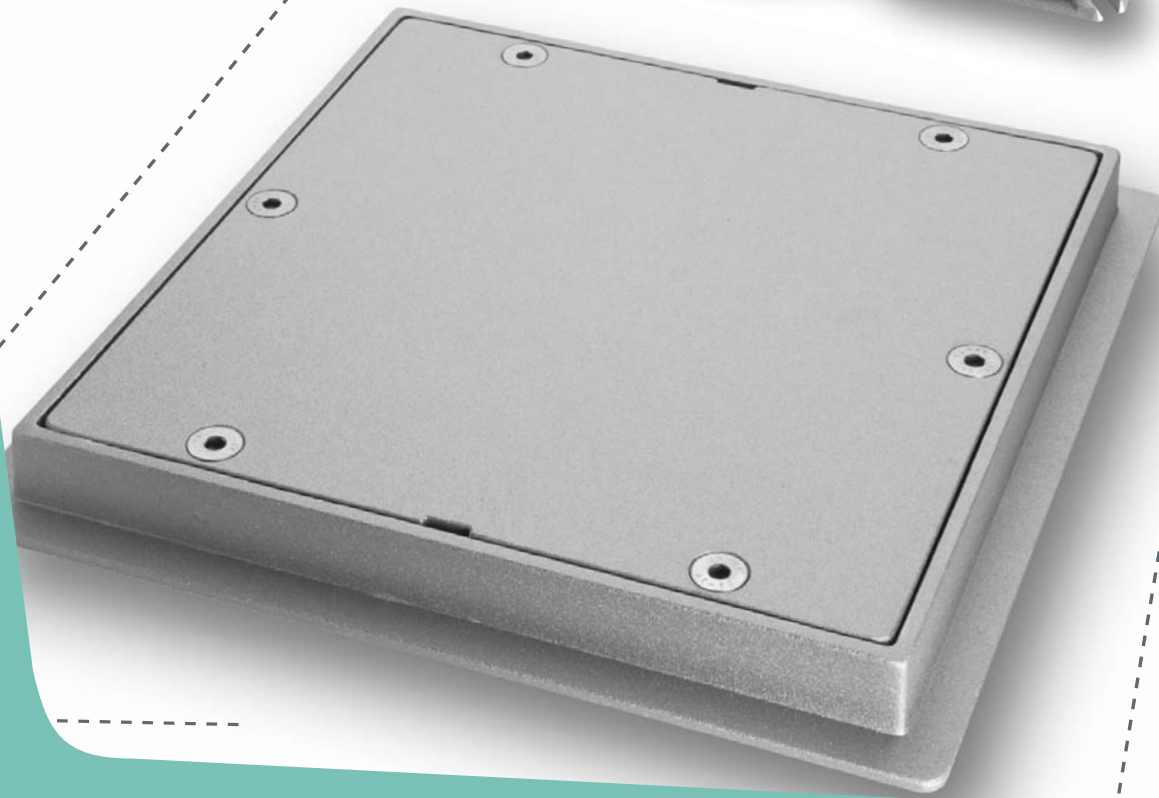


Technical data sheets

Cast Aluminium Hermetic Floor Access Covers

January 2010



Hermetic Floor Access Covers MACO

INSTALLATION RECOMMENDATIONS

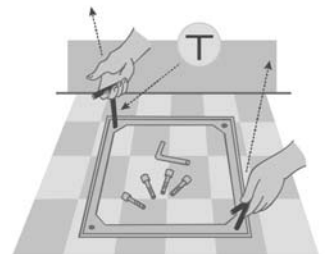
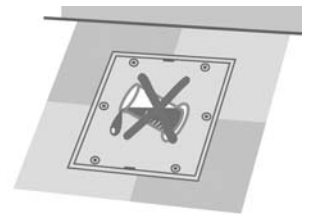
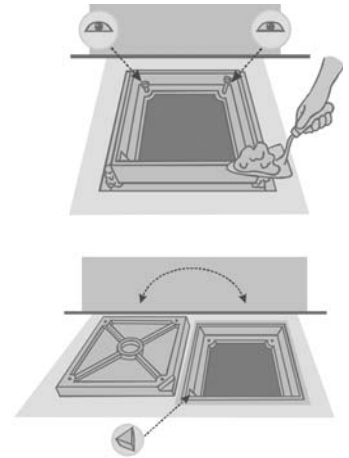
- When setting the frame do avoid the entry of dirt or cement into the threaded holes, so that the bolts may be inserted or extracted easily. You can avoid this by keeping the bolts in the holes of the frame before the cover is installed

- Most of our products have a guide in the frame to ensure the correct orientation of the cover within the frame to guarantee a perfect seal.

- When the manhole has to withstand high water pressure, we recommend the reinforced model is installed and waterproof cement is used. It is very important that care is taken when setting the frame to avoid leakage between the frame and the mounting surface.

- It is very important to pay special attention to compatibility of the aluminium and any chemical substances which may be used in conjunction with the covers. If the user is in any doubt about the compatibility of the covers and the chemical environment in which they are to be used please contact us.

- It is important that when removing and replacing the covers on the heavier models the lifting tools supplied are used.



MAINTENANCE RECOMMENDATIONS

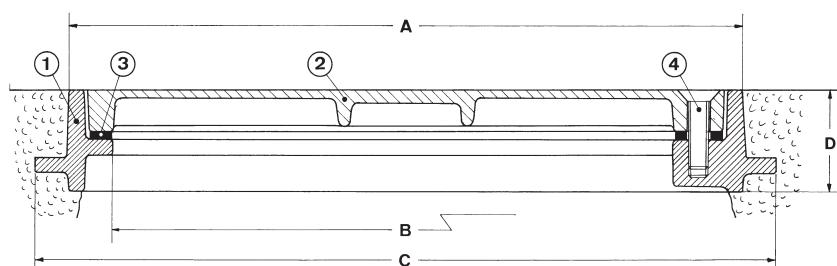
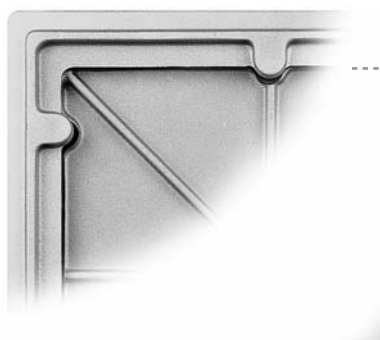
The routine maintenance of our products is simple, and is highly recommended in order to maintain long lasting integrity of the covers:

- Apply periodically a few drops of oil or grease to the bolts and threaded holes in the frames, so that they can be easily removed.
- Check the conditions of the joint, replacing it if necessary.
- Avoid the entrance of dirt in the threaded holes of the frames, this ensures an easy removal and replacement of the covers.

STANDARD Model ■■■



Model in cast aluminium for general purpose.
Supports light vehicles transit.



- 1 Frame.**
Made of cast aluminium with a flange on the outside of the frame for secure fixing.
- 2 Cover.**
Made of cast aluminium with radial reinforcements on the underside.
- 3 Joint.**
Made of moulded E.P.M. for a perfect tightness.
- 4 Bolts.**
In stainless steel for number 12 Allen key.

Accessories.

For 70x70, 80x80 and 100x100 models, two lifting keys are delivered with the cover to tighten or loosen the bolts and lift up the cover.

Dimensions	Réf.	A	B	C	D	Amount of bolts	Dimensions	Résist. in KN
20 x 20	10020	19,5 x 19,5	15 x 15	23 x 23	4,5	4	M12 x 35	25
30 x 30	10030	29,5 x 29,5	25 x 25	34 x 34	5,5	4	M12 x 45	25
40 x 40	10040	39,5 x 39,5	34 x 34	44 x 44	5,5	6	M12 x 45	25
50 x 50	10050	50 x 50	44 x 44	54 x 54	6	6	M12 x 45	20
60 x 60	10060	60 x 60	53 x 53	64 x 64	6	8	M12 x 50	20
70 x 70	10070	70 x 70	61 x 61	74 x 74	7	12	M12 x 50	20
80 x 80	10080	80 x 80	71 x 71	86 x 86	8	12	M12 x 50	25
100 x 100	10100	105 x 105	90 x 90	110 x 110	8,5	12	M12 x 60	50

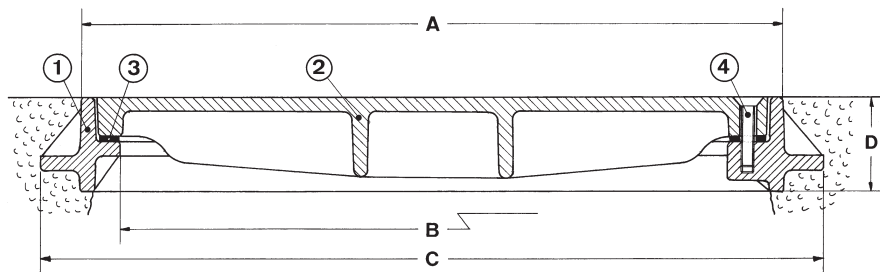
- 1 KN is approximately equivalent to 100 Kg.
- Units are tested through a 150 mm diameter test block.

Measures in centimetres

REINFORCED Model ■■■



Model in cast aluminium recommended to be installed in halls, warehouses or industrial buildings. Supports the transit of vehicles.



- 1 Frame.**
Made of cast aluminium with a flange on the outside of the frame for secure fixing. The flange is reinforced.
- 2 Cover.**
Made of cast aluminium with radial reinforcements on the underside.
- 3 Joint.**
Made of moulded E.P.M. for a perfect tightness.
- 4 Bolts.**
In stainless steel for number 12 Allen key.

Accessories.

For 60x60 models, two lifting keys are delivered with the cover to tighten or loosen the bolts and lift up the cover.

Dimensions	Réf.	A	B	C	D	Amount of bolts	Dimensions	Résist. in KN
40 x 40	10340	40 x 40	34 x 34	45 x 45	5,5	6	M12 x 45	50
50 x 50	10350	50 x 50	44 x 44	55 x 55	5,5	6	M12 x 45	70
60 x 60	10360	60 x 60	53 x 53	67 x 67	7,5	8	M12 x 60	100

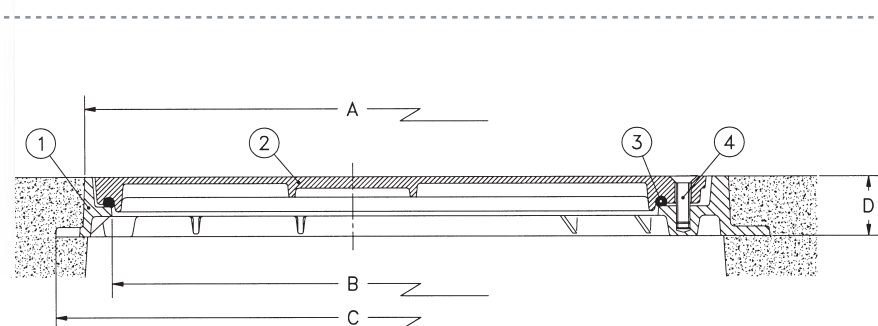
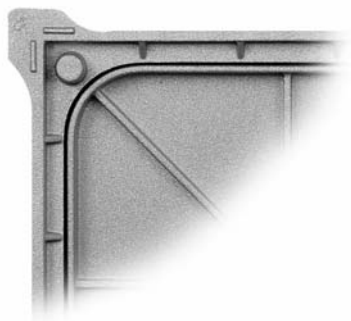
- 1 KN is approximately equivalent to 100 Kg.
- Units are tested through a 150 mm diameter test block.

Measures in centimetres

LIGHT Model



Model in cast aluminium, suitable for internal situations.
Supports pedestrian traffic only.



- 1 Frame.**
 Made of cast aluminium with a flange in the outside for secure fixing.
- 2 Cover.**
 Made of cast aluminium with radial reinforcements on the underside..
- Joint.**
3 8 mm diameter joint glued to a cover groove.
- Bolts.**
4 In stainless steel for number 10 Allen key.

Dimensions	Réf.	A	B	C	D	Amount of bolts	Dimensions	Résist. in KN
40 x 40	12040	39,5 x 39,5	35 x 35	43,5 x 43,5	4,5	4	M10 x 35	15
50 x 50	12050	49,5 x 49,5	45 x 45	53,5 x 53,5	4,5	4	M10 x 35	15

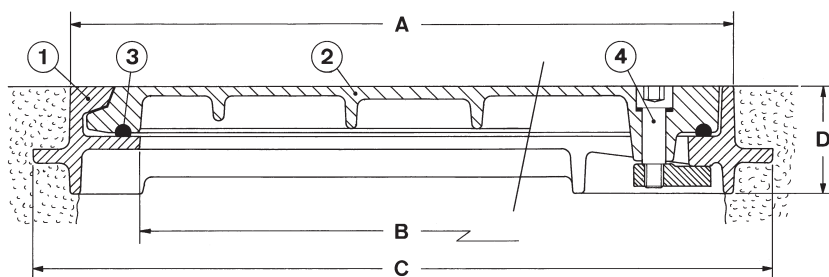
Measures in centimetres

- 1 KN is approximately equivalent to 100 Kg.
- Units are tested through a 150 mm diameter test block.

EXCEN Model ■■■



Model in cast aluminium with a simplified opening system for a quick or frequent opening.



1 Frame.

Made of cast aluminium with a flange on the outside of the frame for secure fixing. There is a keyway to hold one side of the cover in place instead of bolts.

2 Cover.

Made of cast aluminium, with improved reinforcements in the underside

3 Joint.

8 or 10 mm diameter joint glued to a cover groove.

4 Bolts.

In stainless steel for number 12 Allen key. Specially shaped cams made of bronze are attached to the bolts.

Accessories. Number 12 chamfered Allen key to facilitate the cover lifting.

Dimensions	Réf.	A	B	C	D	Amount of bolts	Résist. in KN
20 x 20	11020	20 x 20	15 x 14	24 x 24	6,5	1	40
30 x 30	11030	30 x 30	24 x 23	35 x 35	6,5	1	40
30 x 30 reinforced	11330	30 x 30	24 x 23	35 x 35	6,5	1	125
40 x 40	11040	40 x 40	34 x 33	45 x 45	6,5	2	40
50 x 50	11050	50 x 50	43 x 42	56 x 56	6,5	3	40
50 x 50 reinforced	11350	50 x 50	43 x 42	56 x 56	6,5	3	125
60 x 60	11060	60 x 60	53 x 52	66 x 66	6,5	4	40
80 x 80	11080	80 x 80	71 x 70	87 x 87	7	5	-
80 x 80 reinforced	11380	80 x 80	71 x 70	87 x 87	7	5	90

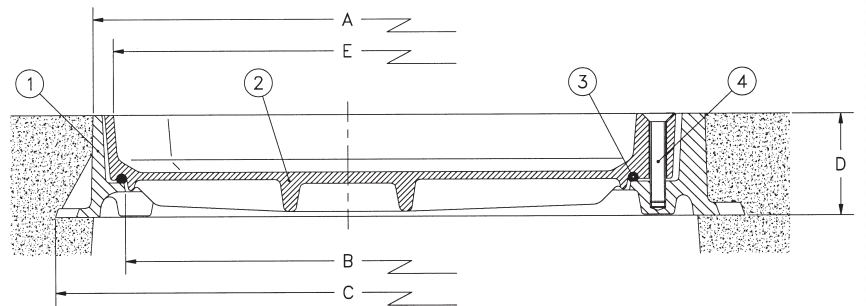
- 1 KN is approximately equivalent to 100 Kg.
- Units are tested through a 150 mm diameter test block.

Measures in centimetres
Check availability

RECESSED REINFORCED Model



Model in cast aluminium suitable for internal and external situations where an aesthetic floor finish is important. Supports cars and light delivery vehicles transit.



- 1 Frame.**
Made of cast aluminium, with a flange in the outside of the frame for secure fixing. Special machined holes are provided in the corners to facilitate fixing or levelling. Reinforcements between frame and flange are also provided.
- 2 Cover.**
Made of cast aluminium, with 4,5 cm recess to enable the infill. Radial reinforcements on the underside provide strength.
- 3 Joint.**
10 mm diameter joint glued to a cover groove.
- 4 Bolts.**
In stainless steel for number 12 Allen key.

Accessories.

Tools provided to lift up the cover.

Dimensions	Réf.	A	B	C	D	E	Amount of bolts	Dimensions	Résist. in KN
30 x 30	10630	30 x 30	25 x 25	36 x 36	8	27 x 27	4	M12 x 70	35
40 x 40	10640	40 x 40	35 x 35	46 x 46	8	36,5 x 36,5	4	M12 x 70	35
50 x 50	10650	50 x 50	45 x 45	56 x 56	8,5	46 x 46	4	M12 x 70	35
60 x 60	10660	60 x 60	55 x 55	67 x 64,5	8,5	56 x 56	4	M12 x 70	35

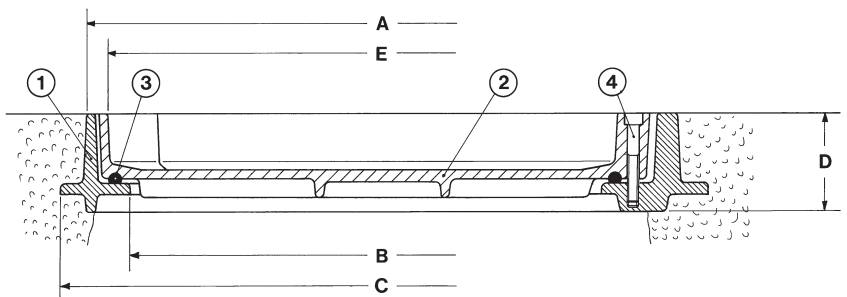
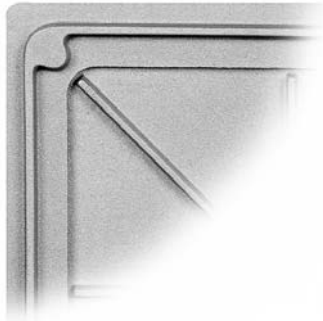
Measures in centimetres

- 1 KN is approximately equivalent to 100 Kg.
- Units are tested through a 150 mm diameter test block.
- Resistance test for recessed covers is made without infill.

RECESSED LIGHT Model



Model in cast aluminium suitable for internal situations such as commercial buildings where an aesthetic floor finish is important.
For pedestrian traffic only.



1 Frame.

Made of cast aluminium, with a flange in the outside on the frame for secure fixing.

2 Cover.

Made of cast aluminium, with 4 cm recess to contain the appropriate infill. Radial reinforcements on the underside.

3 Joint.

8 mm diameter joint glued to a cover groove.

4 Bolts.

In stainless steel for number 8 Allen key.

Accessories.

Tools provided to lift up the cover.

Dimensions	Réf.	A	B	C	D	E	Amount of bolts	Dimensions	Résist. in KN
30 x 30	10730	30 x 30	24 x 24	34 x 34	6,5	27 x 27	4	M8 x 50	15
40 x 40	10740	40 x 40	34 x 34	44 x 44	7	37 x 37	4	M8 x 50	15
50 x 50	10750	50 x 50	44 x 44	54 x 54	7	47 x 47	4	M8 x 50	15
60 x 60	10760	60 x 60	54 x 54	65 x 65	7	57 x 57	4	M8 x 50	15

Measures in centimetres

- 1 KN is approximately equivalent to 100 Kg.
- Units are tested through a 150 mm diameter test block.
- Resistance test for recessed covers is made without infill.

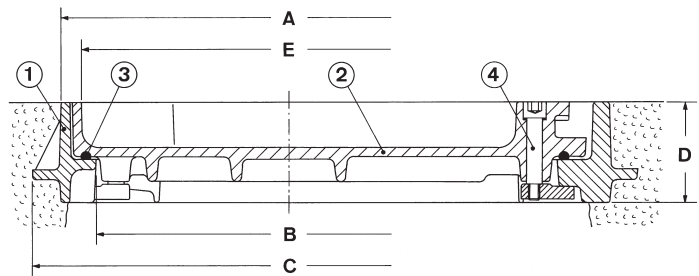
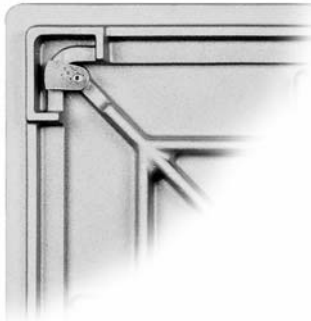
RECESSED EXCEN Model



Model in cast aluminium suitable for internal and external situations where an aesthetic floor finish is important.

This model has a simplified opening system for a quick or frequent opening.

Supports transit of light vehicles.



1 Frame.

Made of cast aluminium, with a flange in the outside of the frame for secure fixing. Reinforcements between frame and flange to improve strength.

2 Cover.

Made of cast aluminium, with 4 cm recess to contain appropriate infill. Four oval holes located in the corners are provided to accommodate the lifting tools. Improved reinforcements on the underside supply strength.

3 Joint.

8 or 10 mm diameter joint glued to a cover groove.

4 Bolts.

In stainless steel for number 12 Allen key. Specially shaped cams made of bronze are attached to the bolts.

Accessories.

Number 12 chamfered Allen key and additional tooling to lift up the cover.

Dimensions	Réf.	A	B	C	D	E	Amount of bolts	Résist. in KN
30 x 30	11230	30 x 30	25 x 25	34 x 34	9	27 x 27	4	35
40 x 40	11240	40 x 40	35 x 35	45 x 45	9	36 x 36	4	35
50 x 50	11250	50 x 50	44 x 44	55 x 55	9	46 x 46	4	35
60 x 60	11260	60 x 60	53 x 53	66 x 66	9,5	56 x 56	4	35

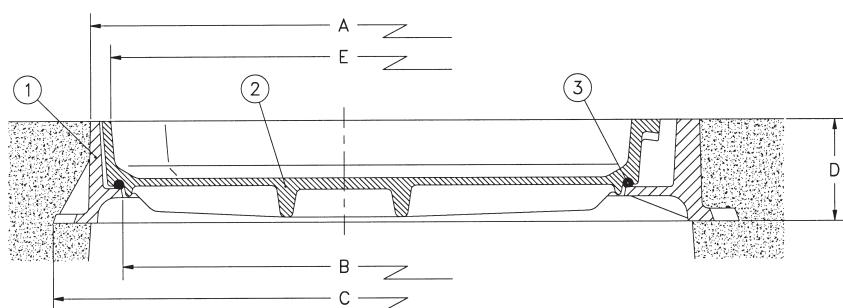
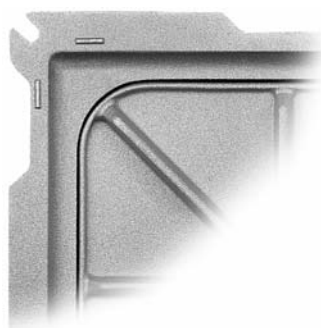
- 1 KN is approximately equivalent to 100 Kg
- Units are tested through a 150 mm diameter test block.
- Resistance test for recessed covers is made without infill.

Measures in centimetres
Check availability

BOLTLESS RECESSED Model



Model in cast aluminium, suitable for external situations such as pavements and pedestrian areas where an aesthetic floor finish is important. Supports transit of light vehicles.



1 Frame.

Made of cast aluminium, with a flange in the outside of the frame for secure fixing. Special torn holes are provided in the corners to facilitate this fixing or levelling.

2 Cover.

Made of cast aluminium, with 4,5 cm recess for the appropriate infill. Radial reinforcements on the underside provide strength.

3 Joint.

8 mm diameter joint glued to a cover groove.

Accessories.

Tools provided to lift up the cover.

Dimensions	Réf.	A	B	C	D	E	Résist. in KN
30 x 30	10530	30 x 30	25 x 25	36 x 36	8	27 x 27	35
40 x 40	10540	40 x 40	35 x 35	46 x 46	8	36,5 x 36,5	35
50 x 50	10550	50 x 50	45 x 45	56 x 56	8,5	46 x 46	35
60 x 60	10560	60 x 60	55 x 55	67 x 64,5	8,5	56 x 56	35

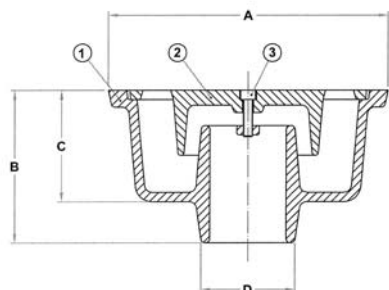
- 1 KN is approximately equivalent to 100 Kg.
- Units are tested through a 150 mm diameter test block.
- Resistance test for recessed covers is made without infill.

Measures in centimetres

DRAINS



Produced in cast aluminium. Usually set up in terraces, courtyards, playgrounds,...
For pedestrian traffic only.



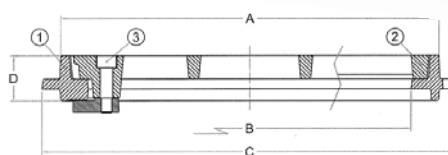
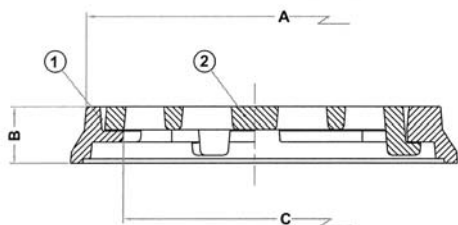
- ❶ **Body.**
In cast aluminium.
- ❷ **Cover.**
In cast aluminium.
- ❸ **Bolts.**
In stainless steel for Allen key.

Dimensions	Réf.	A	B	C	D
10 x 10	20010	10 x 10	5,5	4	3,2
12 x 12	20012	12 x 12	6,5	4,5	4
15 x 15	20015	15 x 15	8	5,5	5
20 x 20	20020	20 x 20	13	9	6,5

Measures in centimetres

GRATINGS WITH FRAME

Produced in cast aluminium.
For pedestrian traffic only.



- ❶ **Frame.** In cast aluminium.
- ❷ **Cover.** In cast aluminium.

- ❶ **Frame.** In cast aluminium.
- ❷ **Cover.** In cast aluminium.
- ❸ **Bolt.** In stainless steel for Allen key dia. 12, with specially shaped cams made of bronze and attached to the bolt.

Dimensions	Réf.	A	B	C
15 x 15	40415	15 X 15	25	11,5
20 x 20	40420	20 X 20	33	15,5

Measures in centimetres

Dimensions	Réf.	A	B	C	D
40 x 25	40240	40,5 X 25,5	34,5 X 20	44,5 X 30	4,8
56 x 27	40256	56,5 X 27,5	50,5 X 21,5	61 X 32	4,8

Measures in centimetres



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