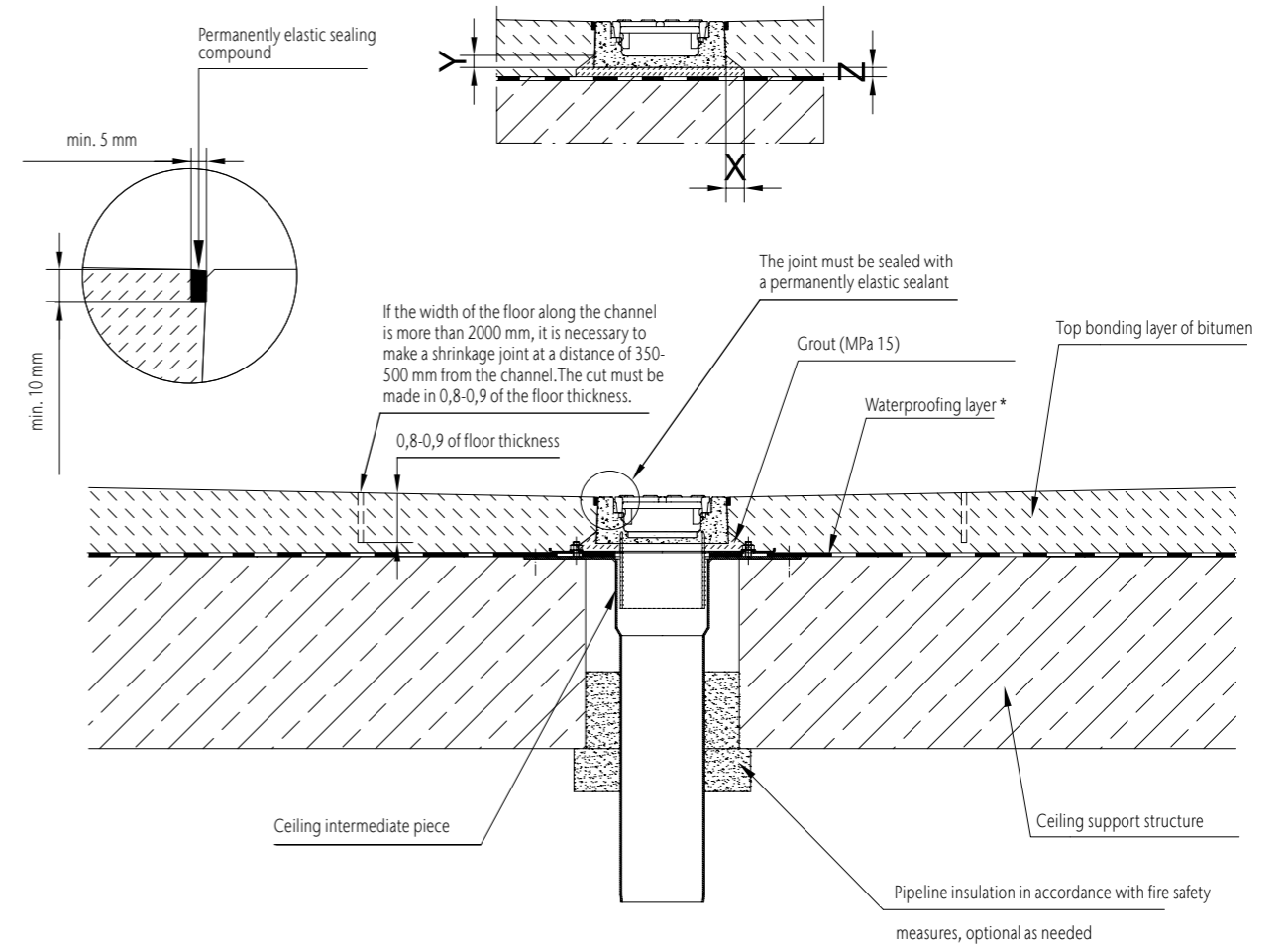


Embedding into bitumen - A15 to C250



Load class	(according to EN 1433)	A 15	B 125	C 250	D 400	E 600
Basic dimensions	X (cm)	≥ 3	≥ 3	≥ 3		
	Y (cm)	≥ 1,5	≥ 1,5	≥ 1,5		
	Z (cm)	≥ 1,5	≥ 1,5	≥ 1,5		

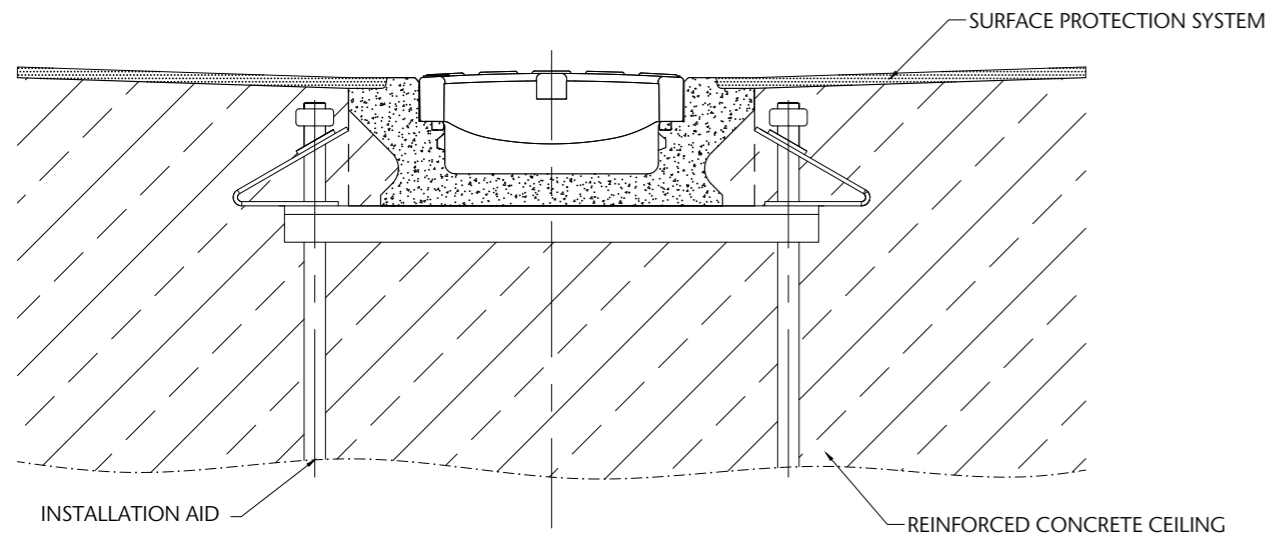
Embedding into concrete - A15 to C250



Load class	(according to EN 1433)	A 15	B 125	C 250	D 400	E 600
Basic dimension	X (cm)	≥ 3	≥ 3	≥ 3		
	Y (cm)	≥ 1,5	≥ 1,5	≥ 1,5		
	Z (cm)	≥ 1,5	≥ 1,5	≥ 1,5		

*In parking decks or roofs, installed channels should always be installed over the water-tight membrane. A direct connection of channel and membrane is not possible. For this matter, the „second“ draining surface can be drained down by vertical outlet with clamping flange.

Installation recommendations for Multifix 1, Multifix 2 and Multifix 3

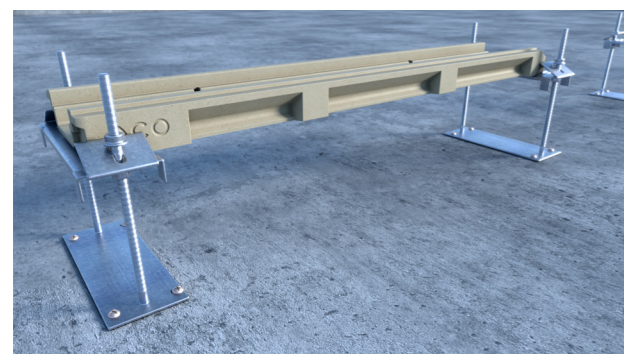


This installation recommendations shows an application using Deckline P OS channel, the same installation recommendations are valid also for Deckline P and Multislot channel.

Adjusting and attaching the installation aid Multifix

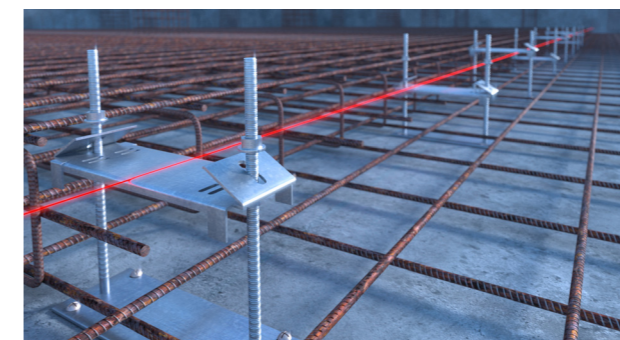
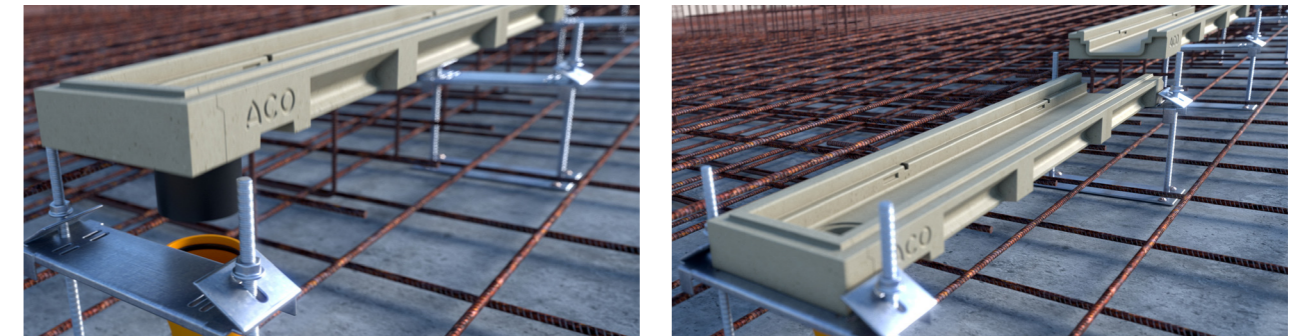
The installation aid is needed for the installation of the ACO channel before the main slab is poured. The base is placed under the contact point of the channels. Therefore, there is no need to create the joints and subsequently fill the joints when grouting. Height adjustment from 25 to 305 mm.

For one contact point of the channels, 1 piece of ACO installation aid is installed on the lower structure (panel form or leveling layer/concrete base). An additional ACO installation aid is required at the end of the channel line. Number of installation aids Multifix = standard meter + 1 piece



Step 1: Adjusting the channel

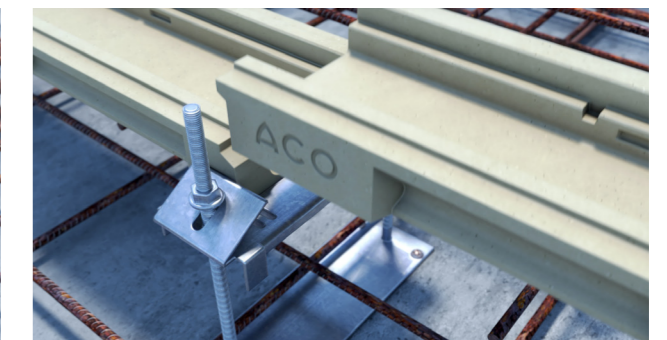
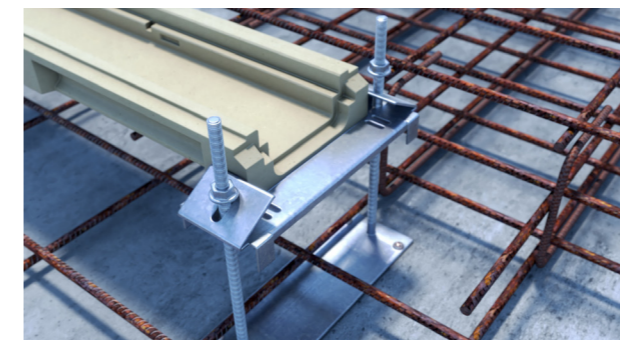
ACO channel is a drainage channel without a gradient. The laying of the channel starts with the point of connection (channel with an outlet pipe). The end cap for the starting point of the channel is attached to the channel line before the installation.



Adjusting the height of the installation aid to the desired level using a laser or cord. The height of the flange must be the same as the height of the top layer. (Lower edge of flange = top edge of background concrete) The height of the top edge of the channel (flange) must be set so that the flange does not protrude in any way, in order to ensure functional drainage. ACO channel is placed on the traverse of the ACO installation aid.

Step 2: Laying of the channel

Laying of the channels from above. The point of contact must be kept clean to create a flowing transition. The channel contact points require special care to ensure that the transition is flowing and at the same level. The level of the surface layer must be flush with the surface flange of the channel.



The channel is tightened with nuts (M10) at the point of contact to secure it against displacement and protrusion. This requires special care to align the channel line and transitions. The channel line should not be loaded or moved until the concrete has cured.

Every ACO product supports
the ACO system chain



ACO Industries k.s.

Havlíčková 260
582 22 Příbyslav
Czech Republic

ACO. we care for water

