

LINEAR DRAINS



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LOAD CLASS DEFINITION

Linear drains are a perfect solution to collect and drain rain water from pedestrian and vehicular traffic pavements.

Drains should be classified according to their use.

According to Norm EN 1433 there exist assembly groups of drains:

GROUP 1-MIN.

CLASS A15



The areas may only be used by pedestrians and cyclists



GROUP 2-MIN.

CLASS B125 B125

Pedestrian pavements, pedestrian zones and other similar areas, car parks or car bays



GROUP 3-MIN.

CLASS C250 C250



Kerb areas, roadside surface free of traffic and similar



GROUP 4-MIN.

CLASS D400 D400

Road pavements (including pedestrians), roadsides and parks for all kinds of road vehicles



GROUP 5-MIN.

CLASS E600 E600

Areas being subject to big loads due to vehicular traffic



GROUP 6-MIN.

(IASS F900 F900



Areas being subject to particularly big loads due to vehicular traffic e.g. aeroplane runways



The choice of a particular load class depends on the place of its assembly. The designer is responsible for the choice of the correct load class. In doubt the choice of a higher class is suggested.

MAIN CHARACTERISTICS OF CONCRETE LINEAR DRAINS:

- drains made of high-class concrete class C35/45
- · lids bearing areas reinforced with a steel or galvanized strip
- screwed down lids (anti-theft)

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- drains reinforced with a reinforcing construction
- smooth surface provides fast flow of water
- · correct installation ensures high resistance to load
- load classes available from A15 to F900

ADDITIONAL ACCESSORIES:

- · consolidated system drains
- full end drains
- drain end with place for a stub-pipe

USE:

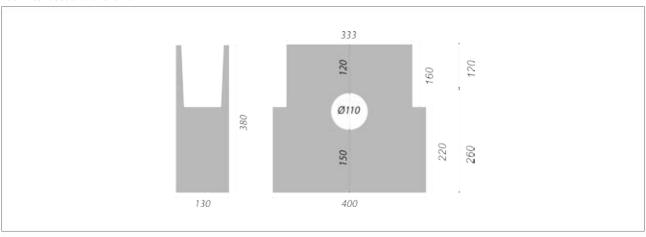
Pedestrian and cyclist paths, housing areas, gardens, terraces, building entrances, garage entrances, car parks for cars and lorries, plant squares, production halls, petrol stations, airports



Technical sections of linear drain



length mm	width mm	height mm
1000	130	120
1000	130	160



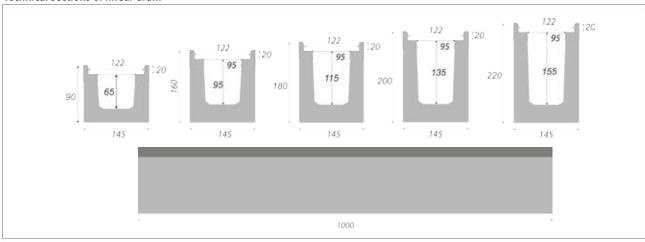
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333	130	380	

Class	Lid type	Drain height	Drain with a lid code	Drain weight with lid kg	Amount on the pallet	Price
A15	1. GALVANISED IRON		0001	23	30	
AIS		h 160	0004	28	24	
Λ15	2. STAINLESS STEEL A15	h 120	0009	22,5	30	
AIS		h 160	0290	28	24	
3. CAST IRON	h 120	0026	29	30		
B125	25	h 160	0028	34	24	

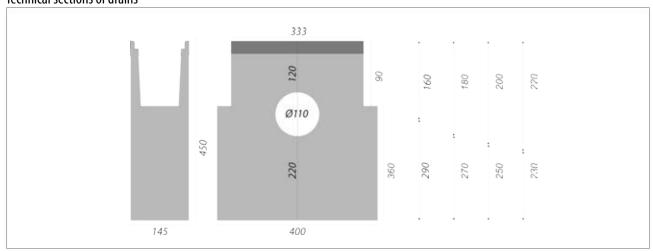
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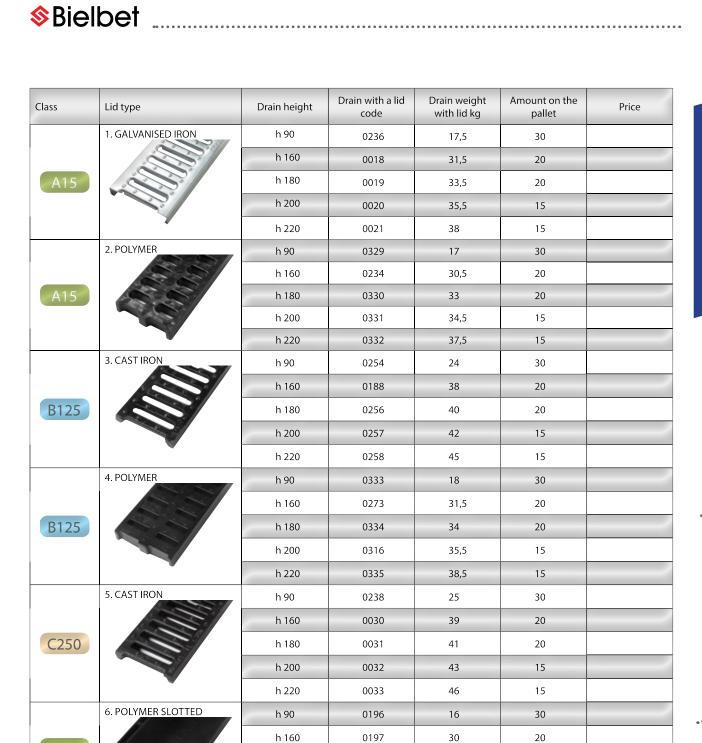




length mm	width mm	height mm
1000	145	90
1000	145	160
1000	145	180
1000	145	200
1000	145	220



	length mm	width mm	height mm	price
10.	333	145	450	



h 180

h 200

h 220

C250

0198

0205

0206

32,5

34

37

20

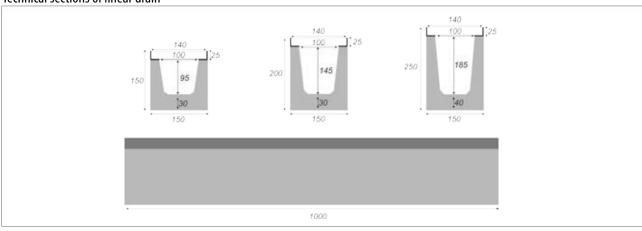
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15

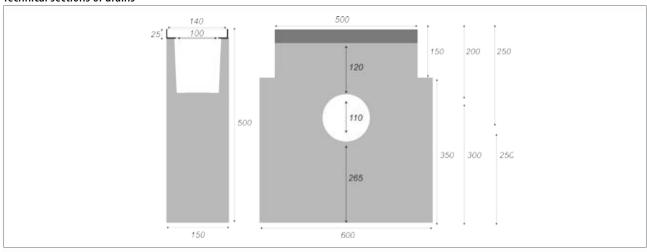




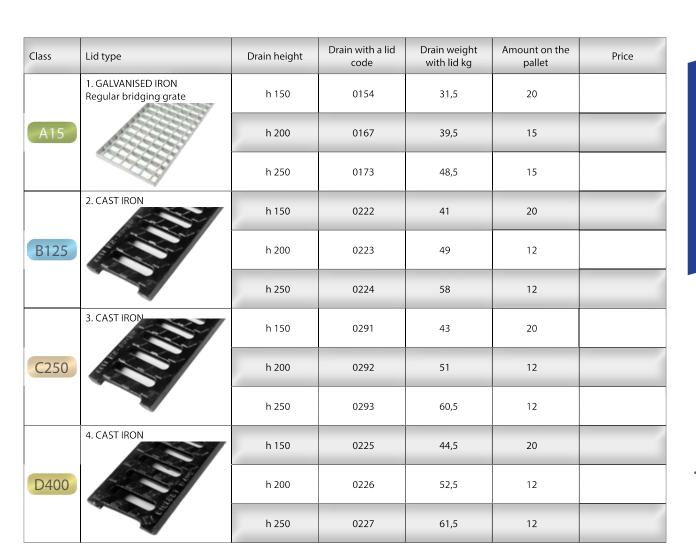
Technical sections of linear drain



length mm	width mm	height mm
1000	150	150
1000	150	200
1000	150	250

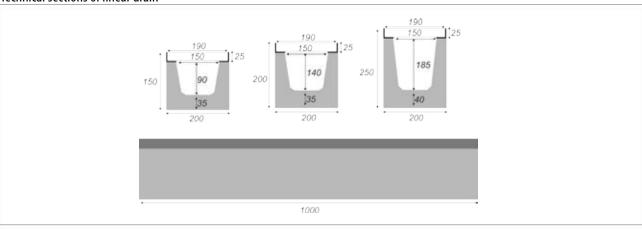


length mm	width mm	height mm	price
500	150	500	

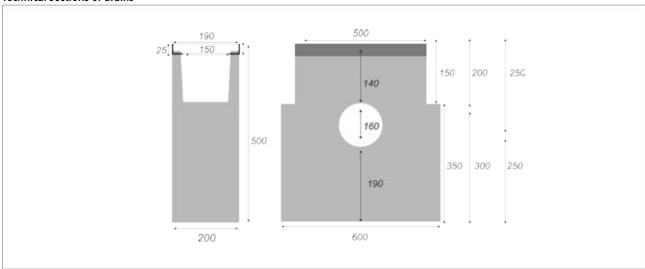








length mm	width mm	height mm
1000	200	150
1000	200	200
1000	200	250

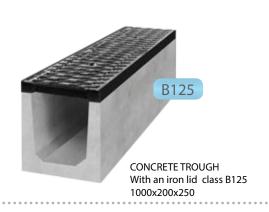


length mm	width mm	height mm	price
500	200	500	



Class	Lid type	Drain height	Drain with a lid code	Drain weight with lid kg	Amount on the pallet	Price
	1. GALVANISED IRON Regular bridging grate	h 150	0319	37	20	
A15		h 200	0321	46	12	
	S. F.	h 250	0323	57	12	
	2. CAST IRON	h 150	0228	48,5	16	
B125		h 200	0229	67,5	12	
		h 250	0230	68,5	12	
	3. CAST IRON	h 150	0269	54	16	
C250		h 200	0279	63	12	
		h 250	0280	73,5	12	
	4. CAST IRON	h 150	0231	53,5	16	
D400		h 200	0232	62,5	12	
	0.5	h 250	0233	73	12	

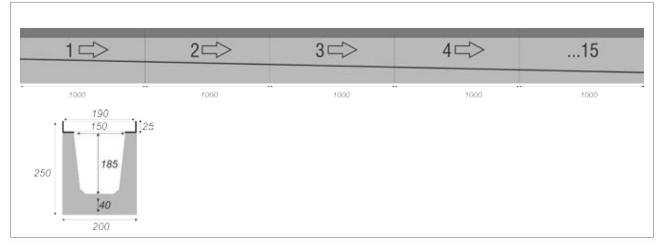
CONCRETE DOWNWARD TROUGH 200



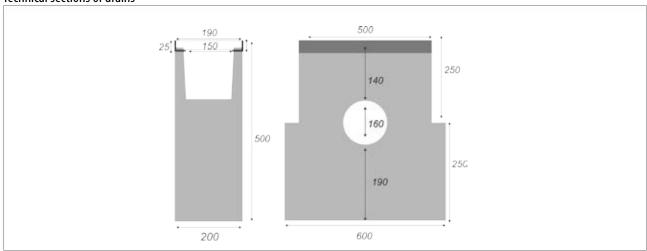


- 15 downward elements 0,5 % fall per each trough Inner fall

Technical sections of linear drain



length mm	width mm	height mm
1000	200	250



length mm	width mm	height mm	price
500	200	500	

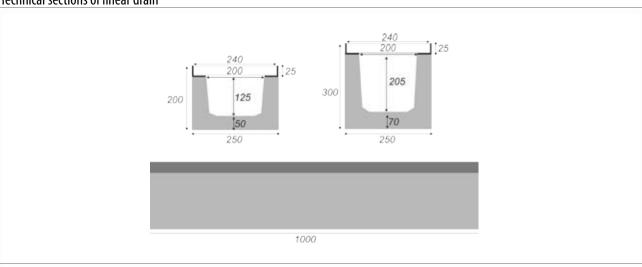


Class	Lid type	Drain height	Drain with a lid code	Drain weight with lid kg	Amount on the pallet	Price
(A15)	1. GALVANISED IRON (Regular bridging grate)	h 250	0459	78-56,5	12	
B125	2. CAST IRON	h 250	0461	89,5-68	12	
C250	3. CAST IRON	h 250	0462	94-72,5	12	
D400	4. CAST IRON	h 250	0463	95-73,5	12	

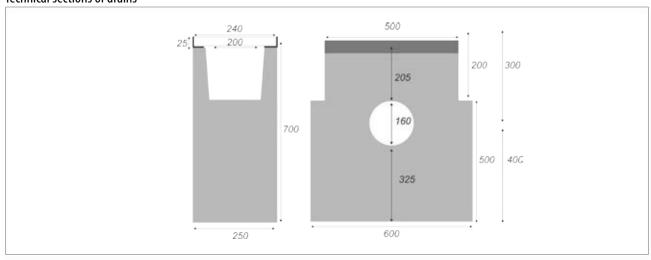




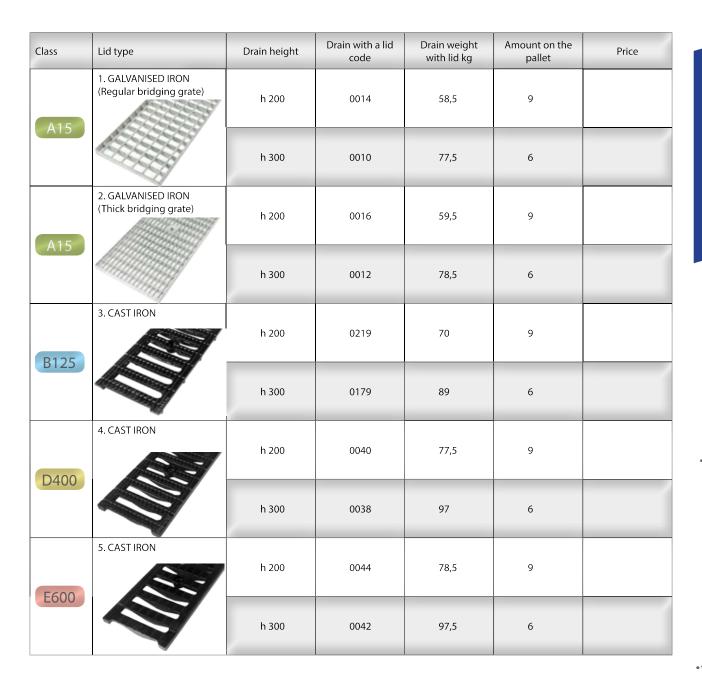
Technical sections of linear drain



length mm	width mm	height mm
1000	250	200
1000	250	300



	length mm	width mm	height mm	price
18.	500	250	700	



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CONCRETE DRAINAGE ACCESSORIES







Full-end drain

Drain end with place for a pipe

Drain end with place for a stub-pipe

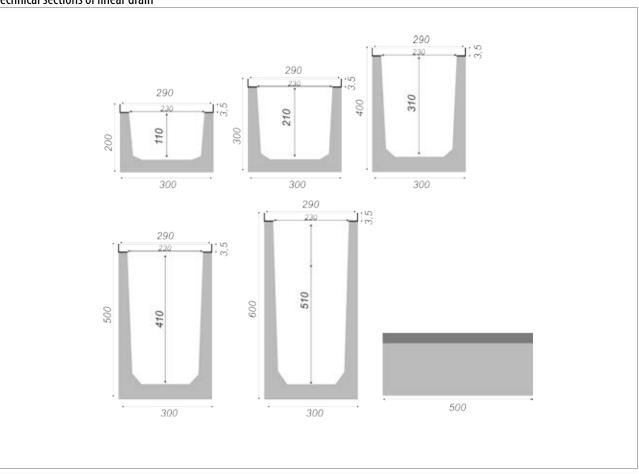
End available for all types of concrete drains.

Drain end with a stub-pipe and an opening available Ø 110, Φ160, Φ200 (depending on type).

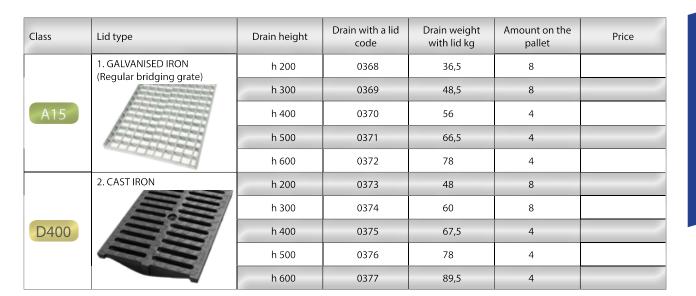


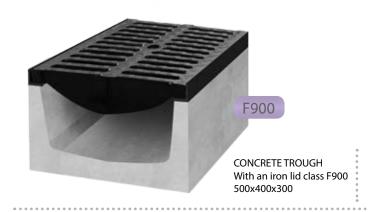


Technical sections of linear drain

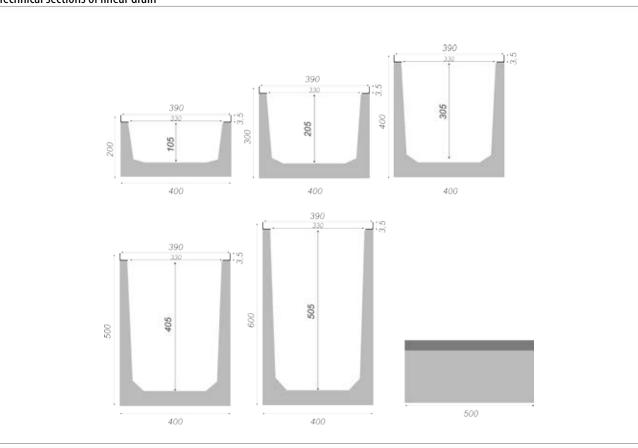


length mm	width mm	height mm
500	300	200
500	300	300
500	300	400
500	300	500
500	300	600

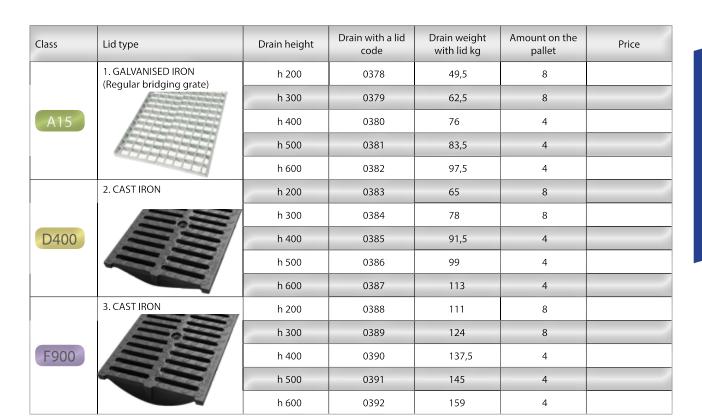


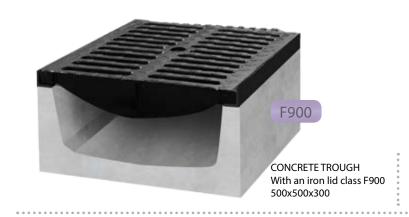


Technical sections of linear drain

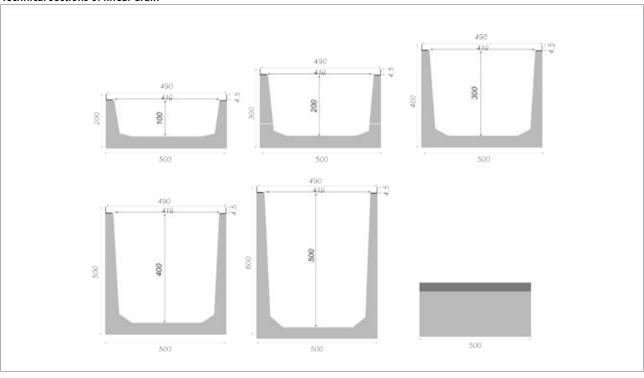


length mm	width mm	height mm
500	400	200
500	400	300
500	400	400
500	400	500
500	400	600

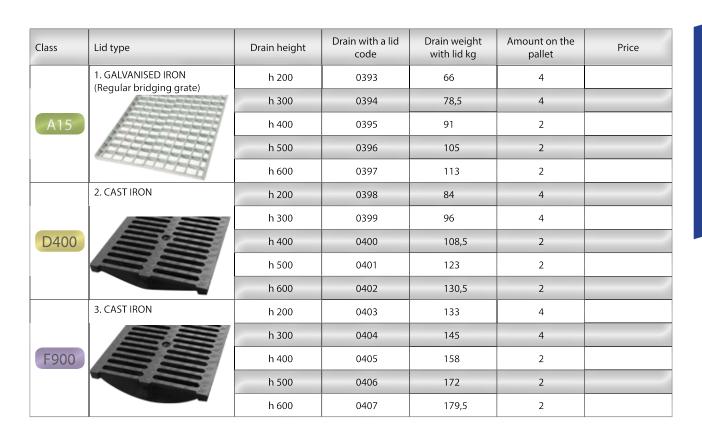




Technical sections of linear drain



length mm	width mm	height mm
500	500	200
500	500	300
500	500	400
500	500	500
500	500	600

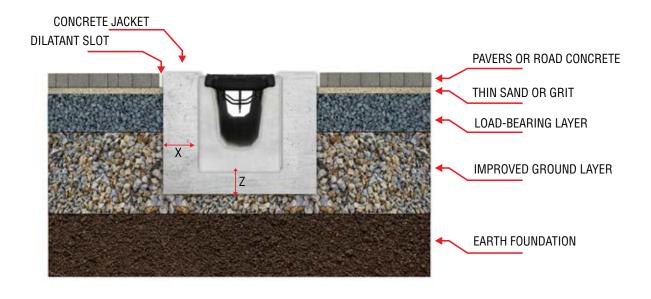


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CONCRETE TROUGH ASSEMBLY MANUAL

- 1. Choose the right ground (see picture).
- 2. Mark the future position of the draining system with pegs and nylon lines stretched from one peg to the other one
- 3. Prepare the trench of enough width, it must be possible to make at least 10cm (class A 15) concrete layer. For bigger loads, the ground load or trench bottom load must be provided. Concrete quality minimum parameters requirements must be met as dedicated to particular load classes
- 4. Place the first drain in a trench on the earlier prepared concrete so as to form a concrete band around the trough.
- 5. Next drain parts should be placed carefully as it is not possible to correct the position after the concrete has dried off.
- 6. Use fast drying grout e.g. Ceresit CX5. Place the grout on the front part of the drain and press with the next element.
- 7. Troughs should be placed 3-5mm below the surface.
- 8. The neighbouring case must be made in such a way that no horizontal force is transmitted onto the walls of the drain trough.
- Checking the correctness of assembly means checking if the troughs are placed rectilinearly and checking tightness with the use of water.

The producer is in no way responsible for any damaged occurring due to incorrect assembly of drains.



The size of the concrete berm depends on the load class

Load class	A 15	B 125	C 250	D 400	E 600	F 900
Dimensions of the concrete berm X (mm)	100	150	150	200	200	200
Dimensions of the concrete berm Z (mm)	100	150	150	200	200	200
Concrete class for the berm	C 35/45					

WAY OF CONNECTING CONCRETE TROUGHS



MAIN CHARACTERISTICS OF POLYMER CONCRETE LINEAR DRAINS

- drains made of polymer concrete
- high mechanical durability
- frost resistant and non absorbent
- high chemical resistance
- smooth surface provides high hydraulic properties
- · connecting drains using tongue and groove
- highly aesthetic

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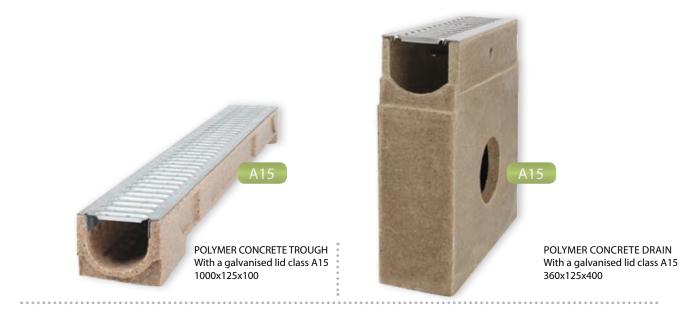
• durability classes from A15 to E600

ADDITIONAL ACCESSORIES:

- · consolidated system drains
- full end drains
- drain end with place for a stub-pipe

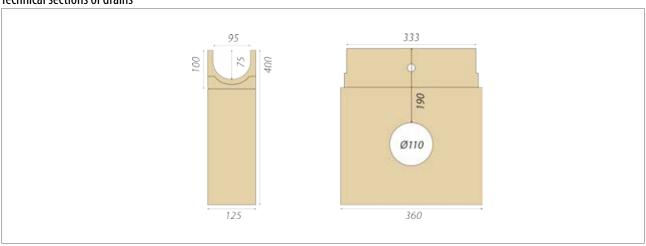
USE:

Pedestrian and cyclist paths, housing areas, gardens, terraces, building entrances, garage entrances, car parks for cars and lorries, plant squares, production halls, petrol stations





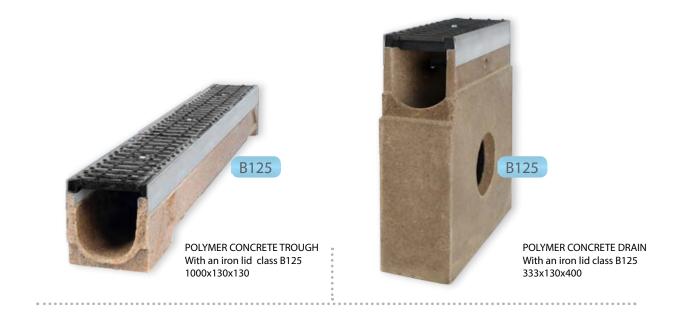
length mm	width mm	height mm
1000	125	100

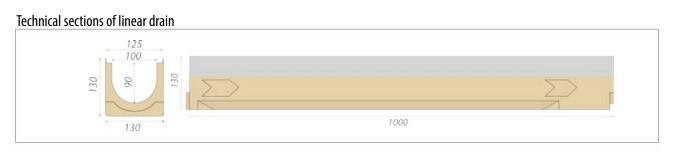


length mm	width mm	height mm	price
333	125	400	



Class	Lid type	Drain with a lid code	Drain weight with lid kg	Amount on the pallet	Price
A15	1. GALVANISED IRON	0145	9	42	
B125	2. CAST IRON	0157	15,5	42	





length mm	width mm	height mm
1000	130	130

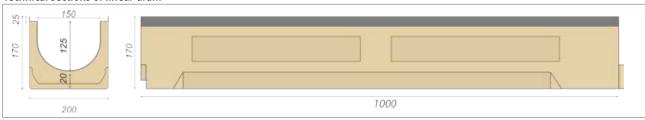
length mm	width mm	height mm	price
333	130	400	



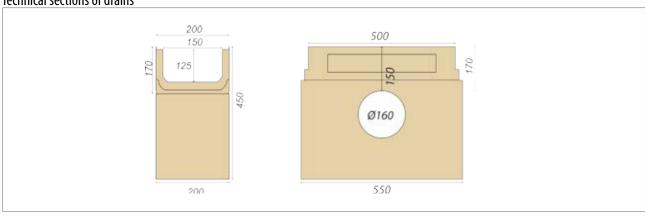
Class	Lid type	Drain with a lid code	Drain weight with lid kg	Amount on the pallet	Price
A15	1. GALVANISED IRON	0155	14	30	
(A15)	2. STAINLESS STEEL	0324	14	30	
(A15)	3. POLYMER	0156	13,5	30	
B125	4.POLYMER	0153	14,5	30	
B125	5. CAST IRON	0289	21	30	
C250	6. CAST IRON	0149	22	30	
A15	7. POLYMER SLOTTED	0288	14	30	



Technical sections of linear drain



length mm	width mm	height mm
1000	200	170



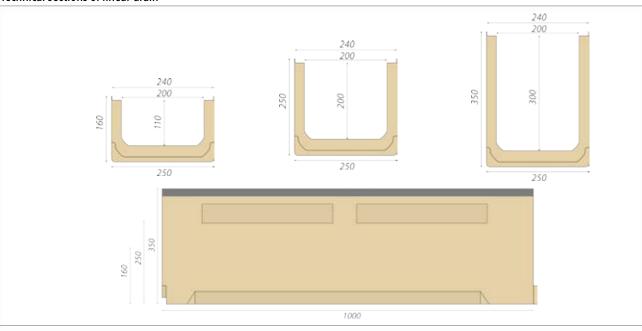
length mm	width mm	height mm	price
500	200	450	



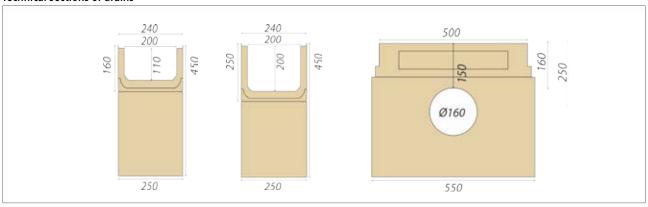
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Technical sections of linear drain



length mm	width mm	height mm
1000	250	160
1000	250	250
1000	250	350



	length mm	width mm	height mm	price
4	500	250	450	

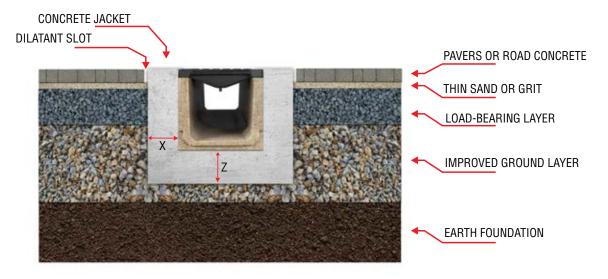
Class	Lid type	Drain height	Drain with a lid code	Drain weight with lid kg	Amount on the pallet	Price
	1. GALVANISED IRON (Regular bridging grate)	h 160	0158	31	12	
A15		h 250	0326	40	9	
		h 350	0162	57	6	
	2. GALVANISED IRON (Thick bridging grate)	h 160	0159	32	12	
A15		h 250	0327	40	9	
		h 350	0163	58	6	
	3. CAST IRON	h 160	0160	43	12	
B125		h 250	0275	50,5	9	
		h 350	0183	68,5	6	
	4. CAST IRON	h 160	0151	50,5	12	
D400		h 250	0204	58,5	9	
		h 350	0164	76,5	6	
	5. CAST IRON	h 160	0161	51	12	
E600		h 250	0328	59	9	
	7	h 350	0184	77	6	

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POLYMER CONCRETE TROUGH ASSEMBLY MANUAL

- 1. Choose the right ground (see picture).
- 2. Mark the future position of the draining system with pegs and nylon lines stretched from one peg to the other one
- 3. Prepare the trench of enough width, it must be possible to make at least 10cm (class A 15) concrete layer. For bigger loads, the ground load or trench bottom load must be provided. Concrete quality minimum parameters requirements must be met as dedicated to particular load classes
- 4. On each element of the trough the flow direction is indicated. The arrows show water drain direction.
- 5. Place the first drain in a trench on the earlier prepared concrete so as to form a concrete band around the trough.
- 6. Next drain parts should be placed carefully as it is not possible to correct the position after the concrete has dried off.
- 7. Use fast drying grout e.g. Ceresit CX5. Place the grout on the front part of the drain and press with the next element.
- 8. Troughs should be placed 3-5mm below the surface.
- The neighbouring case must be made in such a way that no horizontal force is transmitted onto the walls of the drain trough.
- 10. Checking the correctness of assembly means checking if the troughs are placed rectilinearly and checking tightness with the use of water.

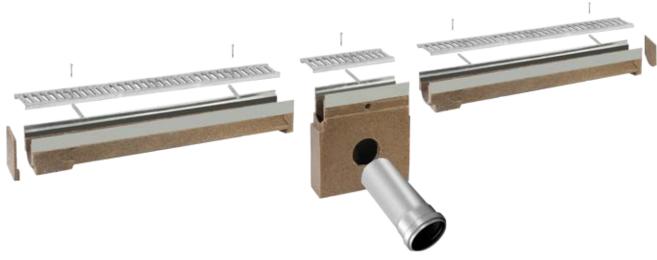
The producer is in no way responsible for any damaged occurring due to incorrect assembly of drains.



The size of the concrete berm depends on the load class

Load class	A 15	B 125	C 250	D 400	E 600
Dimensions of the concrete berm X (mm)	100	150	150	200	200
Dimensions of the concrete berm Z (mm)	100	150	150	200	200
Concrete class for the berm	C 35/45				

WAYS OF CONNECTING POLYMER CONCRETE TROUGHS



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POLYMER CONCRETE DRAIN ACCESSORIES



End available for all types of polymer concrete drains. Endings with a hole available Ø 110, Ø160, Ø200 (depending on type).

POLYMER LINEAR DRAINS

MAIN CHARACTERISTICS OF POLYMER LINEAR DRAINS:

- the drains are made of high-class material (polypropylene)
- small weight makes transport and assembly of the drains easy
- smooth surface provides high hydraulic properties
- · high chemical resistance
- non-soaking

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- · drains connected with tongue and groove
- lids screwed down (anti-theft)
- correct assembly guarantees high load durability
- · highly aesthetic
- durability classes from A15 to C250

ADDITIONAL ACCESSORIES:

- · consolidated system drains
- · full end drains
- drain end with place for a stub-pipe
- lower outlet
- s-bend

USE:

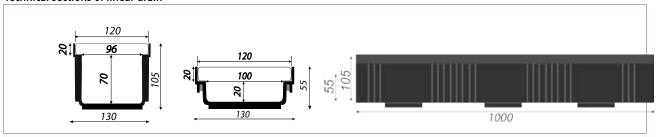
Pedestrian and cyclist paths, garden, terraces, premises entrances

POLYMER LINEAR DRAINS 130



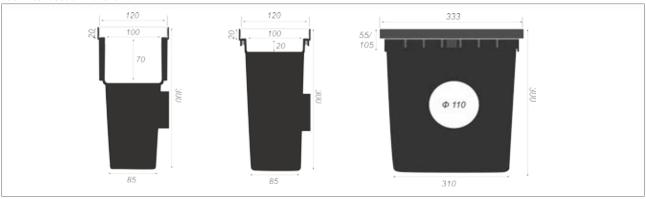


Technical sections of linear drain



length mm	width mm	height mm	vertical outlet
1000	130	105	3 x Ø 110
1000	130	55	3 x Ø 110

Technical sections of drains



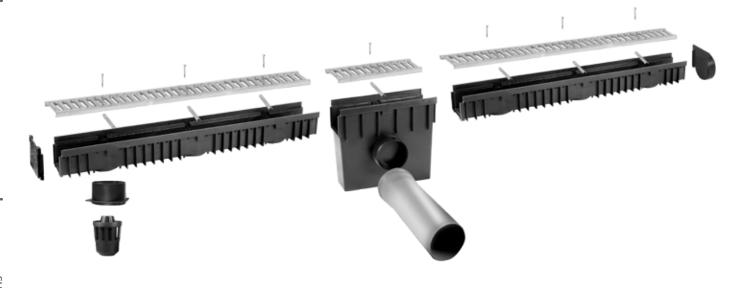
length mm	width mm	height mm	price
333	120	300	



Class	Lid type	Drain height	Drain with a lid code	Drain weight with lid kg	Amount on the pallet	Price
	1. GALVANISED IRON	h 105	0072	2,5	84	
A15	A15	h 55	0076	2,00	120	
A15	2. STAINLESS STEEL	h 105	0085	2,5	84	
A15		h 55	0086	2,00	120	
A15	3. POLYMER	h 105	0073	2,00	84	
AIS	-25	h 55	0077	1,65	120	
D125	4.POLYMER	h 105	0213	3,00	84	
B125		h 55	0214	2,50	120	
D125	5. CAST IRON	h 105	0074	10,00	48	
B125	4	h 55	0078	9,80	60	
(250	6. CAST IRON	h 105	0075	10,60	48	
C250		h 55	0079	10,20	60	
A15	7. POLYMER SLOTTED	h 105	0215	2,00	84	
C250		h 55	0216	1,65	120	

WAY OF CONNECTING POLYMERIC TROUGHS

No additional element- tongue and groove



DRAIN ACCESSORIES H 105



Full-end drain



Drain end with place for a stub-pipe Φ 110



Lower outlet Φ 110



S-bend

DRAIN ACCESSORIES H 55



Full-end drain



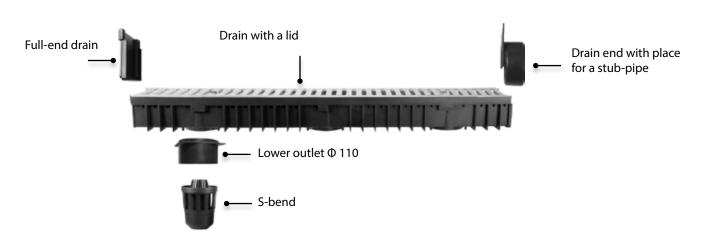
Drain end with place for a stub-pipe Φ 75



Lower outlet Φ 110



S-bend

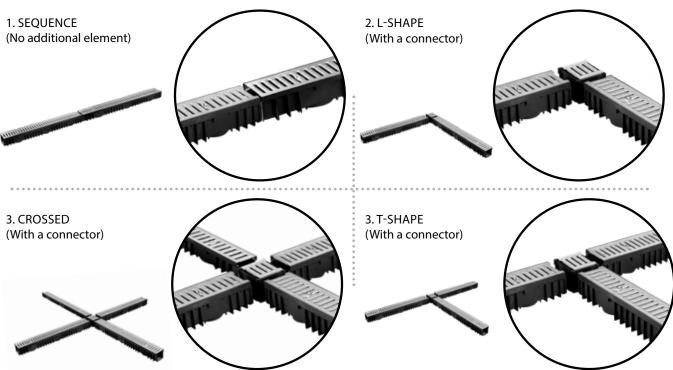


Concrete linear drains

WAY OF CONNECTING POLYMERIC TROUGHS H 105

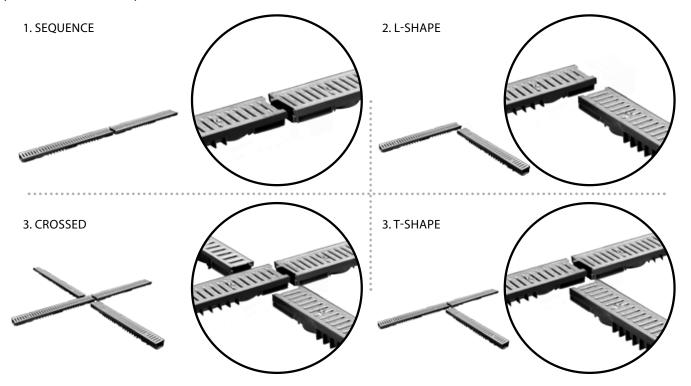


The connecting element linear drainage h 105



WAY OF CONNECTING POLYMERIC TROUGHS H 55

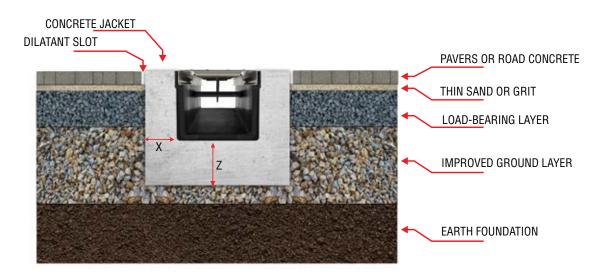
(No additional element)



POLYMERIC TROUGH ASSEMBLY MANUAL

- 1. Choose the right ground (see picture).
- 2. Mark the future position of the draining system with pegs and nylon lines stretched from one peg to the other one
- 3. Prepare the trench of enough width, it must be possible to make at least 10cm (class A 15) concrete layer. For bigger loads, the ground load or trench bottom load must be provided. Concrete quality minimum parameters requirements must be met as dedicated to particular load classes.
- 4. Place the first drain in a trench on the earlier prepared concrete so as to form a concrete band around the trough.
- 5. Next drain parts should be placed carefully as it is not possible to correct the position after the concrete has dried off.
- 6. Connect next elements of the drain system with tongue and groove.
- 7. Joints should be sealed with sanitary silicone.
- 8. During the concrete filling process the through must have the lid already installed.
- 9. Troughs should be placed 3-5mm below the surface.
- 10. The neighbouring case must be made in such a way that no horizontal force is transmitted onto the walls of the drain trough.
- Checking the correctness of assembly means checking if the troughs are placed rectilinearly and checking tightness with the
 use of water.

The producer is in no way responsible for any damaged occurring due to incorrect assembly of drains.



The size of the concrete berm depends on the load class

Load class	A 15	B 125	C 250
Dimensions of the concrete berm X (mm)	100	150	200
Dimensions of the concrete berm Z (mm)	100	150	200
Concrete class for the berm	C 35/45	C 35/45	C 35/45

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OTHER

UNDER SPOUT DRAIN

UNDER SPOUT DRAIN It is used to drain rain water through spouts from the roof to the sewer system.

ADVANTAGES:

- guarantees fast removal of rain water from the roof to the rain drainage system
- protects the building against moist
- · inspection function for the sewage system
- universal dimensions for spouts and sewage pipes
- made of high quality material-polypropylene
- aesthetic look
- easy assembly



The drain cover is composed of the spout lid and full lid. The spout lid has pressed spots ready to prepare openings for spouts/pipes diameter Ø 50; Ø 80; Ø 90; Ø 100; Ø 110mm. Full lid enables inspecting and removal of dirt. The body of the under spout drain has a vertical outlet for sewage pipes diameter Ø 110mm. Inside there is a basket preventing the dirt from entering the sewage system and an anti-odour lid.

On the sides of the body there are additional pressed spots for sewage pipes diameter \emptyset 50; \emptyset 90; \emptyset 100; 110mm which may be cut out and side outlet may be connected.

The set contains an additional lid- grate to collect surface water- serving as the ground water drain.

Class	Colour	Code	Weight in kg	Price
A15	black	0201	0,5	
A15	grey	0202	0,5	
A15	brown	0203	0,5	

length mm	width mm	height mm
300	160	200





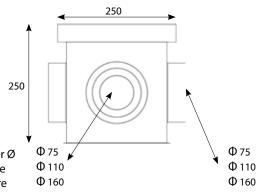
YARD DRAIN

YARD DRAIN Dedicated to spot collecting of water and removing water from hard surfaces.

ADVANTAGES:

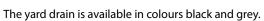
- prevents forming puddles
- perfect for garden taps
- aesthetic look
- small weight-easy transport and assembly

The yard drain is equipped with rings on each side wall of the body of diameter \emptyset 75; \emptyset 110; \emptyset 160mm. The yard drain may be used as a single one or as a module in order to have a bigger depth depending on the needs. For this purpose there are bottom edges prepared for cutting if needed.











Class	Lid type	Colour	Code	Weight in kg	Amount on the pallet	Price
A15	1. POLYMER LADDER LID	black	0209	1,50	72	
A15		grey	0210	1,50	72	
B125	2. CAST-IRON LID	black	0239	5,00	72	
A15	3. FULL POLYMER LID (SERVES AS A CABLE BOX)	black	0306	1,60	72	
A15		grey	0458	1,60	72	

length mm	width mm	height mm
250	250	250

BIELBET LAWN-ROAD GRID

- it is a modern solution for surface hardening and stabilising
- enables expanding biologically active areas
- during rain the grid stabilizes the ground and protects vehicles against getting stuck in
- enables natural circulation of water
- construction of the grid provides excellent condition for grass vegetation
- improves the load capability of driveways and grass lawns
- small weight of the grid makes assembly and transport easy





It is composed of chambers creating hexagonal structures and is equipped in four pegs to stabilise it in the ground. It has connectors used to assembly the elements into one smooth surface stable both horizontally and vertically.

Made from polythene of high density, symbol HDPE, also received from the recycling process of plastic scrap. Available in dimensions 335mm x 338mm 40mm is usually produced in colours black or green.

USE:

CATEGORY I

- Surface of lorry parks and bays;
- Surface dedicated for traffic and roadsides:
- roadsides,
- housing estates driveways to houses, driveways to office buildings and production halls,
- driveways and place manoeuvre along blocks of flats and production buildings.

CATEGORY II

- Surface of pavements and car parks for vehicles ≤ 2500 kg:
- pedestrian paths in parks (only with grass),
- garage entrances,
- caravan parking spots,
- car parks;
- Protection and hardening:
- covering the area around trees growing along pavements,
- hardening of drains,
- protects escarpments against erosion.

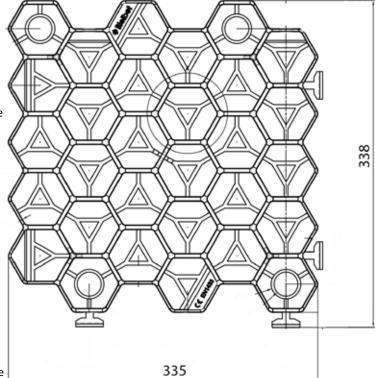
In case of car park spots for lorries and surface for manoeuvre the grid may be used in a system together with other

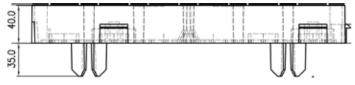
concrete slab elements.

TERMS OF USE:

BIELBET LAWN-ROAD GRID May be used:

- with aggregate category I
- with grass category II





length mm	width mm	height mm	colour	code	price
335	338	40	black	0443	
335	338	40	green	0444	



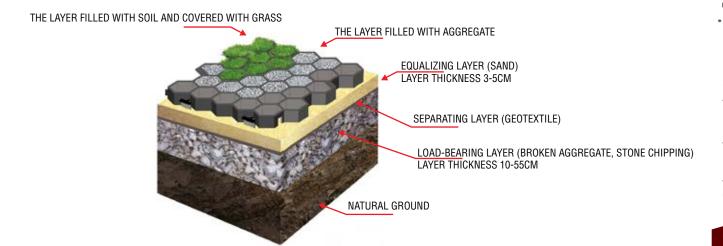
LAWN-ROAD GRID ASSEMBLY MANUAL

- 1. Designate the planned area of Bielbet lawn-road grid construction using pegs and strings.
- 2. Remove soil for the desired depth-depending on intended use.
- 3. Fill the trench with the supporting layer i.e. broken aggregate or stone chipping- smooth and compress well.
- 4. Put geolyocell on the smooth and compressed supporting layer so that the sand layer is not rinsed away during water filtration and to protect against grass overgrowing (especially in the case of using aggregate).
- 5. Put the equalizing layer- sand (3-5cm)- smooth and compress.
- 6. Put the grids on the prepared layer and connect together using connectors.
- 7. After placing the lawn-road grids, fill the chambers with lawn soil consisting of grass seeds and fertilizer or aggregate.
- 8. The height of the soil filler or aggregate should be high enough to ensure that after the aggregate self-consolidates, the surface of the filling will be 5 mm below the upper edge of the Bielbet lawn-road grid.
- 9. The surface with the lawn-road grid may be limited by a rim, moulding, a set of pavers and so on.
- 10. When the grass starts growing, the surface should not be used, to help the grass vegetation. Lawn vegetation rules should be applied to look after the grass.

The foundation layer depends on the future use and soil natural conditions. In particular ground conditions the way of assembly will be chosen by the designer.

On less pervious grounds (clay) the foundation should be increased by about 20cm. Correct preparation of the load-bearing layer and the equalizing layer ensures that the grids will not be damaged under car wheels and furrows will not be formed.

The producer is in no way responsible for any problems resulting from incorrect assembly of Bielbet lawn-road grids.



Use	Thickness of the load-bearing layer	Thickness of the equalizing layer
Pedestrian traffic Protection of trees, hardening of escarpments and drains	10-15 cm	3-5 cm
Cars	20-30 cm	3-5 cm
Internal roads	45-55 cm	3-5 cm
Lorries Public roads	45-55 cm	3-5 cm

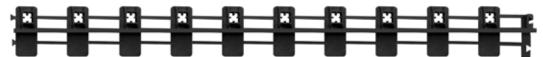
GRASS BELT

It is used to shape non-straight edges of various types of surface.

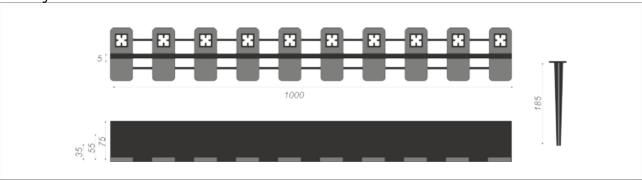
Due to innovative construction of the lawn edge, it is possible to form various shapes e.g. curves when placing pavers, separate lawns from grit surfaces, create interesting shapes of garden and park paths, which gives a lot of possibilities to garden architects.

ADVANTAGES:

- possibility of forming curved edges
- easy assembly (no dugouts)
- screwed down to the ground with assembly pins
- · optically invisible after the assembly

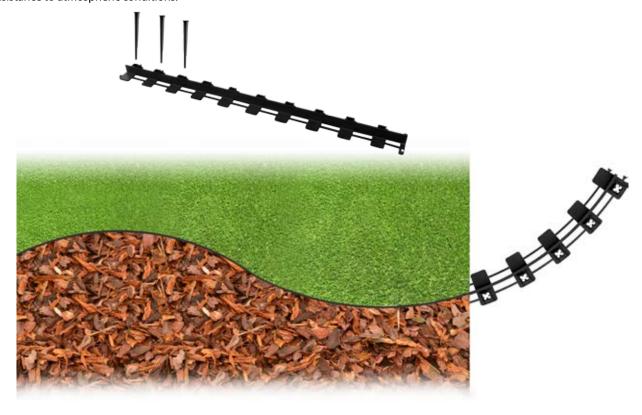


Lawn edge technical section



The edge is assembled with the use of connectors, it is stabilised in the ground with assembly pins. No dugouts needed, which lowers the costs and workload significantly while the surface is being prepared.

Bielbet lawn edges are made from high-quality polymer- polypropylene and are characterised by high quality, durability and resistance to atmospheric conditions.



length mm	height mm	code	price
1000	35	0481	
1000	55	0450	
1000	75	0493	



DOORMAT

The doormat is dedicated to spot collecting and removing water from pedestrian surfaces. Its main role is to dry shoes. The doormat means not only a clean floor but it is also the first impression of a building or room and it is worth investing in. The doormat is composed of the base of the doormat made of plastic and a selection of covers to choose from. The base of the doormat has outlets Ø 110, Ø75, Ø50 mm We offer doormat covers well protecting floor surfaces against dirt.



Class	Lid type	Dimension mm	Drain with a lid code	Drain weight with lid kg	Amount on the pallet	Price
A15	GALVANISED IRON	580x370x100	0120	5,30	60	
(A15)	POLYMER	580x370x100	0211	2,30	60	
(A15)	RUBBER	580x370x100	0320	3,00	60	
A15	RUBBER-ALUMINIUM	580x370x100	0441	4,00	60	
A15	BRUSH + ALUMINIUM	580x370x100	black 0468 grey 0515 brown 0516	4,00	60	

ADVANTAGES:

- protects the inside of a building against dirt from the outside
- · aesthetic look
- small weight-easy transport and assembly

USE:

- Outside construction in front of entrances to buildings.
- Dedicated to pedestrian traffic zones only.

BIELBET PALISADE

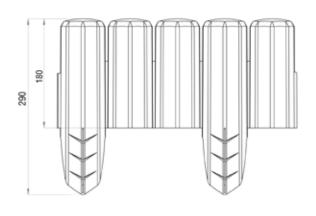
BIELBET PALISADE is a modern solution for all gardens.

It is made of the highest quality elastic material and provides the possibility of various shaping and it is easy to assemble. The design is very interesting- available in 2 colours: of graphite and dark brown.

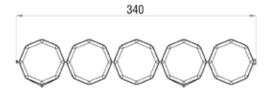
MAIN CHARACTERISTICS:

- unrepeatable shape
- it fits in the ground perfectly due to its special structure
- · excellent quality and resistance to atmospheric conditions















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www.bielbet.eu

Point of sale