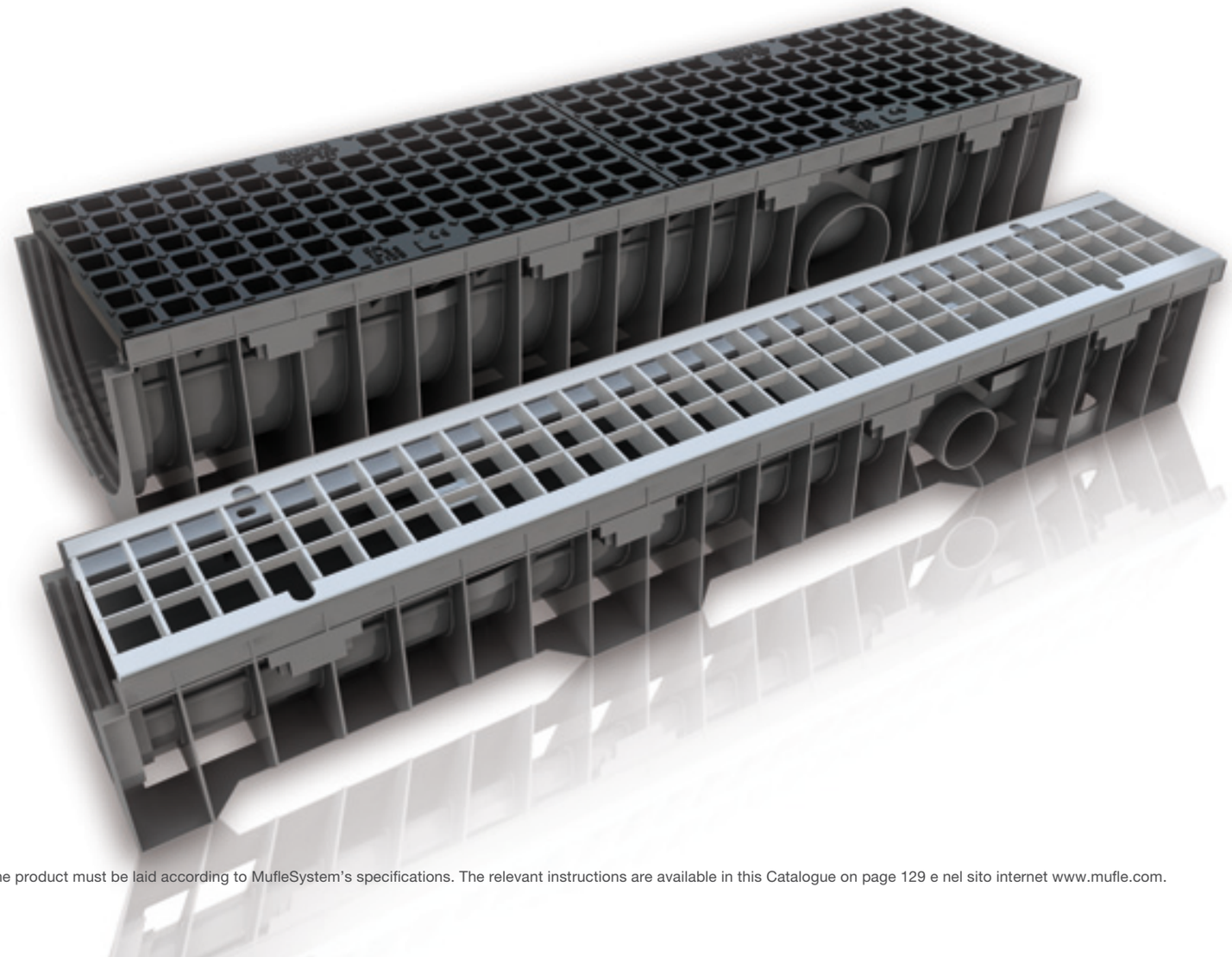
VIP

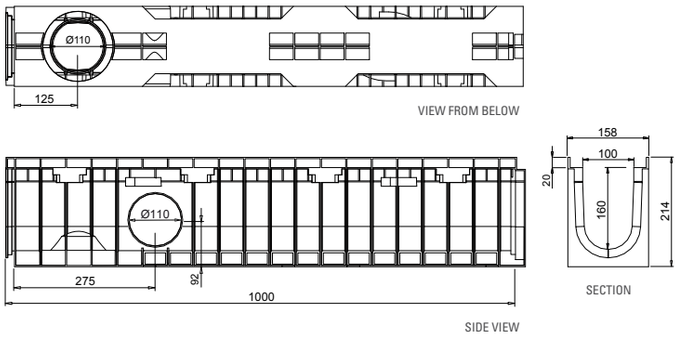
The system:

- it supports 3 load classes (A15, B125, C250) in compliance with Standard EN 1433
- it is made up of a channel - entirely made from HD-PE - which has a 20 mm - high toeboard and needs no strengthening frame
- grating protection is ensured by the HD-PE edge
- since the edge shows the exact dimensions for the paving, easy and accurate installation is ensured
- it comprises a wide range of different gratings (with rungs, slots, square mesh, anti-heel mesh) made from galvanised steel, stainless steel, ductil iron and HD-PE. A HD-PE blind cover is available too
- it is supplemented with a whole series of L-shaped longitudinal- slot gratings in class C250 equipped also with drain boxes
- it comes equipped with a classic tie-rod fixing system and a convenient side coupling system through a tab inside the HD-PE gratings
- it is ideal for civil uses, pedestrian areas, private car parks, footways, canalisation systems in parking areas, sport facilities, synthetic tracks, athletics grounds
- it comes complete with drain boxes with siphon
- the range is made up of 11 channels with 3 widths and 6 heights (100/55, 100/80, 100/100, 100/160, 150/40, 150/100, 150/160, 200/40, 200/100, 200/160, 200/250)
- the range is supplemented with the VIP channel with length 1.5 m and usable dimensions 300 x 300 mm. Designed to drain large surfaces



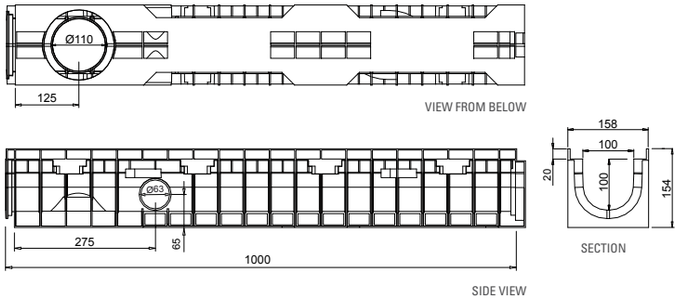
The product must be laid according to MufleSystem's specifications. The relevant instructions are available in this Catalogue on page 129 e nel sito internet www.mufle.com.

100



VIP 100/160

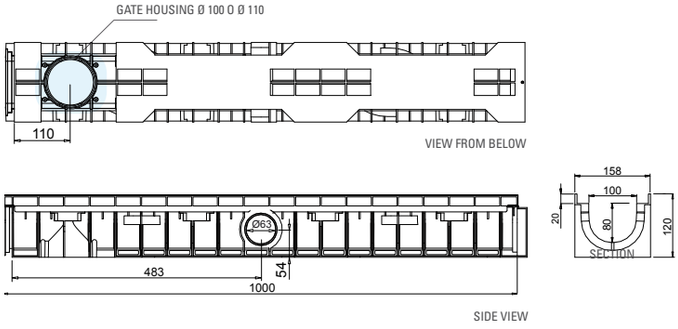
CODE	PRICE	MATERIAL	EXTERNAL DIMENSIONS L x l x h	INTERNAL DIMENSIONS L x l x h	WEIGHT	DRAINAGE SECTION	CAPACITY	PREINSTALLED DRAIN
	€		mm	mm	kg	cm^2	dm^3	mm
702000		PE-HD	1000 x 158 x 214	1000 x 100 x 160	2,55	145,28	14,52	side 2 x Ø 110 bottom 1 x Ø 110



VIP 100/100

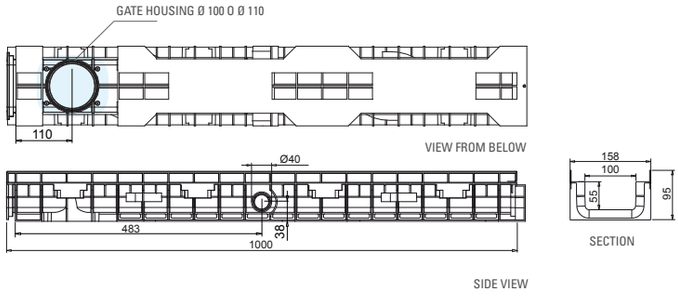
CODE	PRICE	MATERIAL	EXTERNAL DIMENSIONS L x l x h	INTERNAL DIMENSIONS L x l x h	WEIGHT	DRAINAGE SECTION	CAPACITY	PREINSTALLED DRAIN
	€		mm	mm	kg	cm^2	dm^3	mm
702001		PE-HD	1000 x 158 x 154	1000 x 100 x 100	2,05	89,56	8,95	side 2 x Ø 63 bottom 1 x Ø 110

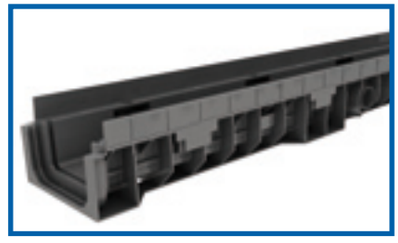
N.B. Waterproofing: in order to ensure the channels are waterproof, a bituminous adhesive sealant should be used. Heat-sealing the channel joints makes sure there will be no leakages through said joints for a very long time. For further information please contact MufleSystem's Technical Department.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.



VIP 100/80

CODE	PRICE	MATERIAL	EXTERNAL DIMENSIONS L x l x h	INTERNAL DIMENSIONS L x l x h	WEIGHT	SECTION DRAINAGE	CAPACITY	PREINSTALLED DRAIN
	€		mm	mm	kg	cm^2	dm^3	mm
702009		PE-HD	1000 x 158 x 120	1000 x 100 x 80	1,60	69,28	6,92	side 2 x Ø 63 bottom[1] 1 x Ø 100; 1 x Ø 110





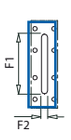
VIP 100/55

CODE	PRICE	MATERIAL	EXTERNAL DIMENSIONS L x l x h	INTERNAL DIMENSIONS L x l x h	WEIGHT	SECTION DRAINAGE	CAPACITY	PREINSTALLED DRAIN
	€		mm	mm	kg	cm^2	dm^3	mm
702010		PE-HD	1000 x 158 x 95	1000 x 100 x 55	1,40	54,44	5,44	side 2 x Ø 40 bottom[1] 1 x Ø 100; 1 x Ø 110

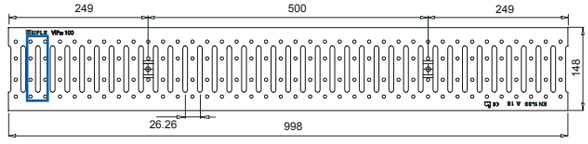
1- For drainage purposes use the drain gate with outlet kit (available in two versions Ø100 and Ø110).
N.B. Waterproofing: in order to ensure the channels are waterproof, a bituminous adhesive sealant should be used. Heat-sealing the channel joints makes sure there will be no leakages through said joints for a very long time. For further information please contact MufleSystem's Technical Department.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

APPLICATIONS OF GALVANISED STEEL
Green areas and parks
Pedestrian areas and/or cycle lanes
Sports facilities
Terraces

APPLICATIONS OF STAINLESS STEEL
Green areas and parks
Pedestrian areas and/or cycle lanes
Sports facilities
Terraces
Kitchens in hospitals, restaurants and similar facilities

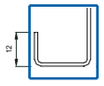


SLOT DETAIL

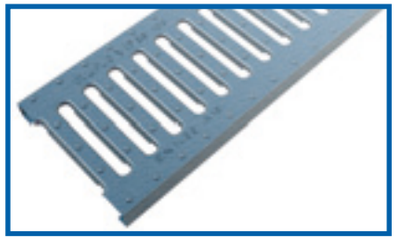


VIEW FROM ABOVE

SIDE VIEW



BEND DETAIL



SLOTTED GRATING

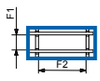
20 mm

CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM	
	€		mm	kg	dm^2	mm	tie-tod	no fixing
502128		galvanised steel DX51D[3]	998 x 148 x 20	1,60	2,68	83,0 x 8,5		up to Class C250 as per Standard EN 1433
502129		pickled stainless steel AISI 304[2]						
502140		galvanised steel DX51D[3]	498 x 148 x 20	0,80	1,34			
502141		pickled stainless steel AISI 304[2]						

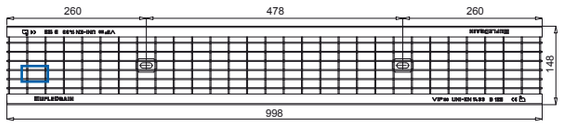
2- Classification according to American Standard ASTM.
3- Classification according to Standard EN 10142 (2002) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

APPLICATIONS OF GALVANISED STEEL
Pavements
Lay-bys and private car parks

APPLICATIONS OF STAINLESS STEEL
Pavements
Lay-bys and private car parks
Food factories
Chemically aggressive environments



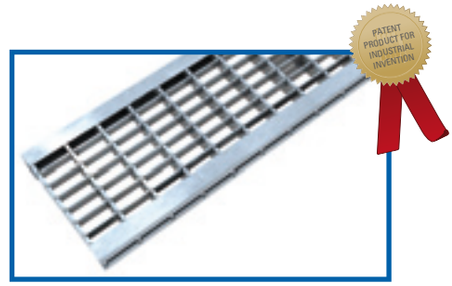
DETAIL OF HOOKING SYSTEM



VIEW FROM ABOVE

SIDE VIEW


DETAIL OF UPRIGHT BEND

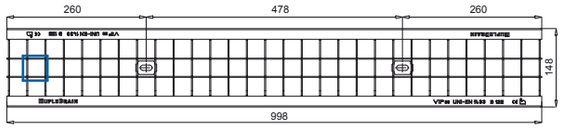


ANTI-HELL MESH GRATING

25 mm

CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 X F2	FIXING SYSTEM	
	€		mm	kg	dm²	mm	tie-tod	no fixing
502126		hot dip galvanised steel DD11 (1.0332)[5]	998 x 148 x 20	3,60	8,82	15,2 x 32,2		up to Class C250 as per Standard EN 1433
502150		pickled stainless steel AISI 304[2]						
502138		hot dip galvanised steel DD11 (1.0332)[5]	498 x 148 x 20	1,80	4,41			
502162		pickled stainless steel AISI 304[2]						

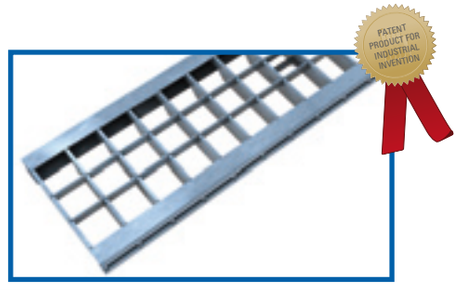
DETAIL OF SQUARE MESH



VIEW FROM ABOVE

SIDE VIEW


DETAIL OF UPRIGHT BEND



SQUARE MESH GRATING

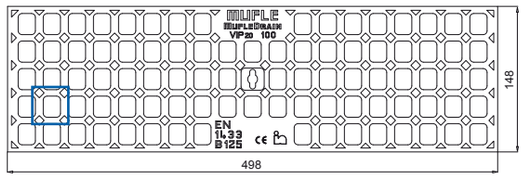
25 mm

CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 X F2	FIXING SYSTEM	
	€		mm	kg	dm²	mm	tie-tod	no fixing
502127		hot dip galvanised steel DD11 (1.0332)[5]	998 x 148 x 20	2,90	9,00	32,2 x 32,2		up to Class C250 as per Standard EN 1433
502157		pickled stainless steel AISI 304[2]						
502139		hot dip galvanised steel DD11 (1.0332)[5]	498 x 148 x 20	1,45	4,50			
502163		pickled stainless steel AISI 304[2]						

2- Classification according to American Standard ASTM.
5- Classification according to Standard EN 10111 (2008) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

APPLICATIONS OF DUCTILE IRON
Pavements
Lay-bys and private car parks

SLOT DETAIL



VIEW FROM ABOVE

SIDE VIEW

MESH GRATING							20 mm	
CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM	
	€		mm	kg	dm^2	mm	tie-tod	no fixing
502112		GJS 500/7[6] ductile iron water based paint coated	498 x 148 x 20	3,40	3,31	21,5 x 17,5		up to Class C250 as per Standard EN 1433

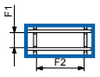
6- Classification according to Standard EN 1563 (2009).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

APPLICATIONS OF GALVANISED STEEL

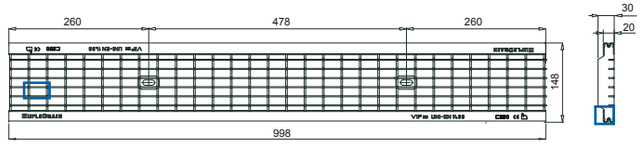
Kerbs
Historical town centres (slow traffic)
Parking areas
Parking decks

APPLICATIONS OF STAINLESS STEEL

Kerbs
Historical town centres (slow traffic)
Parking areas
Parking decks
Areas with low-load transit in food factories
Areas with low-load transit in chemically aggressive environments



DETAIL OF HOOKING SYSTEM



VIEW FROM ABOVE

SIDE VIEW

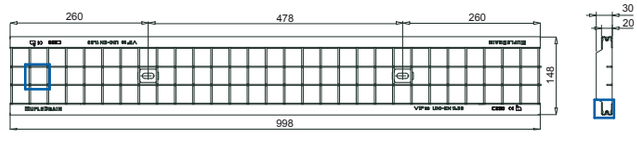
DETAIL OF UPRIGHT BEND

ANTI-HELL MESH GRATING

30 mm

CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM	
	€		mm	kg	dm²	mm	tie-tod	no fixing
502152		hot dip galvanised steel DD11 (1.0332)[5]	998 x 148 x 20	5,10	8,82	15,2 x 31,2		up to Class C250 as per Standard EN 1433
502175		pickled stainless steel AISI 304[2]						
502169		hot dip galvanised steel DD11 (1.0332)[5]	498 x 148 x 20	2,55	4,41			
502187		pickled stainless steel AISI 304[2]						

DETAIL OF SQUARE MESH



VIEW FROM ABOVE

SIDE VIEW

DETAIL OF UPRIGHT BEND

SQUARE MESH GRATING

30 mm

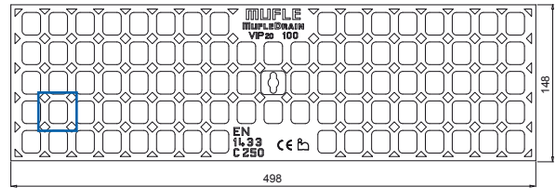
CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM	
	€		mm	kg	dm²	mm	tie-tod	no fixing
502151		hot dip galvanised steel DD11 (1.0332)[5]	998 x 148 x 20	4,60	8,50	31,2 x 31,2		up to Class C250 as per Standard EN 1433
502174		pickled stainless steel AISI 304[2]						
502168		hot dip galvanised steel DD11 (1.0332)[5]	498 x 148 x 20	2,30	4,25			
502188		pickled stainless steel AISI 304[2]						

2- Classification according to American Standard ASTM.
5- Classification according to Standard EN 10111 (2008) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

APPLICATIONS OF DUCTILE IRON

Kerbs
Historical town centres (slow traffic)
Parking areas
Parking decks

SLOT DETAIL



VIEW FROM ABOVE

SIDE VIEW

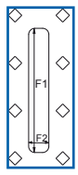
MESH GRATING

20 mm

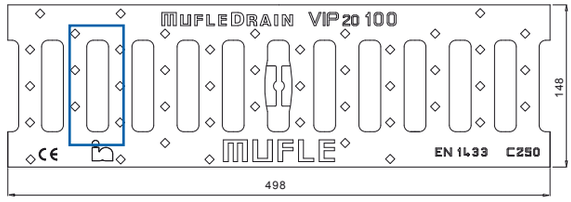
CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM	
	€		mm	kg	dm^2	mm	tie-tod	no fixing
502115		GJS 500/7[6] ductile iron water based paint coated	498 x 148 x 20	3,80	3,31	21,5 x 17,5		up to Class C250 as per Standard EN 1433

6- Classification according to Standard EN 1563 (2009).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

APPLICATIONS OF DUCTILE IRON
Kerbs
Historical town centres (slow traffic)
Parking areas
Parking decks

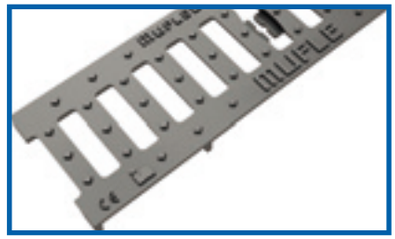


SLOT DETAIL



VIEW FROM ABOVE

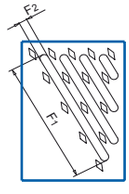
SIDE VIEW



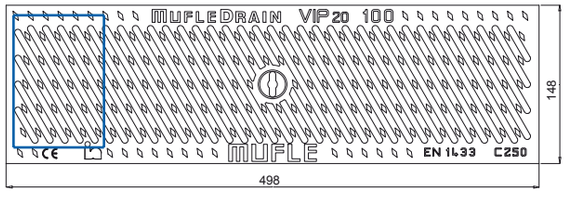
SLOTTED GRATING 20 mm

20 mm

CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM	
	€		mm	kg	dm^2	mm	tie-tod	no fixing
502113		GJS 500/7[6] ductile iron water based paint coated	498 x 148 x 20	3,60	1,97	82,0 x 20,0		up to Class C250 as per Standard EN 1433



SLOT DETAIL



VIEW FROM ABOVE

SIDE VIEW

SLOTTED GRATING 6 mm

20 mm

CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM	
	€		mm	kg	dm^2	mm	tie-tod	no fixing
502114		GJS 500/7[6] ductile iron water based paint coated	498 x 148 x 20	4,00	2,10	91,5 x 6,0		up to Class C250 as per Standard EN 1433

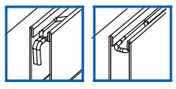
6- Classification according to Standard EN 1563 (2009).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

SLOTTED GRATING L

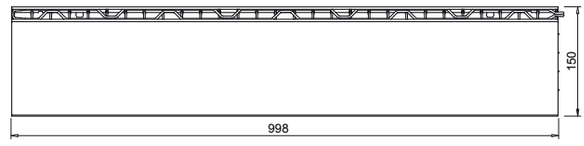
TYPE C 250 MIDDLE DRIVEWAY

APPLICATIONS OF GALVANISED STEEL
Low visual impact drainage in public and private places:
Pedestrian areas
Private car parks or multi-level car parks
Roads subjected to middle loads (urban speed ≤ 40 km/h)
Areas not subjected to dock movements

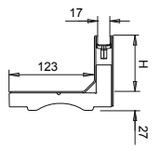
APPLICATIONS OF STAINLESS STEEL
Low visual impact drainage in public and private places:
Pedestrian areas
Private car parks or multi-level car parks
Roads subjected to middle loads (urban speed ≤ 40 km/h)
Areas not subjected to dock movements



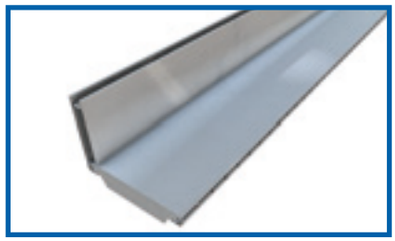
DETAIL OF HOOKINF SYSTEM 8[8]



VIEW FROM ABOVE



SIDE VIEW



L-SHAPED GRATING							
CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	HEIGHT OF SLOTS H	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2
	€		mm	mm	kg	dm²	mm
500212		hot dip galvanised steel DD11 (1.0332)[5]	998 x 150 x 107	80	9,20	1,80	998 x 18
500248		pickled stainless steel AISI 304[2]					
500213		hot dip galvanised steel DD11 (1.0332)[5]	998 x 150 x 147	120	10,50		
500249		pickled stainless steel AISI 304[2]					

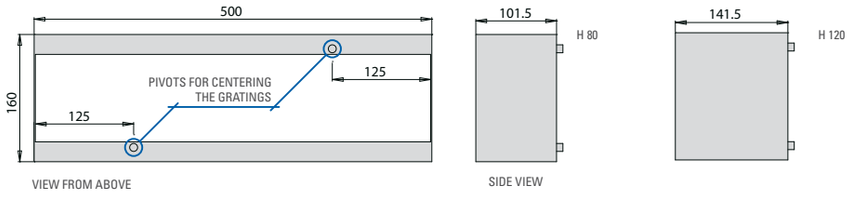
2- Classification according to American Standard ASTM.
5- Classification according to Standard EN 10111 (2008) and symbolic designation according to EN 10027-1 (-2) (2006).
8- Hooking System between the gratings through hooks and holes.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

INSPECTION ELEMENT FOR L-SHAPED GRATING

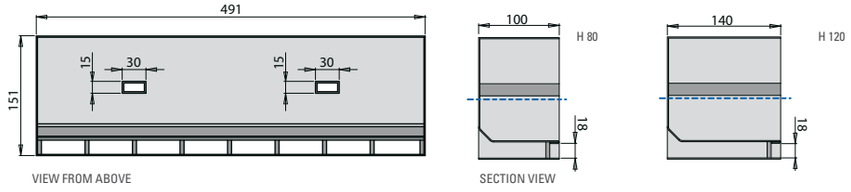
TYPE C 250
MIDDLE
DRIVEWAY

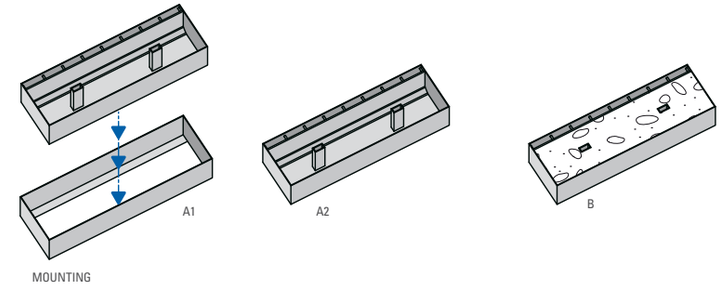
VIP 100

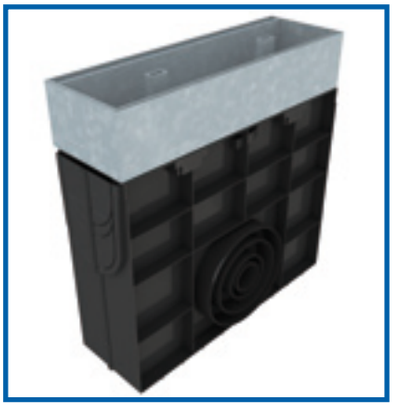
CONTAINMENT TANK



INSPECTION GRATING







The inspection element for the T-shaped gratings shall be assembled together with the drain box with siphon EASY in HD-PE as showed in the picture. Please see page 44 for the details of the drain box with siphon.

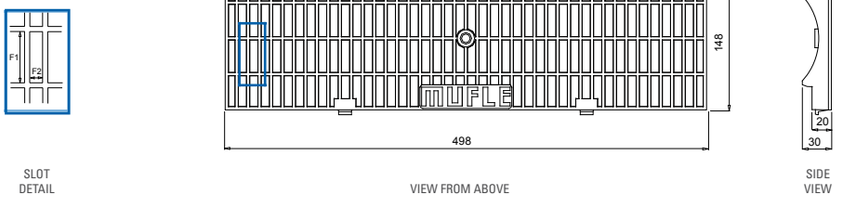
INSPECTION ELEMENT FOR L-SHAPED GRATING - VIP 100							
CODE	PRICE	MATERIAL		VOLUME L x l x h	SLOT DIMENSIONS	DRAINAGE SURFACE	WEIGHT TOTALE
	€			mm	mm	mm	kg
500225		hot dip galvanised steel DD11 (1.0332)[5]	H80	500 x 160 x 101,5	491 x 18	1,8	5,30
500237		pickled stainless steel AISI 304[2]	H80	500 x 160 x 101,5	491 x 18	1,8	4,90
500226		hot dip galvanised steel DD11 (1.0332)[5]	H120	500 x 160 x 141,5	491 x 18	1,8	7,00
500238		pickled stainless steel AISI 304[2]	H120	500 x 160 x 141,5	491 x 18	1,8	6,50

HOOK FOR TAKING OFF THE GRATING INSPECTION ELEMENT						
CODE	PRICE	MATERIAL	VOLUME L x l x h	SLOT DIMENSIONS	DRAINAGE SURFACE	WEIGHT TOTALE
	€		mm	mm	mm	kg
500254		acciaio DD11 (1.0332)[5] zincato a caldo	710 x 180	_	_	0,65

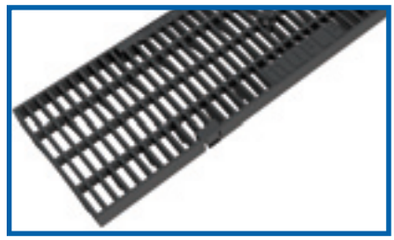
2- Classification according to American Standard ASTM.
5- Classification according to Standard EN 10111 (2008) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

APPLICATIONS OF HD-PE

Residential and condominium areas
Pedestrian areas and/or cycle lanes
Sports facilities
Greenhouses
Green areas

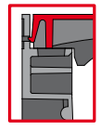


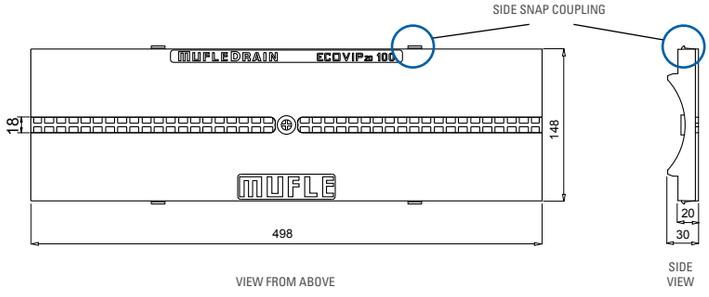
SLOT DETAIL — VIEW FROM ABOVE — SIDE VIEW



DRIVEWAY GRATING

30 mm

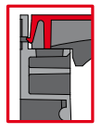
CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	DIMENSIONS OF SLOT	FIXING SYSTEM	
	€		mm	kg	dm^2	mm	tie-tod	side block[10]
502103		HD-PE black	498 x 148 x 20	0,38	3,80	34,0 x 8,5		



VIEW FROM ABOVE — SIDE VIEW

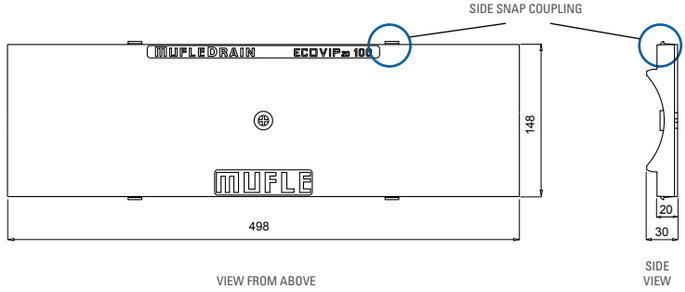
LONGITUDINAL SLOTTED DRIVEWAY GRATING

30 mm

CODE	PRICE	MODEL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	DIMENSIONS OF SLOT	FIXING SYSTEM	
	€		mm	kg	dm^2	mm	tie-tod	side block[10]
502149		PE-HD[12] black	498 x 148 x 20	0,60	0,50	498 x 18,0		

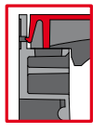
10- Coupling system using a tab inside the grating.
12- Photoengraved anti-slip surface finish.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

APPLICATIONS OF GALVANISED STEEL
Cable passageway
Passageway for water and/or heat systems



DRIVEWAY SOLID TOP COVER

30 mm

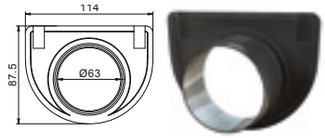
CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	FIXING SYSTEM	
	€		mm	kg	tie-tod	side block[10]
502100		HD-PE[12] black	498 x 148 x 20	0,50		

Ecovip solid top covers and gratings cannot be certified because Standard EN 1433 does not yet provide for specific tests for plastic-material gratings. The tests carried out by Mufle showed that Ecovip 100 solid top covers and gratings can be defined as “Car Drive-Over”.

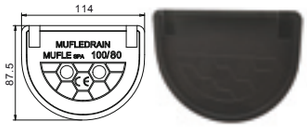
10- Coupling system using a tab inside the grating.
12- Photoengraved anti-slip surface finish.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

END-CAP 100/55

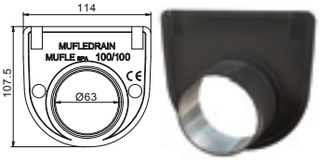
CLOSED END-CAP WITH DRAIN 100/55



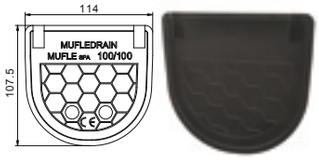
END-CAP 100/80



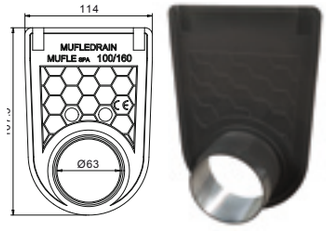
CLOSED END-CAP WITH DRAIN 100/80



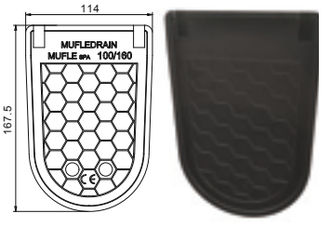
END-CAP 100/100



CLOSED END-CAP WITH DRAIN 100/100



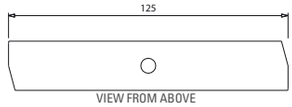
END-CAP 100/160



CLOSED END-CAP WITH DRAIN 100/160

END CAPS

CODE	PRICE €	TYPE	MATERIAL	VALID FOR CHANNELS	PREINSTALLED DRAIN
700500		end-cap with drain	PE-HD	100/55	1 x Ø 40
700508		closed end-cap	PE-HD	100/55	-
700501		end-cap with drain	PE-HD	100/80	1 x Ø 63
700509		closed end-cap	PE-HD	100/80	-
700502		end-cap with drain	PE-HD	100/100	1 x Ø 63
700510		closed end-cap	PE-HD	100/100	-
700503		end-cap with drain	PE-HD	100/160	1 x Ø 63
700511		closed end-cap	PE-HD	100/160	-



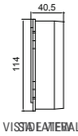
VIEW FROM ABOVE

SIDE VIEW

KIT TIE-ROD + SCREWS

CODE	PRICE €	MATERIAL	VALID FOR GRATINGS	SCREW	KIT FOR 1ml
500421		galvanised steel	VIP galvanised steel - PE-HD	M8 x 55 TBL combi	2 tie-rods + 2 screws
500422		stainless steel	VIP stainless steel	M8 x 55 TBL combi stainless steel	2 tie-rods + 2 screws
500423		black galvanised steel	VIP ductile iron	M8 x 55 black with hexagonal head	2 tie-rods + 2 screws

VISTA DALL'ALTO



VISTA LATERALE

KIT OUTLET + SCREWS

CODE	PRICE €	MATERIAL	VALID FOR CHANNELS	DIAMETER mm	KIT FOR 1 ml
506114		PE-HD	100/55 - 100/80	Ø 100	1 outlet Ø 100 + 4 screws
506115		PE-HD	100/55 - 100/80	Ø 110	1 outlet Ø 110 + 4 screws

CONNECTOR FOR STEP-SLOPE

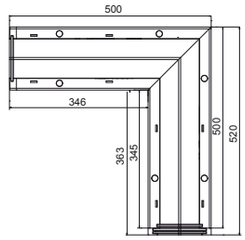
CODE	PRICE €	VALID FOR CHANNELS	FAMILIES
700526		from 100/100 to 100/160	EASY - VIP - SMART - SLOPE - WING - PLUS

N.B. Sizes and weights are subject to usual manufacturing tolerance values.

Utilising Mufle's distinctive step connector system, it is possible to connect drainage channels of differing heights to create greater efficiencies in hydraulic velocity and channel capacity. These efficiencies create benefits in increased drainage performance, outlet number reduction for longer continuous drainage runs, increased self cleansing ability and lower installation costs. Stepped channel are typically recognised by structured increases in neutral channel depths towards a nominated outlet along a specific drainage channel run/lenght.

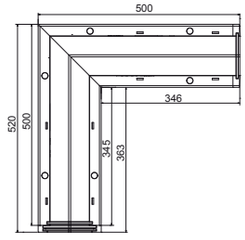
SPECIAL PIECES AND DRAIN BOX WITH SYPHON

LEFT CORNER — VIP 100



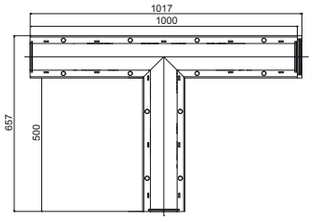
CODE	PRICE €	MODEL
702100		100/160
702101		100/100
702130		100/80
702131		100/55

RIGHT CORNER — VIP 100



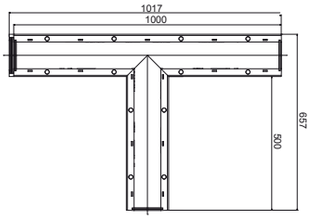
CODE	PRICE €	MODEL
702106		100/160
702107		100/100
702132		100/80
702133		100/55

LEFT TI — VIP 100



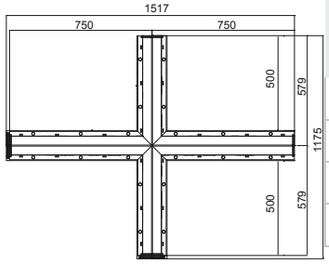
CODE	PRICE €	MODEL
702112		100/160
702113		100/100
702134		100/80
702135		100/55

RIGHT TI — VIP 100



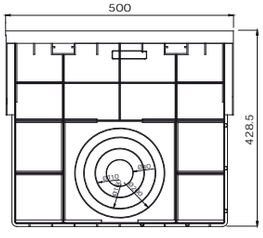
CODE	PRICE €	MODEL
702118		100/160
702119		100/100
702136		100/80
702137		100/55

CROSS — VIP 100

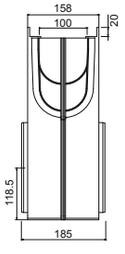


CODE	PRICE €	MODEL
702124		100/160
702125		100/100
702138		100/80
702139		100/55

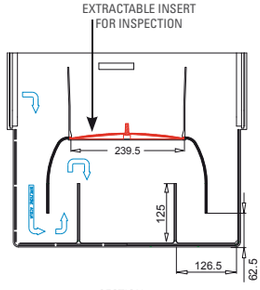
DRAIN BOX WITH SYPHON



FRONT VIEW



SIDE VIEW



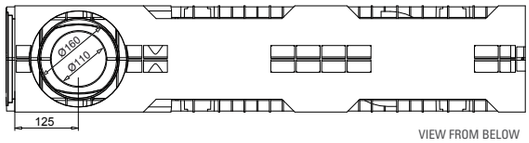
SECTION

VIP 100

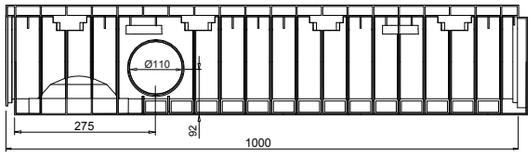
CODE	PRICE €	MATERIAL	EXTERNAL DIMENSIONS L x l x h mm	INTERNAL DIMENSIONS L x l x h mm	MAXIMUM LARGE mm	HEIGHT OF OUTLETS mm	WEIGHT kg	PREINSTALLED DRAIN mm
702006		PE-HD	500 x 158 x 427	500 x 100 x 400	185	118,5	2,60	2 x Ø 110; 2 x Ø 160; 2 x Ø 200

N.B. Sizes and weights are subject to usual manufacturing tolerance values.

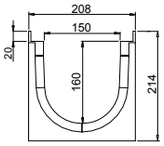
150



VIEW FROM BELOW



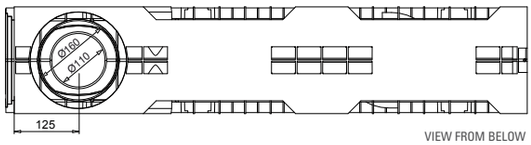
SIDE VIEW



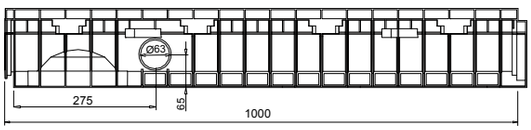
SECTION

VIP 150/160

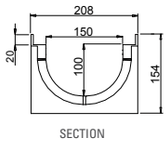
CODE	PRICE	MATERIAL	EXTERNAL DIMENSIONS L x l x h	INTERNAL DIMENSIONS L x l x h	WEIGHT	SECTION DRAINAGE	CAPACITY	PREINSTALLED DRAIN OUTLETS
	€		mm	mm	kg	cm^2	dm^3	mm
702002		PE-HD	1000 x 208 x 214	1000 x 150 x 160	3,00	213,04	21,30	side 2 x Ø 110 bottom 1 x Ø 110; 1 x Ø 160



VIEW FROM BELOW



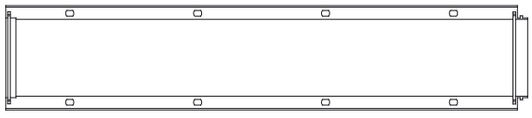
SIDE VIEW



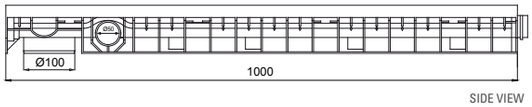
SECTION

VIP 150/100

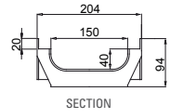
CODE	PRICE	MATERIAL	EXTERNAL DIMENSIONS L x l x h	INTERNAL DIMENSIONS L x l x h	WEIGHT	DRAINAGE SECTION	CAPACITY	PREINSTALLED DRAIN OUTLETS
	€		mm	mm	kg	cm^2	dm^3	mm
702003		PE-HD	1000 x 208 x 154	1000 x 150 x 100	2,45	127,32	12,73	side 2 x Ø 63 bottom 1 x Ø 110; 1 x Ø 160



VIEW FROM BELOW



SIDE VIEW



SECTION

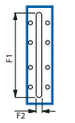
VIP 150/40

CODE	PRICE	MATERIAL	EXTERNAL DIMENSIONS L x l x h	INTERNAL DIMENSIONS L x l x h	WEIGHT	DRAINAGE SECTION	CAPACITY	PREINSTALLED DRAIN OUTLETS
	€		mm	mm	kg	cm^2	dm^3	mm
502004		PE-HD	1000 x 204 x 94	1000 x 150 x 40	2,00	56,50	5,65	side 2 x Ø 50 bottom 1 x Ø 100

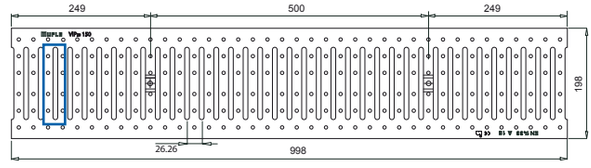
N.B. Waterproofing: in order to ensure the channels are waterproof, a bituminous adhesive sealant should be used. Heat-sealing the channel joints makes sure there will be no leakages through said joints for a very long time. For further information please contact MufleSystem's Technical Department.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

APPLICATIONS OF GALVANISED STEEL
Green areas and parks
Pedestrian areas and/or cycle lanes
Sports facilities
Terraces

APPLICATIONS OF STAINLESS STEEL
Green areas and parks
Pedestrian areas and/or cycle lanes
Sports facilities
Terraces
Kitchens in hospitals, restaurants and similar facilities

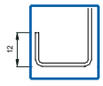


SLOT DETAIL

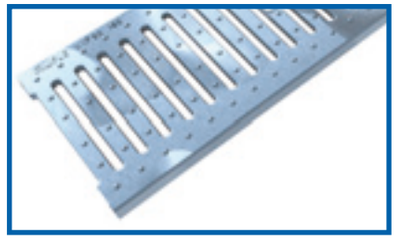


VIEW FROM ABOVE

SIDE VIEW



BEND DETAIL



SLOTTED GRATING

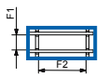
20 mm

CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM	
	€		mm	kg	dm²	mm	tie-tod	no fixing
502132		galvanised steel DX51D[3]	998 x 198 x 20	2,90	4,20	130,0 x 8,5		up to Class C250 as per Standard EN 1433
502133		pickled stainless steel AISI 304[2]						
502144		galvanised steel DX51D[3]	498 x 198 x 20	1,45	2,10			
502145		pickled stainless steel AISI 304[2]						

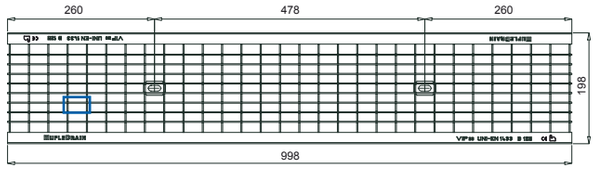
2- Classification according to American Standard ASTM.
3- Classification according to Standard EN 10142 (2002) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

APPLICATIONS OF GALVANISED STEEL
Pavements
Lay-bys and private car parks

APPLICATIONS OF STAINLESS STEEL
Pavements
Lay-bys and private car parks
Food factories
Chemically aggressive environments



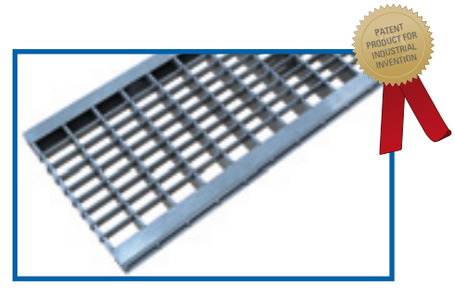
DETAIL OF HOOKING SYSTEM



VIEW FROM ABOVE

SIDE VIEW


DETAIL OF UPRIGHT BEND

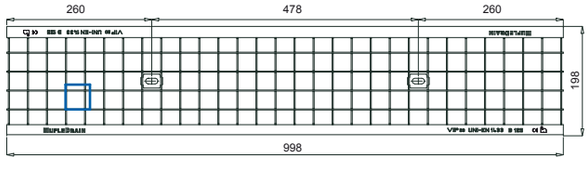


ANTI-HELL MESH GRATING

30 mm

CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM	
	€		mm	kg	dm²	mm	tie-tod	no fixing
502130		hot dip galvanised steel DD11 (1.0332)[5]	998 x 198 x 20	5,00	13,08	15,2 x 32,2		up to Class C250 as per Standard EN 1433
502158		pickled stainless steel AISI 304[2]						
502142		hot dip galvanised steel DD11 (1.0332)[5]	498 x 198 x 20	2,50	6,54			
502164		pickled stainless steel AISI 304[2]						

DETAIL OF SQUARE MESH



VIEW FROM ABOVE

SIDE VIEW


DETAIL OF UPRIGHT BEND

SQUARE MESH GRATING

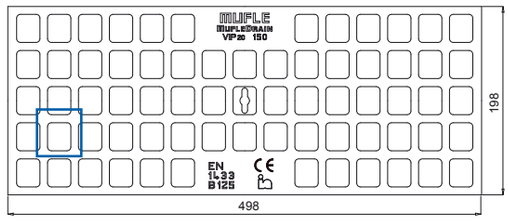
30 mm

CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM	
	€		mm	kg	dm²	mm	tie-tod	no fixing
502131		hot dip galvanised steel DD11 (1.0332)[5]	998 x 198 x 20	4,10	13,74	32,2 x 32,2		up to Class C250 as per Standard EN 1433
502159		pickled stainless steel AISI 304[2]						
502143		hot dip galvanised steel DD11 (1.0332)[5]	498 x 198 x 20	2,05	6,73			
502165		pickled stainless steel AISI 304[2]						

2- Classification according to American Standard ASTM.
5- Classification according to Standard EN 10111 (2008) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

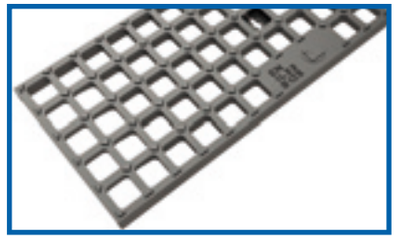
APPLICATIONS OF DUCTILE IRON
Pavements
Lay-bys and private car parks

SLOT DETAIL



VIEW FROM ABOVE

SIDE
VIEW



MESH GRATING							20 mm	
CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM	
	€		mm	kg	dm^2	mm	tie-tod	no fixing
502118		GJS 500/7[6] ductile iron water based paint coated	498 x 198 x 20	4,90	3,77	29,0 x 24,5		up to Class C250 as per Standard EN 1433

6- Classification according to Standard EN 1563 (2009).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

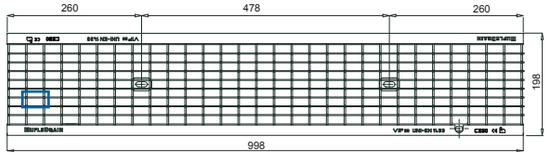
APPLICATIONS OF GALVANISED STEEL

Kerbs
Historical town centres (slow traffic)
Parking areas
Parking decks

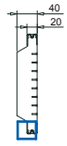
APPLICATIONS OF STAINLESS STEEL

Kerbs
Historical town centres (slow traffic)
Parking areas
Parking decks
Areas with low-load transit in food factories
Areas with low-load transit in chemically aggressive environments

DETAIL OF HOOKING SYSTEM

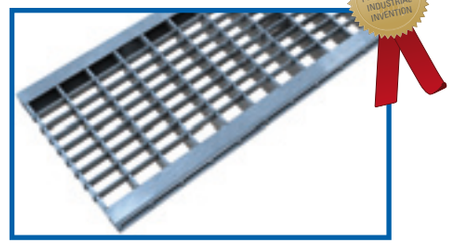


VIEW FROM ABOVE



SIDE VIEW

DETAIL OF UPRIGHT BEND

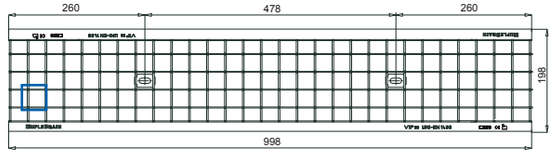


ANTI-HELL MESH GRATING

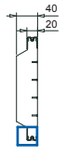
40 mm

CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM	
	€		mm	kg	dm²	mm	tie-tod	no fixing
502154		hot dip galvanised steel DD11 (1.0332)[5]	998 x 198 x 20	7,50	13,08	15,2 x 31,2		up to Class C250 as per Standard EN 1433
502177		pickled stainless steel AISI 304[2]						
502171		hot dip galvanised steel DD11 (1.0332)[5]	498 x 198 x 20	3,75	6,54			
502190		pickled stainless steel AISI 304[2]						

DETAIL OF SQUARE MESH

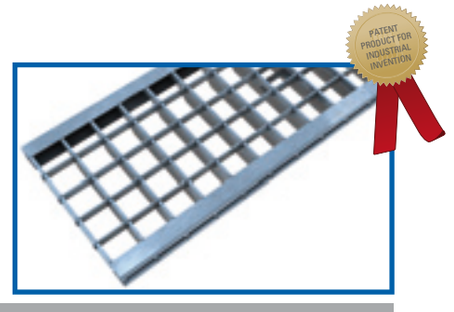


VIEW FROM ABOVE



SIDE VIEW

DETAIL OF UPRIGHT BEND



SQUARE MESH GRATING

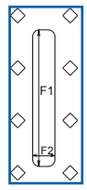
40 mm

CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM	
	€		mm	kg	dm²	mm	tie-tod	no fixing
502153		hot dip galvanised steel DD11 (1.0332)[5]	998 x 198 x 20	7,00	13,47	31,2 x 31,2		up to Class C250 as per Standard EN 1433
502176		pickled stainless steel AISI 304[2]						
502170		hot dip galvanised steel DD11 (1.0332)[5]	498 x 198 x 20	3,50	6,73			
502189		pickled stainless steel AISI 304[2]						

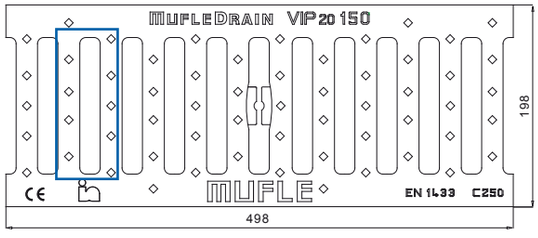
2- Classification according to American Standard ASTM.
5- Classification according to Standard EN 10111 (2008) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

APPLICATIONS OF DUCTILE IRON

Kerbs
Historical town centres (slow traffic)
Parking areas
Parking decks

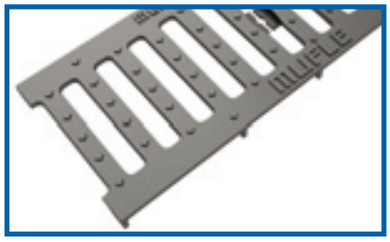


SLOT DETAIL



VIEW FROM ABOVE

SIDE VIEW

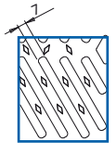


SLOTTED GRATING 20 mm — 25 mm

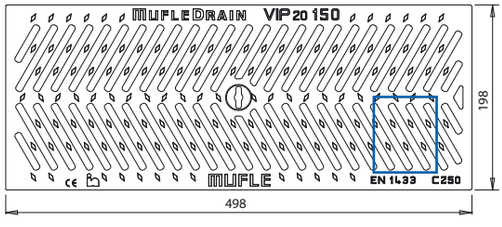
CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM	
	€		mm	kg	dm^2	mm	tie-tod	no fixing
502120		GJS 500/7[6] ductile iron water based paint coated	498 x 198 x 20	5,20	3,16	132,0 x 20,0		up to Class C250 as per Standard EN 1433

APPLICATIONS OF DUCTILE IRON

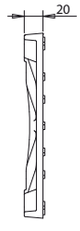
Parking
Parking decks
Kerb side areas
Historical town centres



SLOT DETAIL



VIEW FROM ABOVE



SIDE VIEW

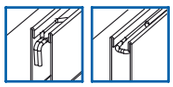
SLOTTED GRATING 7 mm — 20 mm

CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM	
	€		mm	kg	dm^2	mm	tie-tod	no fixing[11]
502196		GJS 500/7[6] ductile iron water based paint coated	498 x 198 x 20	6,00	3,00	81,0 x 7,0		up to Class C250 as per Standard EN 1433

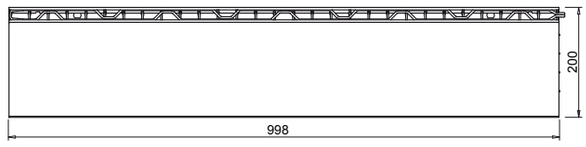
6- Classification according to Standard EN 1563 (2009).
11- No fixing system is forecasted for the channel 150/40 and 200/40
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

APPLICATIONS OF GALVANISED STEEL
Low visual impact drainage in public and private places:
Pedestrian areas
Private car parks or multi-level car parks
Roads subjected to middle loads (urban speed ≤ 40 km/h)
Areas not subjected to dock movements

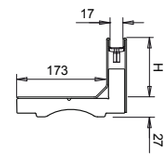
APPLICATIONS OF STAINLESS STEEL
Low visual impact drainage in public and private places:
Pedestrian areas
Private car parks or multi-level car parks
Roads subjected to middle loads (urban speed ≤ 40 km/h)
Areas not subjected to dock movements



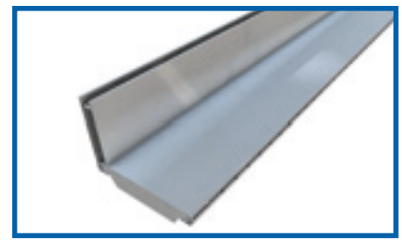
DETAIL OF HOOKINF SYSTEM [8]



VIEW FROM ABOVE



SIDE VIEW



L-SHAPED GRATING

CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	HEIGHT OF SLOTS H	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2
	€		mm	mm	kg	dm^2	mm
500214		hot dip galvanised steel DD11 (1.0332)[5]	998 x 200 x 112	80	7,16	1,80	998 x 18
500250		pickled stainless steel AISI 304[2]					
500215		hot dip galvanised steel DD11 (1.0332)[5]	998 x 200 x 152	120	8,22		
500251		pickled stainless steel AISI 304[2]					

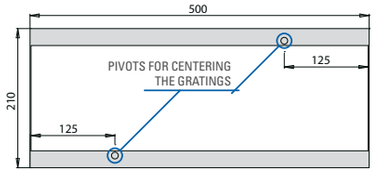
2- Classification according to American Standard ASTM.
5- Classification according to Standard EN 10111 (2008) and symbolic designation according to EN 10027-1 (-2) (2006).
8- Hooking System between the gratings through hooks and holes.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

INSPECTION ELEMENT FOR L-SHAPED GRATING

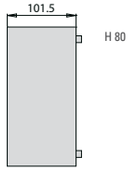
TYPE C 250
MIDDLE
DRIVEWAY

VIP 150

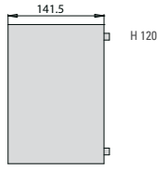
CONTAINMENT TANK



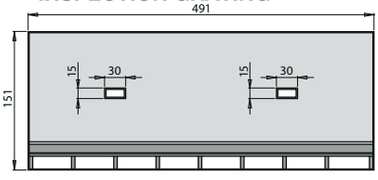
VIEW FROM ABOVE



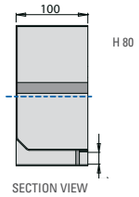
SIDE VIEW



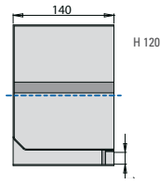
INSPECTION GRATING

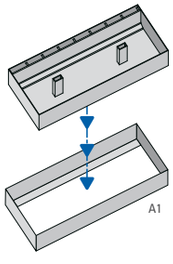


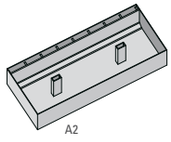
VIEW FROM ABOVE

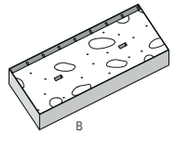


SECTION VIEW









MOUNTING

The inspection element for the T-shaped gratings shall be assembled together with the drain box with siphon EASY in HD-PE as showed in the picture. Please see page 54 for the details of the drain box with siphon.

INSPECTION ELEMENT FOR L-SHAPED GRATING - VIP 150

CODE	PRICE	MATERIAL	VOLUME L x l x h	SLOT DIMENSIONS	DRAINAGE SURFACE	WEIGHT TOTALE
	€		mm	mm	mm	kg
500227		hot dip galvanised steel DD11 (1.0332)[5]	H80 500 x 210 x 101,5	491 x 18	1,8	5,90
500239		pickled stainless steel AISI 304[2]	H80 500 x 210 x 101,5	491 x 18	1,8	5,50
500228		hot dip galvanised steel DD11 (1.0332)[5]	H120 500 x 210 x 141,5	491 x 18	1,8	7,70
500240		pickled stainless steel AISI 304[2]	H120 500 x 210 x 141,5	491 x 18	1,8	7,10

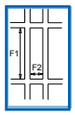
HOOK FOR TAKING OFF THE GRATING INSPECTION ELEMENT

CODE	PRICE	MATERIAL	VOLUME L x l x h	SLOT DIMENSIONS	DRAINAGE SURFACE	WEIGHT TOTALE
	€		mm	mm	mm	kg
500254		hot dip galvanised steel DD11 (1.0332)[5]	710 x 180	_	_	0,65

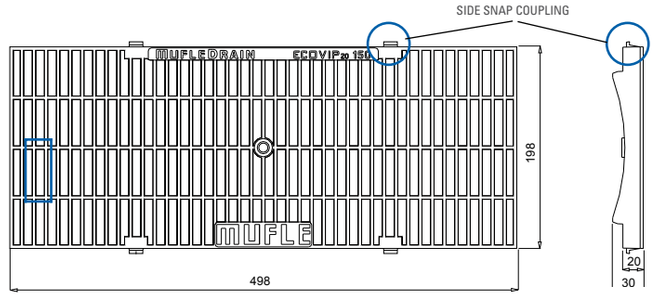
2- Classification according to American Standard ASTM.
5- Classification according to Standard EN 10111 (2008) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

APPLICATIONS OF HD-PE

Residential and condominium areas
Pedestrian areas and/or cycle lanes
Sports facilities
Greenhouses
Green areas

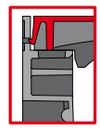


SLOT DETAIL



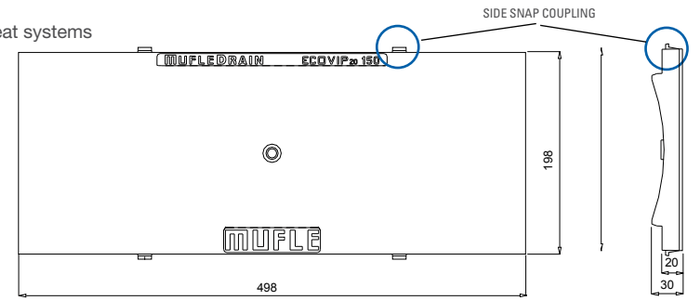
VIEW FROM ABOVE

SIDE VIEW

PEDESTRIAN GRATING							30 mm	
CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM	
	€		mm	kg	dm^2	mm	tie-tod	side block[10]
502104		HD-PE black	498 x 198 x 20	0,68	5,80	46,5 x 8,5		

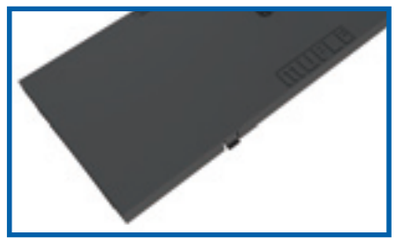
APPLICATIONS OF GALVANISED STEEL

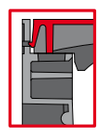
Cable passageway
Passageway for water and/or heat systems



VIEW FROM ABOVE

SIDE VIEW



PEDESTRIAN SOLID TOP COVER						30 mm	
CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	FIXING SYSTEM		
	€		mm	kg	tie-tod	side block [10]	
502101		PE-HD[12] black	498 X 198 x 20	0,86			

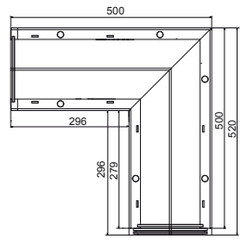
Ecovip solid top covers and gratings cannot be certified because Standard EN 1433 does not yet provide for specific tests for plastic-material gratings. The tests carried out by Mufle showed that Ecovip 150 solid top covers and gratings can be defined as “Walk-Over”.

10- Coupling system using a tab inside the grating.
12- Photoengraved anti-slip surface finish.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

SPECIAL PIECES AND DRAIN BOX WITH SYPHON

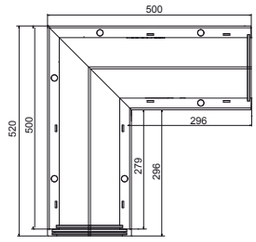
VIP 150

LEFT CORNER — VIP 150



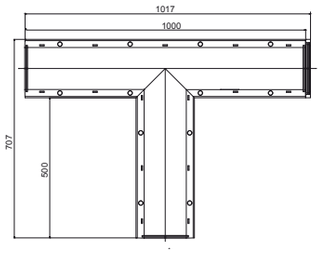
CODE	PRICE €	MODEL
702102		150/160
702103		150/100
502205		150/40

RIGHT CORNER — VIP 150



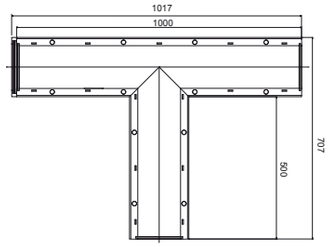
CODE	PRICE €	MODEL
702108		150/160
702109		150/100
502214		150/40

LEFT TI — VIP 150



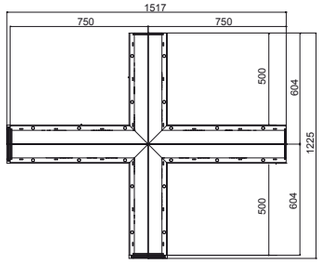
CODE	PRICE €	MODEL
702114		150/160
702115		150/100
502223		150/40

RIGHT TI — VIP 150



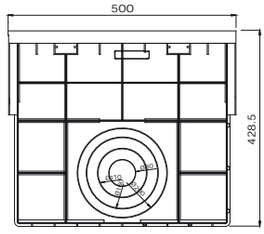
CODE	PRICE €	MODEL
702120		150/160
702121		150/100
502232		150/40

CROSS — VIP 150

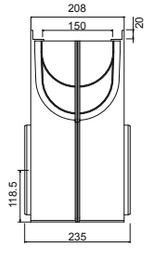


CODE	PRICE €	MODEL
702126		150/160
702127		150/100
502241		150/40

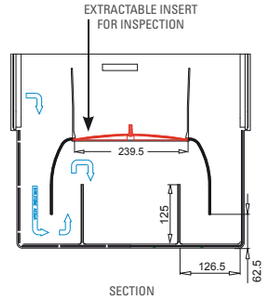
DRAIN BOX WITH SYPHON[9]



FRONT VIEW



SIDE VIEW



SECTION

VIP 150

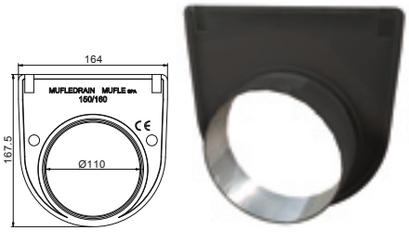
CODE	PRICE €	MATERIAL	EXTERNAL DIMENSIONS L x l x h mm	INTERNAL DIMENSIONS L x l x h mm	MAXIMUM LARGE mm	HEIGHT OF OUTLETS mm	WEIGHT kg	PREINSTALLED DRAIN mm
702007		PE-HD	500 x 208 x 427	500 x 150 x 400	235	118,5	2,90	2 x Ø 110; 2 x Ø 160; 2 x Ø 200

9- The drain box Easy, Vip and Wing 150 and 200 are not prearranged to be connected to the correspondent channels Easy, Wing and Vip 150/40, 200/40
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

MUFLE

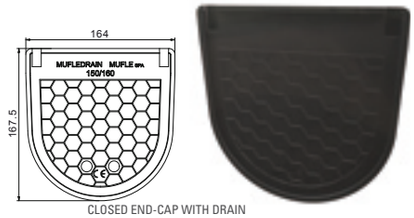
END-CAP 150/40

END-CAP 150/100



END-CAP 150/160

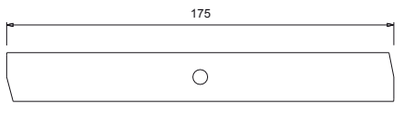
CLOSED END-CAP WITH DRAIN 150/100



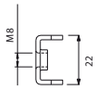
CLOSED END-CAP WITH DRAIN 150/160

END CAPS

CODE	PRICE €	TYPE	MATERIAL	VALID FOR CHANNELS	PREINSTALLED DRAINS mm
500518		closed end cap with preformed outlet	PE-HD	150/40	2 x Ø 32
700504		end-cap with drain	PE-HD	150/100	1 x Ø 63
700512		closed end-cap	PE-HD	150/100	-
700505		end-cap with drain	PE-HD	150/160	1 x Ø 110
700513		closed end-cap	PE-HD	150/160	-



VIEW FROM ABOVE



SIDE VIEW

KIT TIE-ROD + SCREWS

CODE	PRICE €	MATERIAL	VALID FOR GRATINGS	SCREW	KIT FOR 1ml
500424		galvanised steel	VIP galvanised steel - PE-HD	M8 x 40 TBL combi	2 tie-rods + 2 screws
500425		stainless steel	VIP stainless steel	M8 x 40 TBL combi	2 tie-rods + 2 screws
500426		black galvanised steel	VIP ductile iron	M8 x 40 black with hexagonal head	2 tie-rods + 2 screws

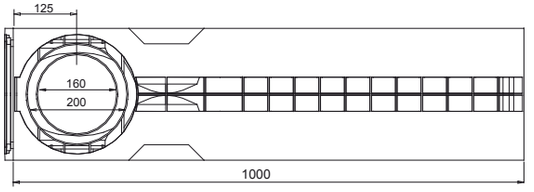
CONNECTOR FOR STEP-SLOPE

CODE	PRICE €	VALID FOR CHANNELS	FAMILIES
700517		from 150/100 to 150/160	EASY - VIP - SMART - SLOPE - WING - PLUS

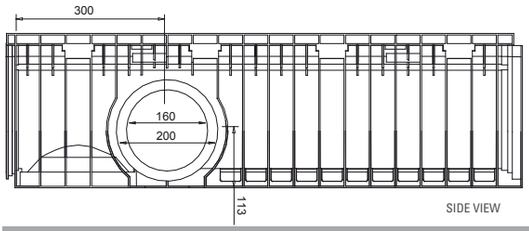
Utilising Mufle's distinctive step connector system, it is possible to connect drainage channels of differing heights to create greater efficiencies in hydraulic velocity and channel capacity. These efficiencies create benefits in increased drainage performance, outlet number reduction for longer continuous drainage runs, increased self cleansing ability and lower installation costs. Stepped channel are typically recognised by structured increases in neutral channel depths towards a nominated outlet along a specific drainage channel run/lenght.

N.B. Sizes and weights are subject to usual manufacturing tolerance values.

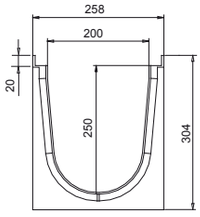
200



VIEW FROM BELOW



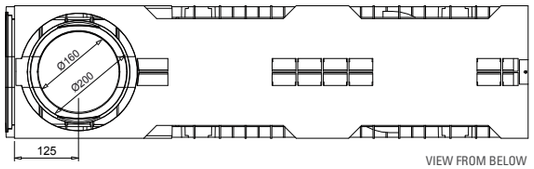
SIDE VIEW



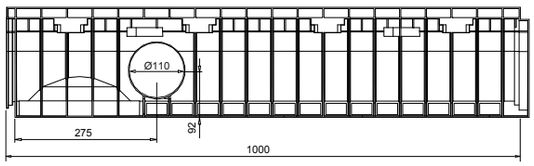
SECTION

VIP 200/250

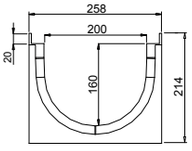
CODE	PRICE	MATERIAL	EXTERNAL DIMENSIONS L x l x h	INTERNAL DIMENSIONS L x l x h	WEIGHT	DRAINAGE SECTION	CAPACITY	PREINSTALLED DRAIN OUTLETS
	€		mm	mm	kg	cm^2	dm^3	mm
502042		PE-HD	1000 x 258 x 304	1000 x 200 x 250	4,50	430,00	43,00	side 2 x Ø 200; 2 x Ø 160 bottom 1 x Ø 200; 1 x Ø 160



VIEW FROM BELOW



SIDE VIEW

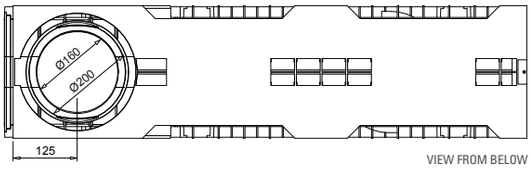


SECTION

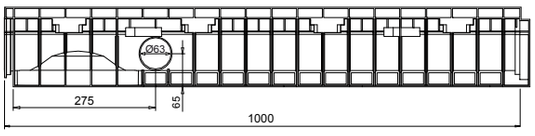
VIP 200/160

CODE	PRICE	MATERIAL	EXTERNAL DIMENSIONS L x l x h	INTERNAL DIMENSIONS L x l x h	WEIGHT	DRAINAGE SECTION	CAPACITY	PREINSTALLED DRAIN OUTLETS
	€		mm	mm	kg	cm^2	dm^3	mm
702004		PE-HD	1000 x 258 x 214	1000 x 200 x 160	3,40	275,87	27,58	side 2 x Ø 110 bottom 1 x Ø 160; 1 x Ø 200

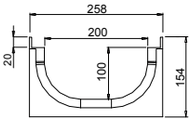
N.B. Waterproofing: in order to ensure the channels are waterproof, a bituminous adhesive sealant should be used. Heat-sealing the channel joints makes sure there will be no leakages through said joints for a very long time. For further information please contact MufleSystem's Technical Department.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.



VIEW FROM BELOW



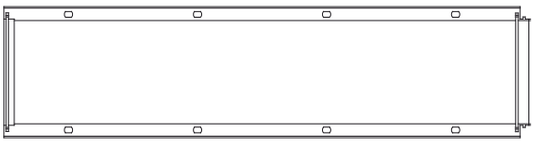
SIDE VIEW



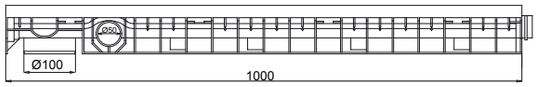
SECTION

VIP 200/100

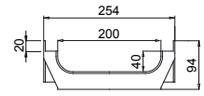
CODE	PRICE	MATERIAL	EXTERNAL DIMENSIONS L x l x h	INTERNAL DIMENSIONS L x l x h	WEIGHT	DRAINAGE SECTION	CAPACITY	PREINSTALLED DRAIN OUTLETS
	€		mm	mm	kg	cm^2	dm^3	mm
702005		PE-HD	1000 x 258 x 154	1000 x 200 x 100	2,80	178,63	17,86	side 2 x Ø 63 bottom 1 x Ø 160; 1 x Ø 200



VIEW FROM BELOW



SIDE VIEW



SECTION

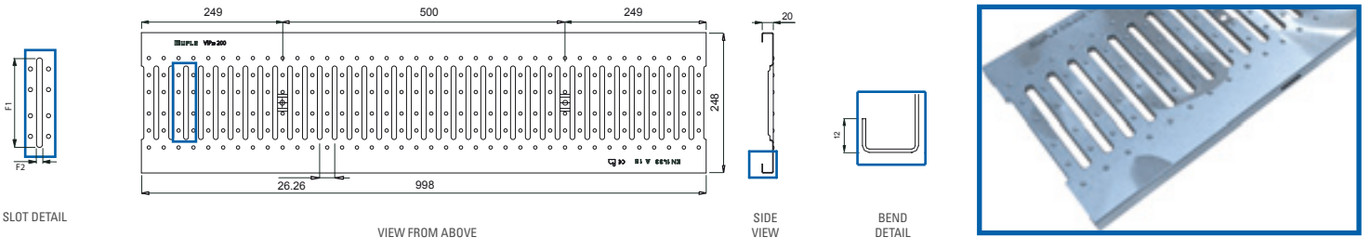
VIP 200/40

CODE	PRICE	MATERIAL	EXTERNAL DIMENSIONS L x l x h	INTERNAL DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	CAPACITY	PREINSTALLED DRAIN
	€		mm	mm	kg	cm^2	dm^3	mm
502007		PE-HD	1000 x 254 x 94	1000 x 200 x 40	2,20	76,50	7,65	side 2 x Ø 50 bottom 1 x Ø 100

N.B. Waterproofing: in order to ensure the channels are waterproof, a bituminous adhesive sealant should be used. Heat-sealing the channel joints makes sure there will be no leakages through said joints for a very long time. For further information please contact MufleSystem's Technical Department.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

APPLICATIONS OF GALVANISED STEEL

Green areas and parks
Pedestrian areas and/or cycle lanes
Sports facilities
Terraces



SLOT DETAIL — VIEW FROM ABOVE — SIDE VIEW — BEND DETAIL

SLOTTED GRATING

20 mm

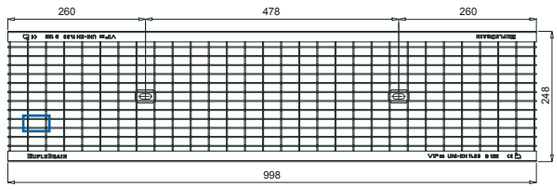
CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM	
	€		mm	kg	dm^2	mm	tie-tod	no fixing
502136		galvanised steel DX51D[3]	998 x 248 x 20	4,80	4,20	130 x 8,5		up to Class C250 as per Standard EN 1433
502148		galvanised steel DX51D[3]	498 x 248 x 20	2,40	2,10			

3- Classification according to Standard EN 10142 (2002) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Waterproofing: in order to ensure the channels are waterproof, a bituminous adhesive sealant should be used. Heat-sealing the channel joints makes sure there will be no leakages through said joints for a very long time. For further information please contact MufleSystem's Technical Department.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

APPLICATIONS OF GALVANISED STEEL
Pavements
Lay-bys and private car parks

APPLICATIONS OF STAINLESS STEEL
Pavements
Lay-bys and private car parks
Food factories
Chemically aggressive environments

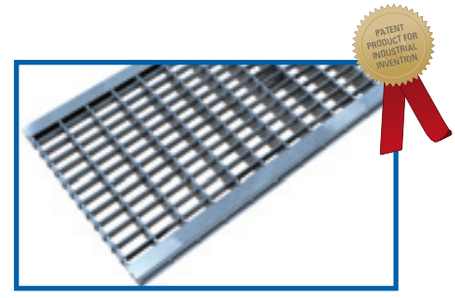
DETAIL OF HOOKING SYSTEM



VIEW FROM ABOVE

SIDE VIEW


DETAIL OF UPRIGHT BEND

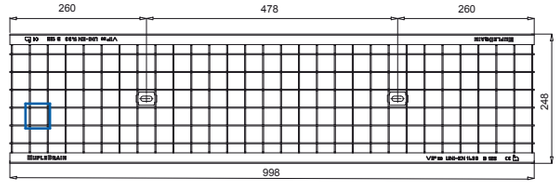


ANTI-HELL MESH GRATING

30 mm

CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM	
	€		mm	kg	dm²	mm	tie-tod	no fixing
502134		hot dip galvanised steel DD11 (1.0332)[5]	998 x 248 x 20	6,20	16,98	15,2 x 32,2		up to Class C250 as per Standard EN 1433
502160		pickled stainless steel AISI 304[2]						
502146		hot dip galvanised steel DD11 (1.0332)[5]	498 x 248 x 20	3,10	8,49			
502166		pickled stainless steel AISI 304[2]						

DETAIL OF SQUARE MESH



VIEW FROM ABOVE

SIDE VIEW


DETAIL OF UPRIGHT BEND

SQUARE MESH GRATING

30 mm

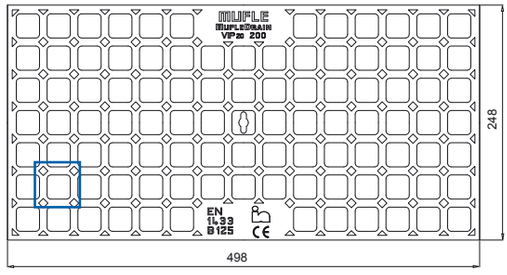
CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM	
	€		mm	kg	dm²	mm	tie-tod	no fixing
502135		hot dip galvanised steel DD11 (1.0332)[5]	998 x 248 x 20	5,20	18,00	32,2 x 32,2		up to Class C250 as per Standard EN 1433
502161		pickled stainless steel AISI 304[2]						
502147		hot dip galvanised steel DD11 (1.0332)[5]	498 x 248 x 20	2,60	9,00			
502167		pickled stainless steel AISI 304[2]						

2- Classification according to American Standard ASTM.
5- Classification according to Standard EN 10111 (2008) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

APPLICATIONS OF DUCTILE IRON

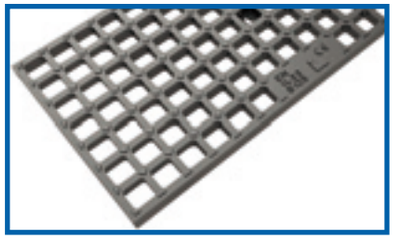
Pavements
Lay-bys and private car parks

SLOT DETAIL



VIEW FROM ABOVE

SIDE VIEW



MESH GRATING							20 mm	
CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM	
	€		mm	kg	dm^2	mm	tie-tod	no fixing
502122		GJS 500/7[6] ductile iron water based paint coated	498 x 248 x 20	6,25	6,12	25,5 x 24,5		up to Class C250 as per Standard EN 1433

6- Classification according to Standard EN 1563 (2009).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

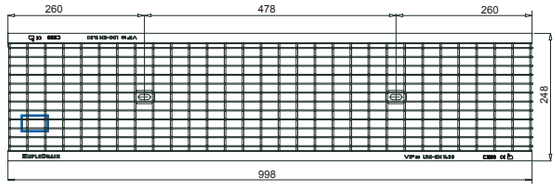
APPLICATIONS OF GALVANISED STEEL

Kerbs
Historical town centres (slow traffic)
Parking areas
Parking decks

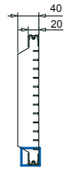
APPLICATIONS OF STAINLESS STEEL

Kerbs
Historical town centres (slow traffic)
Parking areas
Parking decks
Areas with low-load transit in food factories
Areas with low-load transit in chemically aggressive environments

DETAIL OF HOOKING SYSTEM

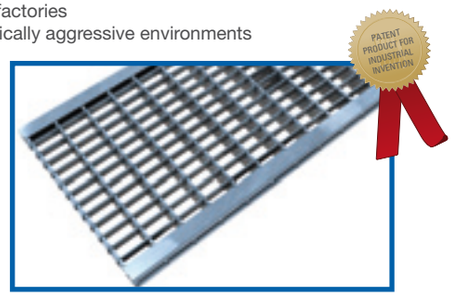


VIEW FROM ABOVE



SIDE VIEW

DETAIL OF UPRIGHT BEND

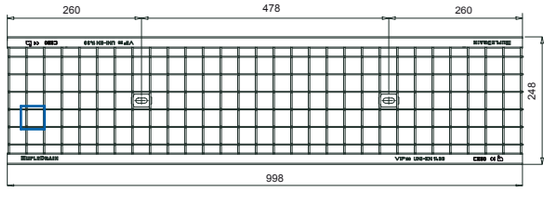


ANTI-HELL MESH GRATING

40 mm

CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM	
	€		mm	kg	dm²	mm	tie-tod	no fixing
502156		hot dip galvanised steel DD11 (1.0332)[5]	998 x 248 x 20	9,50	16,98	15,2 x 31,2		up to Class C250 as per Standard EN 1433
502179		pickled stainless steel AISI 304[2]						
502173		hot dip galvanised steel DD11 (1.0332)[5]	498 x 248 x 20	4,75	8,49			
502192		pickled stainless steel AISI 304[2]						

DETAIL OF SQUARE MESH



VIEW FROM ABOVE

SIDE VIEW

DETAIL OF UPRIGHT BEND

SQUARE MESH GRATING

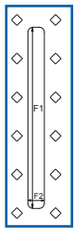
40 mm

CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM	
	€		mm	kg	dm²	mm	tie-tod	no fixing
502155		hot dip galvanised steel DD11 (1.0332)[5]	998 x 248 x 20	8,70	18,00	31,2 x 31,2		up to Class C250 as per Standard EN 1433
502178		pickled stainless steel AISI 304[2]						
502172		hot dip galvanised steel DD11 (1.0332)[5]	498 x 248 x 20	4,35	9,00			
502191		pickled stainless steel AISI 304[2]						

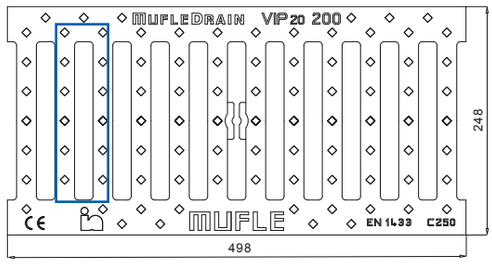
2- Classification according to American Standard ASTM.
5- Classification according to Standard EN 10111 (2008) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

APPLICATIONS OF DUCTILE IRON

Kerbs
Historical town centres (slow traffic)
Parking areas
Parking decks



SLOT DETAIL



VIEW FROM ABOVE

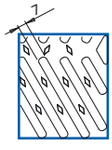
SIDE VIEW

SLOTTED GRATING 20 mm — 25 mm

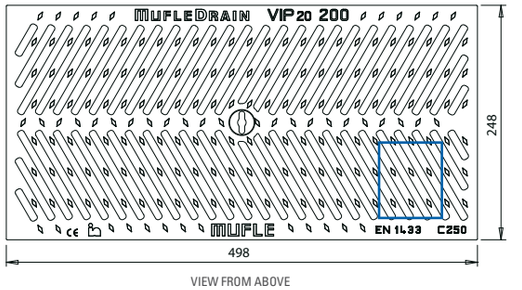
CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM	
	€		mm	kg	dm^2	mm	tie-tod	no fixing
502124		GJS 500/7[6] ductile iron water based paint coated	498 x 248 x 20	7,00	4,32	180,0 x 20,0		up to Class C250 as per Standard EN 1433

APPLICATIONS OF DUCTILE IRON

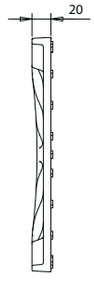
Parking
Parking decks
Kerb side areas
Historical town centres



SLOT DETAIL

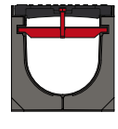


VIEW FROM ABOVE



SIDE VIEW

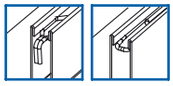
SLOTTED GRATING 7 mm — 20 mm

CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM	
	€		mm	kg	dm^2	mm	tie-tod	no fixing[11]
502195		GJS 500/7[6] ductile iron water based paint coated	498 x 248 x 20	7,70	4,00	107,0 x 7,0		up to Class C250 as per Standard EN 1433

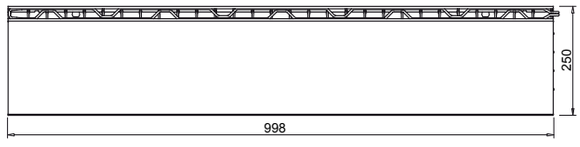
6- Classification according to Standard EN 1563 (2009).
11- It is orecasted no fixing system for the channel 150/40 and200/40.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

APPLICATIONS OF GALVANISED STEEL
Low visual impact drainage in public and private places:
Pedestrian areas
Private car parks or multi-level car parks
Roads subjected to middle loads (urban speed ≤ 40 km/h)
Areas not subjected to dock movements

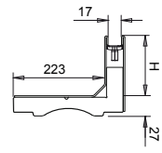
APPLICATIONS OF STAINLESS STEEL
Low visual impact drainage in public and private places:
Pedestrian areas
Private car parks or multi-level car parks
Roads subjected to middle loads (urban speed ≤ 40 km/h)
Areas not subjected to dock movements



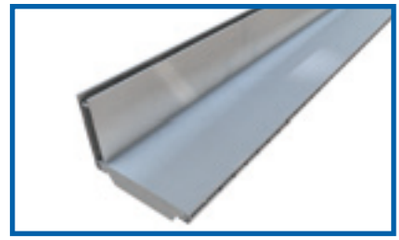
DETAIL OF HOOKINF SYSTEM[8]



VIEW FROM ABOVE



SIDE VIEW



L-SHAPED GRATING

CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	HEIGHT OF SLOTS H	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2
	€		mm	mm	kg	dm²	mm
500216		hot dip galvanised steel DD11 (1.0332)[5]	998 x 250 x 112	80	8,34	1,80	998 x 18
500252		pickled stainless steel AISI 304[2]					
500217		hot dip galvanised steel DD11 (1.0332)[5]	998 x 250 x 152	120	9,39		
500253		pickled stainless steel AISI 304[2]					

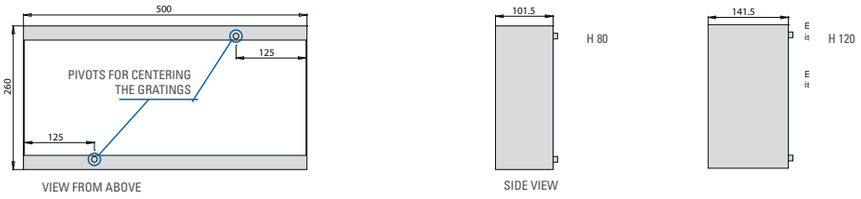
2- Classification according to American Standard ASTM.
5- Classification according to Standard EN 10111 (2008) and symbolic designation according to EN 10027-1 (-2) (2006).
8- Hooking System between the gratings through hooks and holes.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

INSPECTION ELEMENT FOR L-SHAPED GRATING

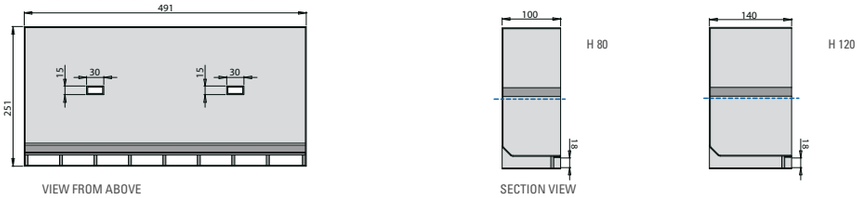
TYPE C 250
MIDDLE
DRIVEWAY

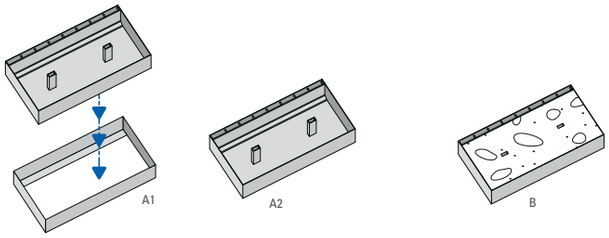
VIP 200

CONTAINMENT TANK



INSPECTION GRATING





MOUNTING

The inspection element for the T-shaped gratings shall be assembled together with the drain box with siphon EASY in HD-PE as showed in the picture. Please see page 64 for the details of the drain box with siphon.

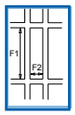
INSPECTION ELEMENT FOR L-SHAPED GRATING VIP 200						
CODE	PRICE	MATERIAL	VOLUME L x l x h	SLOT DIMENSIONS	DRAINAGE SURFACE	WEIGHT TOTALE
	€		mm	mm	mm	kg
500229		hot dip galvanised steel DD11 (1.0332)[5]	H80 500 x 260 x 101,5	491 x 18	1,8	6,60
500241		pickled stainless steel AISI 304[2]	H80 500 x 260 x 101,5	491 x 18	1,8	6,10
500230		hot dip galvanised steel DD11 (1.0332)[5]	H120 500 x 260 x 141,5	491 x 18	1,8	8,40
500242		pickled stainless steel AISI 304[2]	H120 500 x 260 x 141,5	491 x 18	1,8	7,80

HOOK FOR TAKING OFF THE GRATING INSPECTION ELEMENT						
CODE	PRICE	MATERIAL	VOLUME L x l x h	SLOT DIMENSIONS	DRAINAGE SURFACE	WEIGHT TOTALE
	€		mm	mm	mm	kg
500254		hot dip galvanised steel DD11 (1.0332)[5]	710 x 180	_	_	0,65

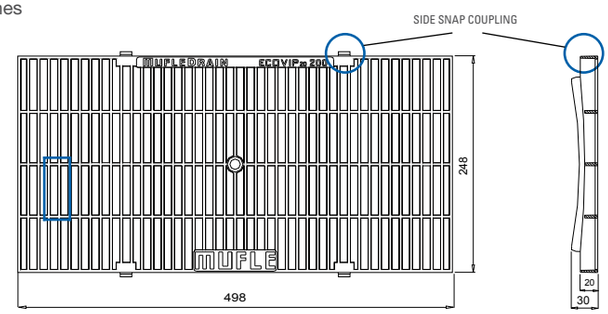
2- Classification according to American Standard ASTM.
5- Classification according to Standard EN 10111 (2008) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

APPLICATIONS OF HD-PE

Residential and condominium areas
Pedestrian areas and/or cycle lanes
Sports facilities
Greenhouses
Green areas

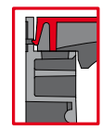


SLOT DETAIL



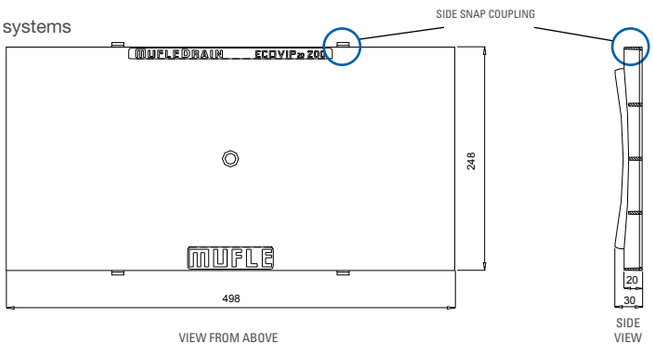
VIEW FROM ABOVE

SIDE VIEW

PEDESTRIAN GRATING							30 mm	
CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	DIMENSIONS OF SLOT	FIXING SYSTEM	
	€		mm	kg	dm^2	mm	tie-tod	side block [10]
502106		HD-PE black	498 x 248 x 20	0,78	7,80	58,5 x 8,5		

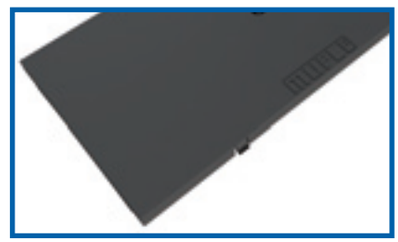
APPLICATIONS OF GALVANISED STEEL

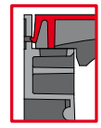
Cable passageway
Passageway for water and/or heat systems



VIEW FROM ABOVE

SIDE VIEW

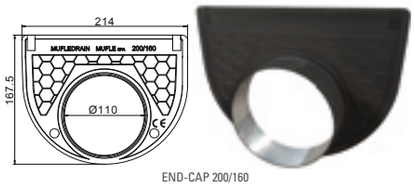


PEDESTRIAN SOLID TOP COVER						30 mm
CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	FIXING SYSTEM	
	€		mm	kg	tie-tod	side block[10]
502102		PE-HD[12] black	498 x 248 x 20	0,88		

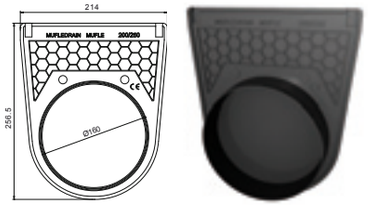
Ecovip solid top covers and gratings cannot be certified because Standard EN 1433 does not yet provide for specific tests for plastic-material gratings. The tests carried out by Mufle showed that Ecovip 200 solid top covers and gratings can be defined as “Walk-Over”.

10- Coupling system using a tab inside the grating.
12- Photoengraved anti-slip surface finish.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

END-CAP 200/100

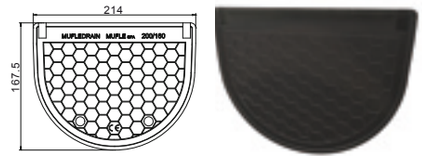


END-CAP 200/160



END-CAP 200/250

CLOSED END-CAP WITH DRAIN 200/100

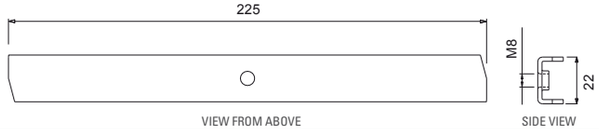


CLOSED END-CAP WITH DRAIN 200/160

END-CAP 200/40

END CAPS

CODE	PRICE €	TYPE	MATERIAL	VALID FOR CHANNELS	PREINSTALLED DRAIN
500521		end-cap with drain	PE-HD	200/40	2 x Ø 32
700506		end-cap with drain	PE-HD	200/100	1 x Ø 63
700514		closed end-cap	PE-HD	200/100	-
700507		end-cap with drain	PE-HD	200/160	1 x Ø 110
700515		closed end-cap	PE-HD	200/160	-
502416		closed end cap with preformed outlet	PE-HD	200/250	1 x Ø 160



VIEW FROM ABOVE

SIDE VIEW

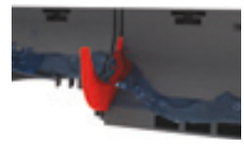
KIT TIE-ROD + SCREWS

CODE	PRICE €	MATERIAL	VALID FOR GRATINGS	SCREW	KIT FOR 1 ml
500427		galvanised steel	VIP galvanised steel - PE-HD	M8 x 55 TBL combi	2 tie-rods + 2 screws
500428		stainless steel	VIP stainless steel	M8 x 55 TBL combi	2 tie-rods + 2 screws
500429		black galvanised steel	VIP ductile iron	M8 x 55 black with hexagonal head	2 tie-rods + 2 screws

CONNECTOR FOR STEP-SLOPE

CODE	PRICE €	VALID FOR CHANNELS	FAMILIES
700518		from 200/160 to 200/250	VIP - SLOPE - WING
700519		from 200/100 to 200/160	EASY - VIP - SMART - SLOPE - WING - PLUS

Utilising Mufle's distinctive step connector system, it is possible to connect drainage channels of differing heights to create greater efficiencies in hydraulic velocity and channel capacity. These efficiencies create benefits in increased drainage performance, outlet number reduction for longer continuous drainage runs, increased self cleansing ability and lower installation costs. Stepped channel are typically recognised by structured increases in neutral channel depths towards a nominated outlet along a specific drainage channel run/lenght.

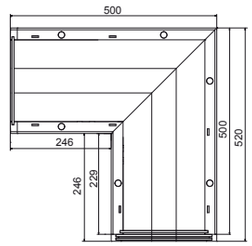


N.B. Sizes and weights are subject to usual manufacturing tolerance values.

SPECIAL PIECES AND DRAIN BOX WITH SYPHON

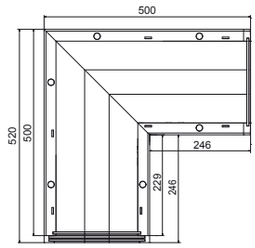
VIP 200

LEFT CORNER — VIP 200



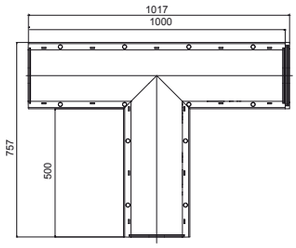
CODE	PRICE €	MODEL
502246		200/250
702104		200/160
702105		200/100
502208		200/40

RIGHT CORNER — VIP 200



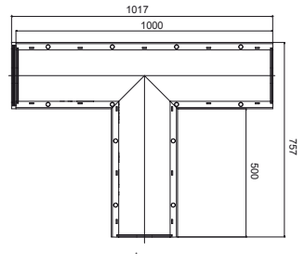
CODE	PRICE €	MODEL
502245		200/250
702110		200/160
702111		200/100
502217		200/40

LEFT TI — VIP 200



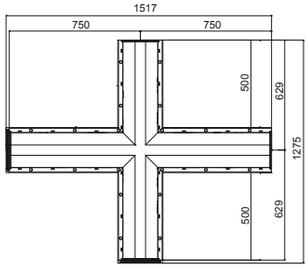
CODE	PRICE €	MODEL
502247		200/250
702116		200/160
702117		200/100
502226		200/40

RIGHT TI — VIP 200



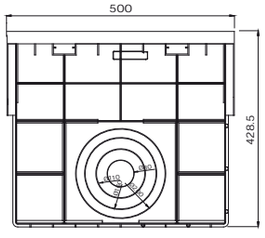
CODE	PRICE €	MODEL
502248		200/250
702122		200/160
702123		200/100
502235		200/40

CROSS — VIP 200

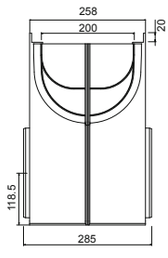


CODE	PRICE €	MODEL
su richiesta		200/250
702128		200/160
702129		200/100
502244		200/40

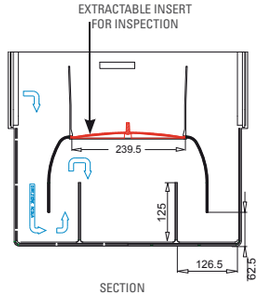
DRAIN BOX WITH SYPHON[9 - 17]



FRONT VIEW



SIDE VIEW



SECTION

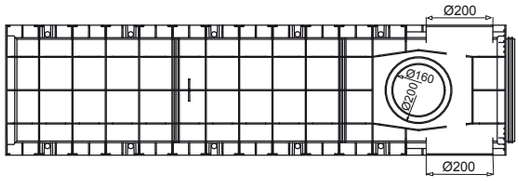
VIP 200

CODE	PRICE €	MATERIAL	EXTERNAL DIMENSIONS L x l x h mm	INTERNAL DIMENSIONS L x l x h mm	MAXIMUM LARGE mm	HEIGHT OF OUTLETS mm	WEIGHT kg	PREINSTALLED DRAIN mm
702008		PE-HD	500 x 258 x 427	500 x 200 x 400	285	118,5	3,10	2 x Ø 110; 2 x Ø 160; 2 x Ø 200

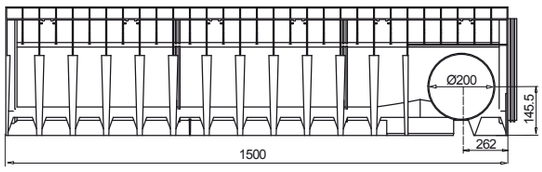
9- The drain box Easy, Vip and Wing 150 and 200 are not prearranged to be connected to the correspondent channels Easy, Wing and Vip 150/40, 200/40
17- The drain box Easy, Vip, Smart, Slope and Wing 200 are not prearranged to be connected to the correspondent channels EASY, VIP, SMART, SLOPE and WING 200/250
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

MUFLE

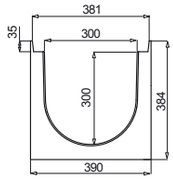
300



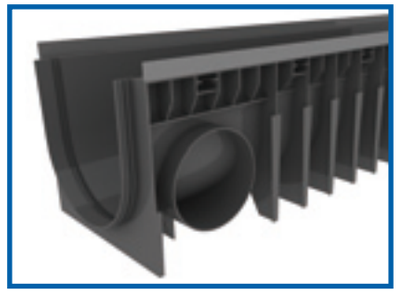
VIEW FROM BELOW



SIDE VIEW



SECTION

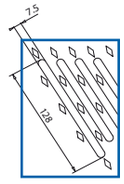


VIP 300/300								
CODE	PRICE	MATERIAL	EXTERNAL DIMENSIONS L x l x h	INTERNAL DIMENSIONS L x l x h	WEIGHT	DRAINAGE SECTION	CAPACITY	PREINSTALLED DRAIN OUTLETS
	€		mm	mm	kg	cm^2	dm^3	mm
502018		PE-HD	1500 x 390 x 384	1500 x 300 x 300	9,30	796,00	79,60	side 2 x Ø 200 bottom 1 x Ø 160; 1 x Ø 200

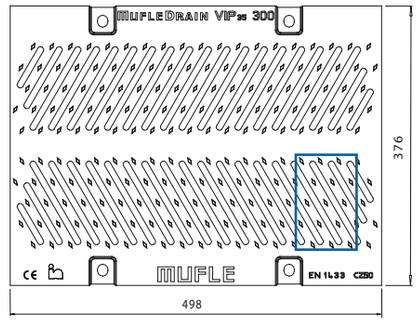
N.B. Waterproofing: in order to ensure the channels are waterproof, a bituminous adhesive sealant should be used. Heat-sealing the channel joints makes sure there will be no leakages through said joints for a very long time. For further information please contact MufleSystem's Technical Department.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

APPLICATIONS OF DUCTILE IRON

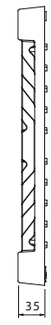
Kerbs
Historical town centres (slow traffic)
Parking areas
Parking decks



DETAIL OF HOOKING SYSTEM

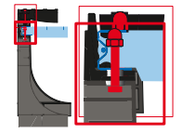


VIEW FROM ABOVE

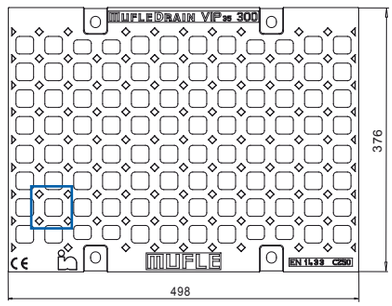


SIDE VIEW

SLOTTED GRATING 7 mm

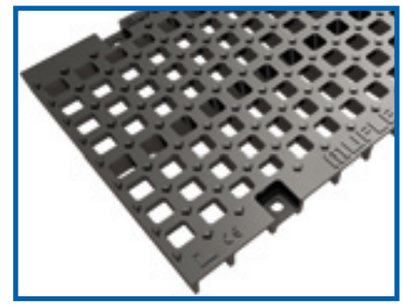
CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM
	€		mm	kg	dm^2	mm	nut
503176		GJS 500/7[6] ductile iron water based paint coated	498 x 376 x 35	19,50	3,5	128,0 x 7,5	

SLOT DETAIL



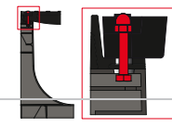
VIEW FROM ABOVE

SIDE VIEW

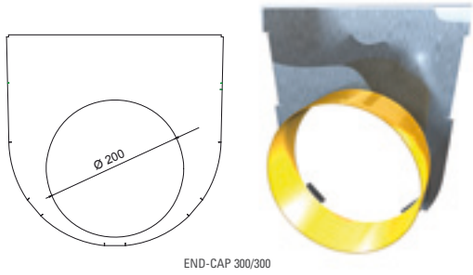


MESH GRATING

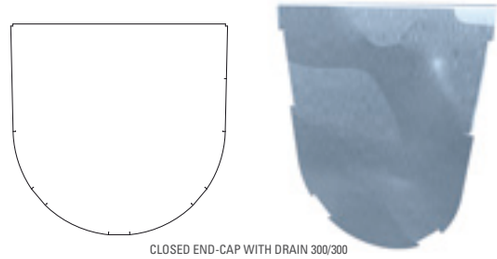
35 mm

CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	DRAINAGE SURFACE	OPENINGS F1 x F2	FIXING SYSTEM
	€		mm	kg	dm^2	mm	nut
503117		GJS 500/7[6] ductile iron water based paint coated	498 x 376 x 35	16,50	5,96	25,0 x 25,0	

5- Classification according to Standard EN 10111 (2008) and symbolic designation according to EN 10027-1 (-2) (2006).
6- Classification according to Standard EN 1563 (2009).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.



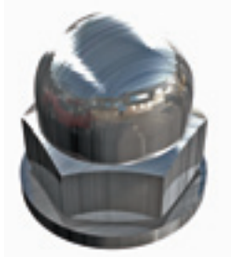
END-CAP 300/300



CLOSED END-CAP WITH DRAIN 300/300

END CAPS

CODE	PRICE €	MATERIAL	TYPE END-CAP	PREINSTALLED DRAIN OUTLETS mm
503411		galvanised steel	closed end-cap 300/300	–
503412		galvanised steel e PVC	end-cap with drain 300/300	1 x Ø 200



KIT NUTS

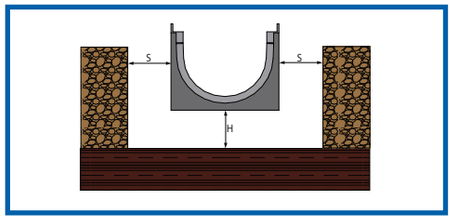
CODE	PRICE €	MATERIAL	VALID FOR GRATINGS	NUT	KIT FOR 1,5ml
503310		black galvanised steel	VIP ductile iron	Blind hexagonal M10 with spherical cap	12 nuts + 12 washer[13]

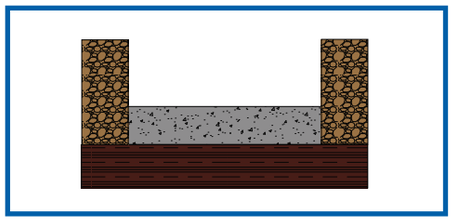
Special Pieces, Corners, Ti, Crosses for VIP35 are available upon request. For further information please contact our Technical Department.

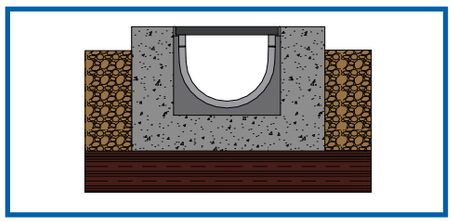
13- Screws are included in the channel.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

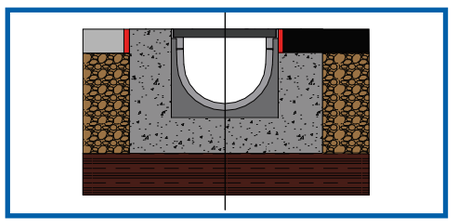
“For all the drainage channels the manufacturer shall supply written instructions for general installation” (Ref. § 7.17 EN 1433)

The installation instructions enclosed in the present technical section are given only as an example in order to supply the main guide lines to the final fitter.
Any particular installation must be evaluated/ agreed between MufleSystem srl and the project maker.
The correct installation is necessary to guarantee the proper loads resistance of the drainage system (channel and grating) to static and dynamical traffic which is subjected to.
The correct installation involves a longer operational length of the drainage system itself as well as its better hydraulic function.









NEW FEATURE: The channels can be installed with preassembled gratings.

Step 1

HOLE SIZE

The hole needed to lay the MufleDrain channel must allow not only for the size of the channel and the drain piping but also for adequate space for the base H and the side concrete props S. The dimensions to be followed are shown in the Summary Table. In this step make sure the underlying layer is suitable to the load it is expected to support.

Step 2

CONCRETE BASE

Cast the concrete base H up to the height specified, allowing for any inclination in the drainage line. In case that cycles of loading and unloading are often (for example: periodic transit of vehicles) or the loads are particular heavy (E600 - F900), we recommended to reinforce the concrete base with a electro-welded net or with or beaded mouldings Ø 8 with mesh 15x15 cm. At this stage it is needed to arrange possible slopes of the drainage line.

Step 3

CHANNEL ARRANGEMENT

Lay the channels starting from the flow outlet and block them at basis in order to avoid any floating or misalignment during the concrete casting for the side prop.
Allow for the drains required and build the side prop S up to the maximum height allowed by the final coating. Shape it according to the needs based on the drawing. Introduce and fix the grating required beforehand in order to prevent any deformation of the channel due to the thrust of concrete and to speed up installation.
As well as the step 2, also for the side prop concrete arrange the reinforcement.

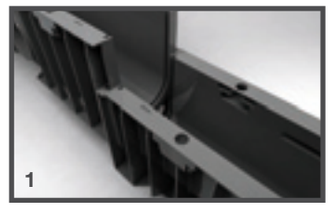
Step 4

FINAL COATING

When applying the final coating, make sure its upper profile reaches up to minimum 3/5 mm above the grating’s flow plane.

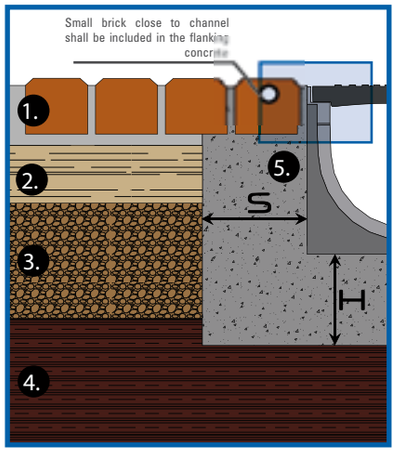
Recommendations for installation

1. In case that channels watertightness is requested, MufleSystem is purposely recommending the use of a bituminous silicone sealant “SHELL TIXOPHALTE”: after carrying out the side prop, apply a thin and homogeneous sealant strip on each slot between the channels and the following one (clean the eventual exceeding sealant). It is strongly advised not to apply the strips of “SHELL TIXOPHALTE” inside the slots in the female joint of the channels before coupling them. Eventually a through and long- lasting guarantees to avoid any leakages can be obtained by welding the joints; this requires welding machines and experienced technicians.
2. While carrying out the phase 2 and 3, protect the gratings with a PVC film so that no final cleaning must be carried out to remove any concrete residues.
3. In case the drainage line is subjected to horizontal loads (for example concrete casting for industrial paving, private car parks and parking decks), it is necessary to arrange effective expansion joints for both direction, parallel and perpendicular to the channels. These joints shall be placed according to the norm standards in force and shall not be placed close to drainage line.
4. In case the drainage line shall be installed on roofs or terraces, it is obligatory to arrange a waterproof sheet according to specific projects.



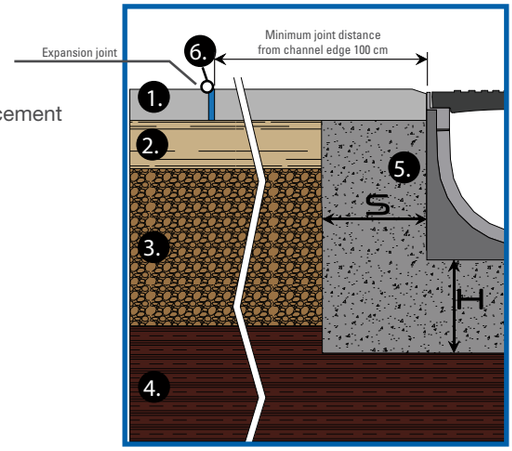
N.B. MufleSystem srl reserves the right to change the technical characteristics herein specified without prior notice. Said technical characteristics are given for information purposes only and are subject to changes as our products are developed.

Case 1
Flooring
(A15-B125-C250)



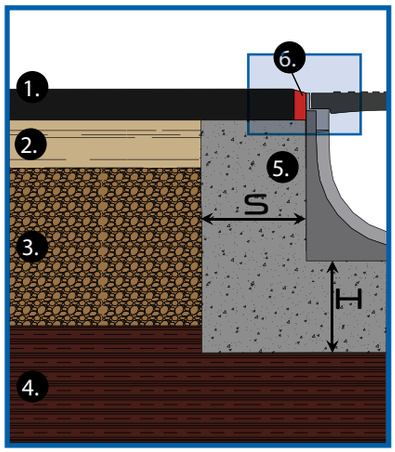
1. Flooring
2. Lower bed layer
3. Bearing layer
4. Subfloor
5. Concrete reinforcement layer

Case 2
Concrete flooring
(A15-B125-C250)

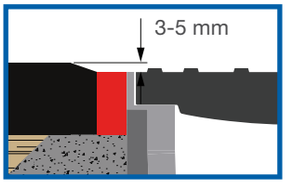


1. Flooring
2. Lower bed layer
3. Bearing layer
4. Subfloor
5. Concrete reinforcement layer
6. Expansion joint

Case 3
Asphalt
(A15-B125-C250)



1. Flooring
2. Lower bed layer
3. Bearing layer
4. Subfloor
5. Concrete reinforcement layer
6. Safety joint (if required)



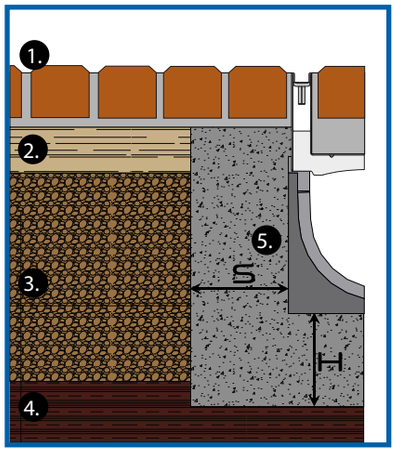
This Sheet is only aimed to give advice on the installation of channels mod. MufleDrain. In any case, always:
- check the carrying capacity characteristics of the underlying layer
- we recommend using Class S4 concrete (EN 206-1) and stone aggregate with maximum diameter 8 mm.
- comply with the height of the installation surface and the thickness of the prop as specified according to the load classes.

SUMMARY TABLE				
Load class (EN 1433)		A 15	B 125	C 250
Applicable load (EN 1433)	kN	15	125	250
Minimum height H of concrete laying bed	mm	100	100	150
Minimum thickness S of the concrete fl anking	mm	100	100	150
Concrete compression strength class (EN 206-1)		C 20/25	C 25/30	C 25/30
Concrete compression strength class[7] (EN 206-1)		C 30/37 XF4	C 30/37 XF4	C 30/37 XF4

7- If concrete can be affected by frost and thaw cycles.
N.B. MufleSystem srl reserves the right to change the technical characteristics herein specified without prior notice. Said technical characteristics are given for information purposes only and are subject to changes as our products are developed.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

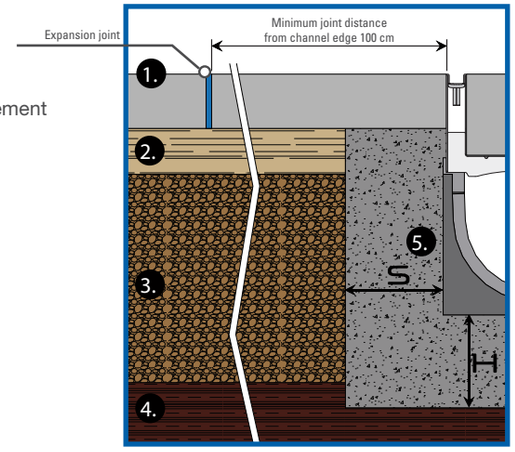
INSTALLATION
SLOTTED GRATING LONGITUDINALE

Case 1
Flooring
(A15-B125-C250)



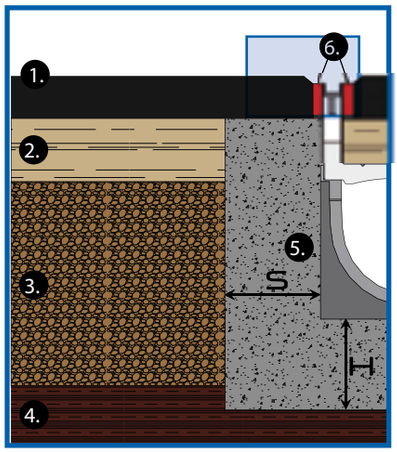
1. Flooring
2.Lower bed layer
3. Bearing layer
4. Subfloor
5. Concrete reinforcement layer

Case 2
Concrete flooring
(A15-B125-C250)



1. Flooring
2. Lower bed layer
3. Bearing layer
4. Subfloor
5. Concrete reinforcement layer
6. Expansion joint

Case 3
Asphalt
(A15-B125-C250)



1. Flooring
2. Lower bed layer
3. Bearing layer
4. Subfloor
5. Concrete reinforcement layer
6. Safety joint (if required)

This Sheet is only aimed to give advice on the installation of channels mod. MufleDrain. In any case, always:
- check the carrying capacity characteristics of the underlying layer
- we recommend using Class S4 concrete (EN 206-1) and stone aggregate with maximum diameter 8 mm.
- comply with the height of the installation surface and the thickness of the prop as specified according to the load classes.

SUMMARY TABLE				
Load class (EN 1433)		A 15	B 125	C 250
Applicable load (EN 1433)	kN	15	125	250
Minimum height H of concrete laying bed	mm	100	100	150
Minimum thickness S of the concrete fl anking	mm	100	100	150
Concrete compression strength class (EN 206-1)		C 20/25	C 25/30	C 25/30
Concrete compression strength class[7] (EN 206-1)		C 30/37 XF4	C 30/37 XF4	C 30/37 XF4

7- If concrete can be affected by frost and thaw cycles.
N.B. MufleSystem srl reserves the right to change the technical characteristics herein specified without prior notice. Said technical characteristics are given for information purposes only and are subject to changes as our products are developed.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

SPECIFICATIONS

1. Supply and installation of MufleDrain VIP (VIP 300) type HD-PE drainage channels with external stiffening ribs and male-female coupling system allowing the assembly between one channel and the next with the relevant pre-assembled gratings. The channel will have 3/4 drainage diaphragms at pre-determined points. HD-PE upper profile with height not smaller than 20 mm (35 mm). The channel surface will be perfectly smooth and have a low roughness coefficient to allow the best water flow. Il will also be perfectly water-tight and devoid of any connection points with the outside. The channel will have the following dimensions: length 1,000 mm (1,500 mm), internal net gap ___mm (300 mm), internal height ___ mm.

2. Supply and installation of MufleDrain VIP type HD-PE drainage channel with external stiffening ribs and male- female coupling system allowing the assembly between one channel and the next with the relevant pre- assembled gratings. The channel will have 2 side drainage diaphragms at pre- determined points and a prearranged 100 (110) mm diameter bottom outlet that can be fixed through 4 screws.. The channel surface will be perfectly smooth and have a low roughness coefficient to allow the best water flow. It will also be perfectly water-tight and devoid of any connection points with the outside. The channel will have the following dimensions: length 1000 mm, internal net gap 100 mm, internal height _____ mm.

3. Supply and installation of ductile iron GJS 500/7 covering gratings according to EN 1563-2004 for MufleDrain VIP drainage channels with bar fixing system, load class C250 according to EN 1433-2004, slot width 20 mm, length 498 mm, width ___mm.

4. Supply and installation of ductile iron GJS 500/7 covering gratings according to EN 1563-2004 for MufleDrain VIP drainage channels with bar fixing system, load class C250 according to EN 1433-2004, slot inclined 30° to the longitudinal axis, width 6 mm, length 498 mm, width 148 mm.

5. Supply and installation of ductile iron GJS 500/7 covering gratings according to EN 1563-2004 for MufleDrain VIP drainage channels with bar fixing system, load class C250 according to EN 1433-2004, slot inclined 30° to the longitudinal axis, width 7 mm, length 498 mm, width___mm.

6. Supply and installation of ductile iron GJS 500/7 covering gratings according to EN 1563-2004 with mesh for MufleDrain VIP drainage channels with bar fixing system, load class B125 (C250) according to EN 1433-2004, length 498 mm, width ___mm (148 mm).

7. Supply and installation of galvanised (stainless) steel square-mesh or anti-heel covering gratings for MufleDrain VIP drainage channels equipped with screw fixing slots and bar fixing plate, load class C250 according to EN 1433-2008, length 998 mm, width ___mm. A similar grating will be available upon request with length 498 mm. The dimensions will be 33 x 33 mm in the square mesh and 33 x 15 mm in the anti-heel mesh.

8. Supply and installation of ductile iron GJS 500/7 covering gratings according to EN 1563-2004 with mesh for MufleDrain VIP 300 drainage channels with nut fixing system, load class C250 according to EN 1433-2004, length 748 mm, width 376 mm.

9. Supply and installation of ductile iron GJS 500/7 covering gratings according to EN 1563-2004 for MufleDrain VIP 300 drainage channels with nut fixing system, load class C250) according to EN 1433-2008, length 498 mm, width 376 mm.

10. Supply and installation of galvanised (stainless) steel rung covering gratings for MufleDrain VIP drainage channels with bar fixing system, load class A15 according to EN 1433-2008, length 998 mm, width ___mm. A similar grating will be available upon request with length 498 mm.

11. Supply and installation of drive-over HD-PE covering gratings for MufleDrain VIP drainage channels with bar fixing system or elastic coupling system, length 498 mm, width ___mm.

12. Supply and installation of drive-over HD-PE covering gratings with longitudinal slot for MufleDrain VIP drainage channels with bar fixing system or elastic coupling system, length 498 mm, width 148 mm.

13. Supply and installation of drive-over HD-PE covers for MufleDrain VIP drainage channels with bar fixing system or elastic coupling system, length 498 mm, width ___mm.

14. Supply and installation of L-shaped longitudinal- slot gratings made form galvanized steel for MufleDrain VIP drainage channels with male- female coupling system between one grating and the next, load class C250 according to EN 1433-2004, length 998 mm, width _____ mm, height of “L” _____ mm.

15. Supply and installation of HD-PE end caps for MufleDrain drainage channel with coupling system into the special channel housing.

16. Supply and installation of HD-PE open cap with drainage hole diameter ___mm for MufleDrain drainage channel with coupling system into the special channel housing.

17. Supply and installation of (open) end cap made from galvanised steel (galvanised steel and PVC tube) for MufleDrain drainage channel with coupling system into the special channel housing.

18. Supply and installation of HD-PE boxes with siphon for MufleDrain VIP drainage channels with external stiffening ribs and coupling system. HD-PE upper profile with height not smaller than 20 mm. The upper section of the siphon built in the gully may be removed in order to allow inspection and cleaning work. The gully will have preformed drains on both sides with diameter up to 200 mm. The gully dimensions will be as follows: length 542 mm, net gap ___ mm, internal height 400 mm.

19. Supply and installation of inspection elements for MufleDrain VIP L-shaped gratings in galvanized (stainless) steel for MufleDrain VIP drain boxes with siphon. Every inspection element will be made of an external containment tank self- centered on bottom drain box with siphon and of an inspection element to be placed inside the containment tank that can be also pulled out after installation. Load classes until C250. The sizes of drain boxes shall be length 500 mm, width _____ mm, height _____ mm.