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SEWAGE DRAINAGE



**MANHOLE
COVER
& FRAME**



**PLASTIC
FOOTREST**



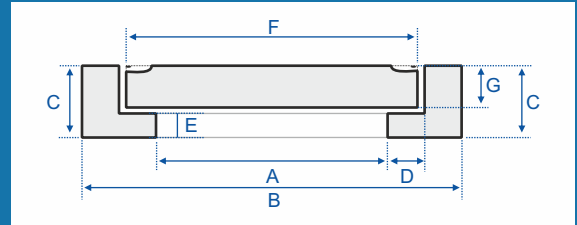


SEWAGE DRAINAGE

MANHOLE COVERS AND FRAMES



All of our manhole covers and frames are manufactured using steel fabric reinforced concrete (SFRC) and are designed to meet load test requirement of IS-12592.



Product Code	Product Description	Shape	Frame Details					Cover Details	
			A	B	C	D	E	F	G
MHCF - 01	Extra Heavy Duty - 35	Circular	560	875	175	75	75	720	100
MHCF - 02	Extra Heavy Duty - 35	Circular	600	910	175	75	75	760	100
MHCF - 03	Heavy Duty - 20	Circular	690	950	140	50	50	800	90
MHCF - 04	Heavy Duty - 20	Circular	600	870	155	50	65	710	90
MHCF - 05	Heavy Duty - 20	Circular	600	910	155	75	75	760	80
MHCF - 06	Heavy Duty - 20	Circular	560	875	155	75	75	720	80
MHCF - 07	Heavy Duty - 20	Circular	450	720	155	50	65	560	90
MHCF - 08	Heavy Duty - 20	Square	600x600	840x840	130	50	50	710x710	80
MHCF - 10	Heavy Duty - 20	Square	450x450	760x760	155	75	75	610x610	80
MHCF - 11	Heavy Duty - 20	Rectangular	600x450	910x760	155	75	75	760x610	80
MHCF - 12	Medium Duty - 10	Circular	500	710	110	50	50	610	60
MHCF - 13	Medium Duty - 10	Circular	560	770	110	50	50	670	60
MHCF - 14	Medium Duty - 10	Square	600x600	810x810	100	50	50	710x710	50
MHCF - 15	Medium Duty - 10	Square	450x450	660x660	100	50	50	560x560	50
MHCF - 16	Medium Duty - 10	Rectangular	600x450	810x660	100	50	50	710x560	50
MHCF - 17	Medium Duty - 10	Rectangular	900x550	1200x855	130	50	50	1000x650	70
MHCF - 18	Medium Duty - 10	Rectangular	900x800	1350x1250	150	50	50	1025x925	70
MHCF - 19	Light Duty - 2.5	Square	450x450	610x610	80	30	40	500x500	40
MHCF - 20	Light Duty - 2.5	Rectangular	600x450	780x630	80	30	40	670x520	40
MHCF - 21	Gully Trap	Square	260x260	390x390	75	20	30	300x300	40
GGCF - 01	Gully Grating	Rectangular	500x450	680x630	120	30	50	570x520	70
GGCF - 02	Heavy Duty Gully Grating	Rectangular	500x450	680x630	150	30	50	570x520	100
GGCF - 03	Gully Grating	Rectangular	600x300	770x470	120	30	50	670x370	70

TANK LIDS



PRODUCT CODE	WT 01	WT 02	WT 03
DIMENSIONS			

4 GOOD REASONS WHY YOU SHOULD USE KK MANHOLE COVERS AND FRAMES (BESIDES THE FACT THAT THEY ARE STRONG)

1. Our Covers will always be removable from the frame

In typical IS-standard cover a mild-steel strip is provided around the cover as edge protection. This strip tends to get corroded over a period of time which eventually results in cover getting permanently stuck in the frame. Our covers do not suffer the same fate as we don't provide ms strip.



2. Our covers are easy to lift

We provide hooks on the periphery of the cover. This allows a workman to easily lift the cover using a pick axe while getting leverage from the frame.



3. Our hooks will last a lifetime

We hot dip galvanize our hooks which inhibits corrosion and ensures that our hooks will last a long time without failure.



4. Our holes will never get choked.

Diverging configuration of the holes ensures that any debris either stays on top or passes through.

INSTALLATION GUIDELINES

1. Do not cantilever the frame

RCC Frame is not built to take on tensile loads. However, it is able to take sufficient compressive loads. Therefore the frame should be fully supported on the support structure, i.e., Chamber walls or Slab. The frame may fail if it is not fully supported

2. Please ensure that the structure on which the Frame is placed is able to take the load which is expected from the RCC manhole cover

Please note that loads acting on the RCC Manhole Cover and Frame are transferred to the chamber walls or slab on which the frame is placed. Therefore, the support structure (Chamber wall or Slab) should be designed and built to carry the loads. Not doing so may result in failure of the support structure. In some cases this gives an impression that the cover has failed while in reality the support structure buckles or collapses under the load.

3. Never make the Frame a part of the Slab

In some cases the workmen while making arrangements for the Frame, casts the frame along with the slab (refer to Figure 1). In doing so the thickness of the slab on which the frame is resting is very thin. This will result in failure of the structure as the slab on which the frames rests is not able to bear the load expected of the RCC Cover.

4. Prepare the top of the brick manhole by concrete so as to make it leveled

Often when workmen are constructing a conical manhole from brick, they have a tendency to keep the RCC frame on top of the brick manhole while leaving a big gap between the top surface of the brick manhole and the bottom surface of the RCC frame (refer to Figure 2). They are working with the assumption that eventually the gap will be filled by mortar. In reality, this gap is never filled properly because of the inward slope of the inside surface of the brick manhole. As a result, the concrete filled in the gap will never have perfect contact with the bottom of the RCC Frame. This may result in shear failure of the frame seating because the frame is not designed to carry tensile loads.

Figure 1: Right and Wrong Way of Casting Slab

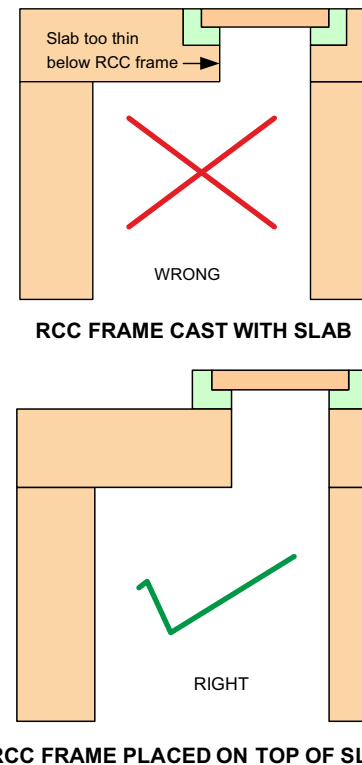
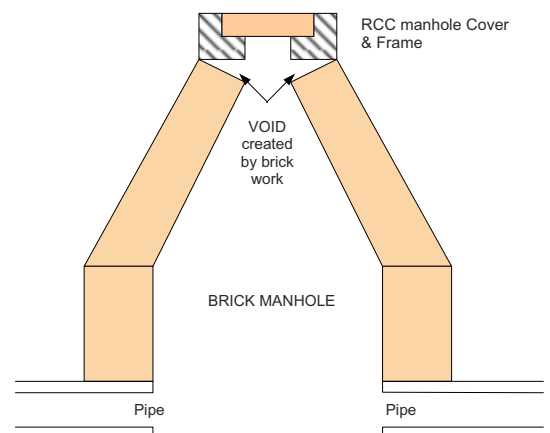


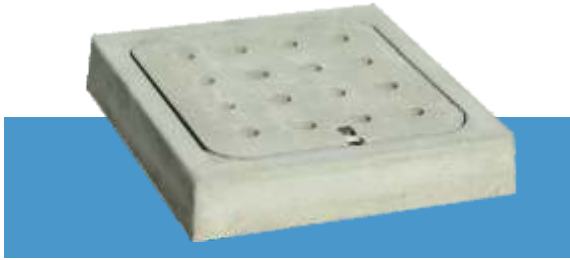
Figure 2: Problem with Construction of Brick Manhole





SEWAGE DRAINAGE

GGCF - 01



MHCF - 06 Plain



MHCF - 06 With Hole



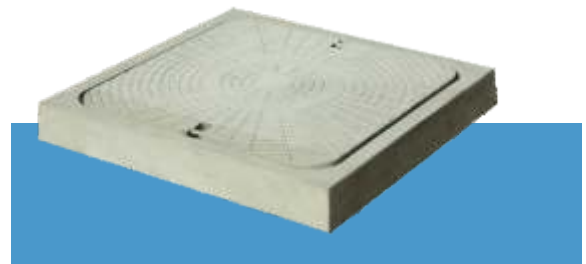
MHCF - 08



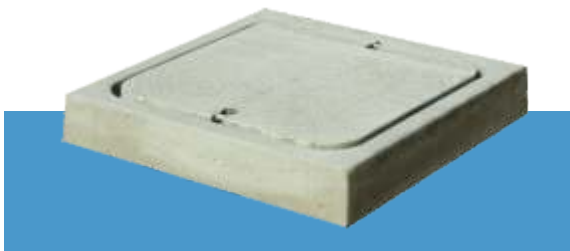
MHCF - 10



MHCF - 14



MHCF - 15



MHCF - 16



MHCF - 19



MHCF - 20





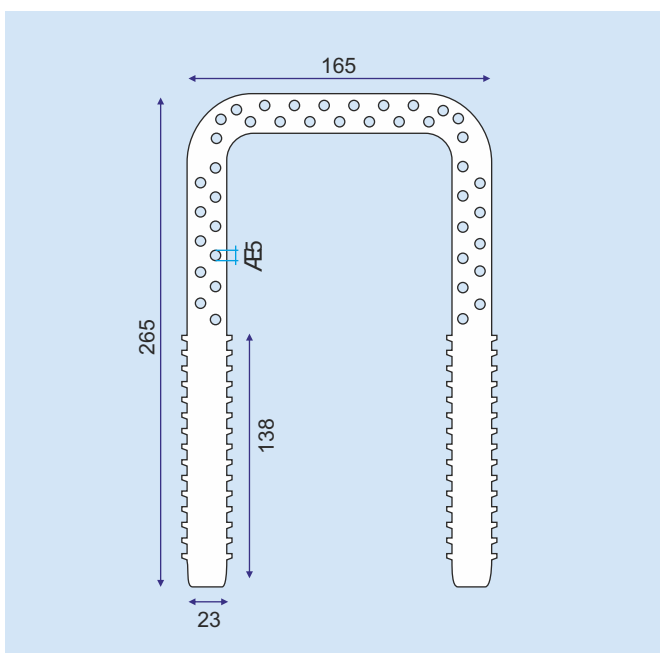
SEWAGE DRAINAGE

PLASTIC FOOTREST



KK plastic footrest is a uniquely designed polypropylene plastic encapsulated steel reinforced manhole safety step. It is a superior alternative to conventional mild steel / cart iron step. It offers unmatched resistance to all types of corrosive environments often characteristic of sanitary sewers. It is resistant to most acids, bases, vapors and microbiological attacks. Its unique design and colour provides added safety to the personnel.

PRODUCT DIMENSIONS



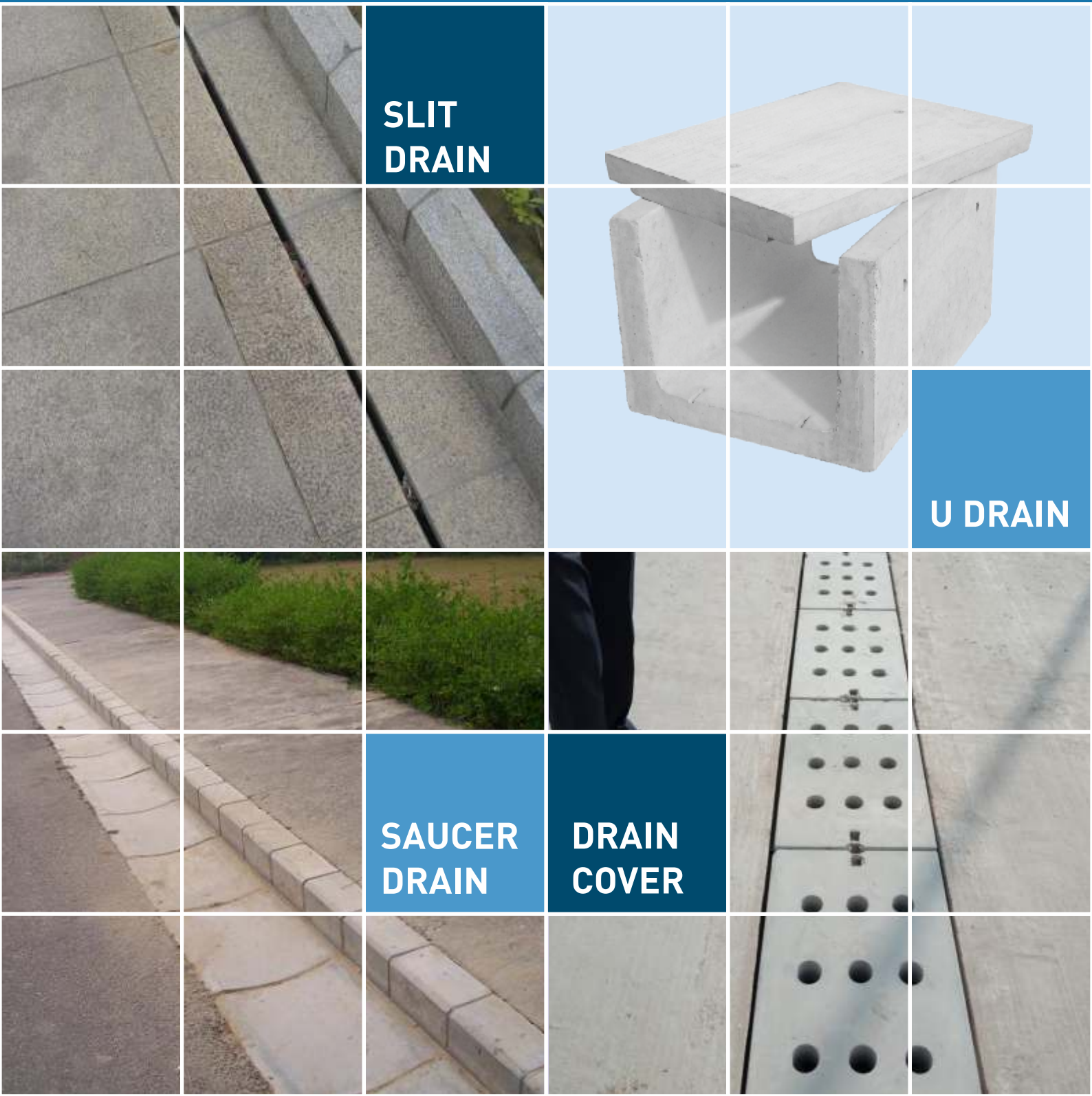
Technical information

- Min 3 mm thick polypropylene copolymer is injection moulded around a 12 mm dia tor-steel bar.
- Orange color
- Min overall length 260mm & width of 165mm.
- Protruding legs have a 2mm tread on top surface for making the surface anti-skid.
- Designed to withstand the bend test and chemical resistance test as per specification.
- Polypropylene copolymer conforming to ASTM D-4101/IS-10910
- 12mm dia Fe-415 Steel reinforcement conforming to IS - 1786.



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STORM WATER DRAINAGE



**SLIT
DRAIN**

U DRAIN

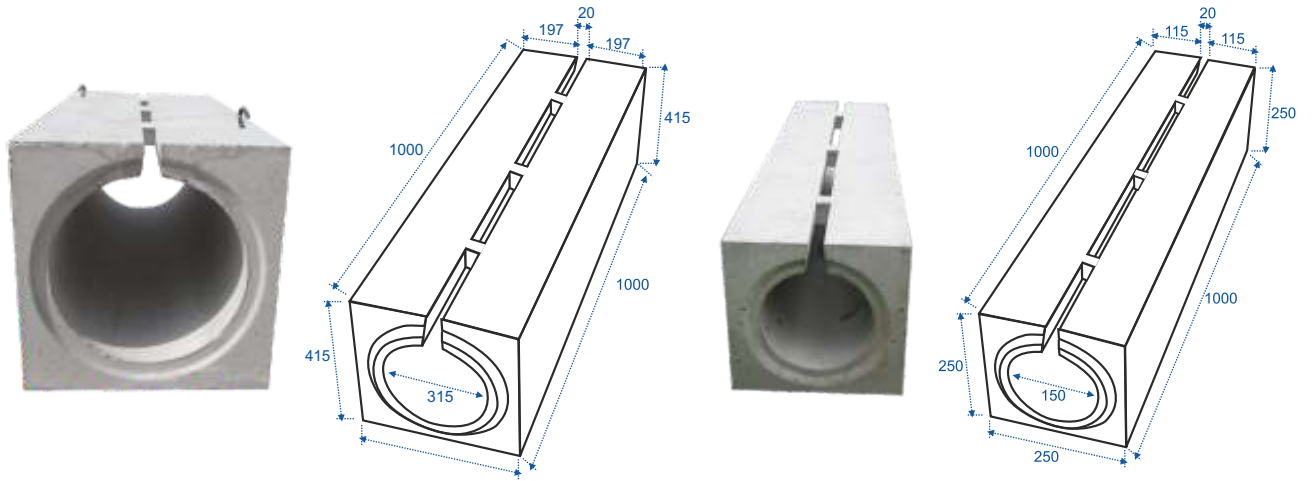
**SAUCER
DRAIN**

**DRAIN
COVER**



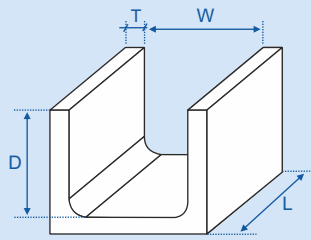
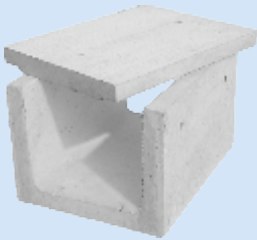
STORM WATER DRAINAGE

SLIT DRAIN SYSTEM



Product Code	Width	Length	Pipe Dia
SLIT-01	250	1000	150
SLIT-02	415	1000	315

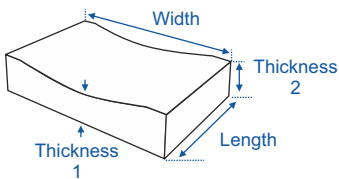
U-Drain



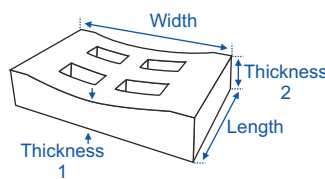
Product Code	W	D	T	L
DR-01	300	300	50	500
DR-02	300	375	50	500
DR-03	300	450	50	500
DR-04	355/340	315	60/65	610
DR-05	585/610	310	50/70	610
DR-06	705/675	355	57/80	475
DR-07	855/890	300	110/80	500

Saucer Drain

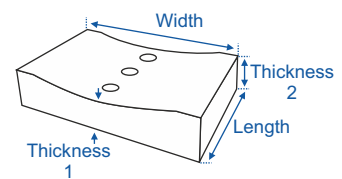
Saucer Drain (Plain)



Saucer Drain (Perforated) Type A



Saucer Drain (Perforated) Type B

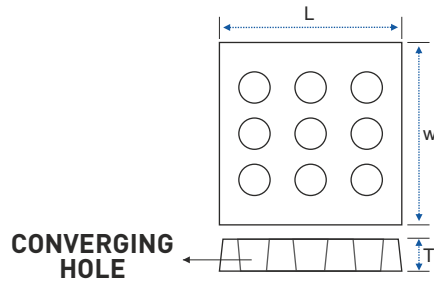


Product Code	Width	Length	Thickness ₁	Thickness ₂	Description
SD-01	450	300	75	100	Plain
SD-01H	450	300	75	100	Perforated Type A
SD-02	450	600	75	100	Plain
SD-02H	450	600	75	100	Perforated Type B
SD-03	600	450	75	100	Plain
SD-03H	600	450	75	100	Perforated Type B
SD-04	300	300	75	100	Plain
SD-05	300	600	75	100	Plain
SD-05H	300	600	75	100	Perforated Type B
SD-06	300	900	75	100	Plain
SD-06H	300	900	75	100	Perforated Type B
SD-07	300	900	50	75	Plain
Saucer Drain with Frame	Clear Opening : 500x350 Frame Thickness: 150			Cover + Frame	



STORM WATER DRAINAGE

DRAIN/TRENCH COVER



SPECIFICATION

- M - 30 grade of concrete.
- Suitable draft angles provided for ease of demoulding.
- Holes if provided can be converging or diverging based on requirement.
- Lifting hooks can be provided.
- Tolerance
Thickness : $\pm 2\text{mm}$
Length & width : $\pm 10\text{mm}$
- Suitably reinforced based on load requirement.



L (LENGTH)	W (WIDTH)	T (THICKNESS)
500	400	50
500	400	60
500	400	70
500	430	70
550	300	60
600	300	50
600	300	60
600	300	70
600	300	100
600	400	60
600	400	65
600	400	70
600	450	60
600	450	70
600	450	80
600	450	88
600	450	100
600	550	60
600	550	70
600	550	90
600	550	60
600	600	100

L (LENGTH)	W (WIDTH)	T (THICKNESS)
650	600	60
660	380	75
710	610	75
710	610	200
750	600	70
750	600	90
800	400	70
800	500	100
900	400	70
900	450	50
900	450	70
900	450	90
900	600	100
977	475	270
1100	550	75
1150	400	100
1200	450	60
1200	600	100
1500	300	70
1500	760	100

All Dimensions are in "mm"

* THICKNESS CAN BE INCREASED FURTHER TO ACCOMMODATE GREATER LOADS.



STORM WATER DRAINAGE





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COVER BLOCKS





THE FEATURES OF KK SPACERS / COVER BLOCKS

We provide world class quality spacers and cover blocks to exceed demanding, construction standards.

The cover blocks are designed to withstand the harsh conditions of a construction site while ensuring proper cover to the reinforcement.

FIBER CONCRETE, & PLASTIC COVER BLOCKS.

	Code : KF-20/25 Concrete cover : 20 or 25mm Max Rebar : 16 mm
	Code : KF-25 Concrete cover : 25 mm Max Rebar : 16 mm
	Code : KF-30/40 New Concrete cover : 30 or 40 mm Max Rebar : 18 mm
	Code : KF-50/60 Concrete cover : 50 or 60 mm Max Rebar : 40 mm
	Code : KF-65/75 Concrete cover : 65 or 75 mm Max Rebar : 40 mm
	Code : KF-35/40/45/50 Concrete cover : 35 or 40 or 45 or 50mm Max Rebar : 16 mm
	Code : KF-75 Concrete cover : 75 mm Max Rebar : 40 mm



COVER BLOCKS

	Code : KRSWF-25 Concrete cover : 25 mm Max Rebar : 40 mm
	Code : KSWF-40 Concrete cover : 40 mm Max Rebar : 40 mm
	Code : KSWF-50 Concrete cover : 50 mm Max Rebar : 40 mm
	Code : KSWF-75 Concrete cover : 75mm Max Rebar : 40mm
	Code : KPSCL-40 Concrete cover : 40mm Max Rebar : 12 mm
	Code : KPSCL-50 Concrete cover : 50 mm Max Rebar : 12 mm
	Code : KPCCL-30 Concrete cover : 30 mm Max Rebar : 12 mm
	Code : KPCCL-40 Concrete cover : 40 mm Max Rebar : 12 mm
	Code : KPCCL-50 Concrete cover : 50 mm Max Rebar : 12 mm
	Code : KPCCL-40 New Concrete cover : 50 mm Max Rebar : 12 mm










COVER BLOCKS

	Code : KPCCL-50 New Concrete cover : 50 mm Max Rebar : 12 mm
	Code : KCWF-30 Concrete cover : 30 mm Max Rebar : 40 mm
	Code : KCWF-40 Concrete cover : 40 mm Max Rebar : 40 mm
	Code : KCWF-50 Concrete cover : 50 mm Max Rebar : 40 mm
	Code : KCWF-40 New Concrete cover : 40 mm Max Rebar : 40 mm
	Code : KCWF-50 New Concrete cover : 50 mm Max Rebar : 40 mm
	Code : KC25 Concrete cover : 25 mm Max Rebar : 16 mm
	Code : KC40 Concrete cover : 40 mm Max Rebar : 16 mm
	Code : KC-50 Concrete cover : 50 mm Max Rebar : 32 mm
	Code : KC-65 Concrete cover : 65 mm Max Rebar : 16 mm



COVER BLOCKS

	Code : KC-75 Concrete cover : 75 mm Max Rebar : 16 mm
	Code : PC-20 Concrete cover : 20 mm Max Rebar : 8 mm
	Code : PC-40 Concrete cover : 40 mm Max Rebar : 12 mm
	Code : PC-65A Concrete cover : 65 mm Max Rebar : 16 mm
	Code : PC-65B Concrete cover : 65 mm Max Rebar : 16 mm
	Code : PS-30 Concrete cover : 15/20/25/30 mm Max Rebar : 16 mm
	Code : PS-50 Concrete cover : 35/40/45/50 mm Max Rebar : 25 mm

**MADE FROM
M-50
GRADE
CONCRETE**

Terminology: K- Koncrete, P- Plastic, S- Square, C- Circular, R- Rectangular, CL-Clip, W- Wire, F- Fiber



COVER BLOCKS

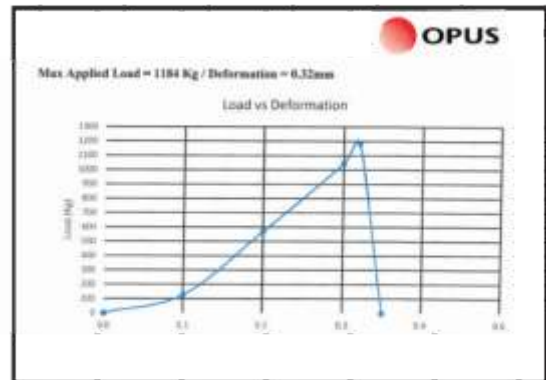
TECHNICAL INFORMATION

- Concrete cover ranging from 20-75mm
- Material : M-50 grade concrete or polypropylene copolymer or polyethylene

APPLICATIONS

- Column cage spacing.
- Slab bar support
- Per stressed construction
- Bridge beams
- Civil precast construction
- Piles.

LOAD TEST DATA



Date tested : 14/05/16
Data reported : 17/05/16
Approved : A.Ching
Designation : Laboratory Manager
Date : 20/10/16

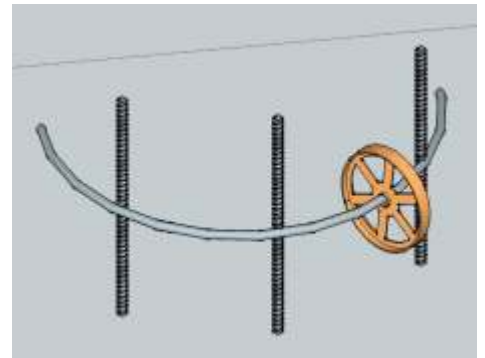
SLAB



BEAM/COLUMN



PILES



Watch a video of how circular cover block is installed in pile

QR Code





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COPING STONE



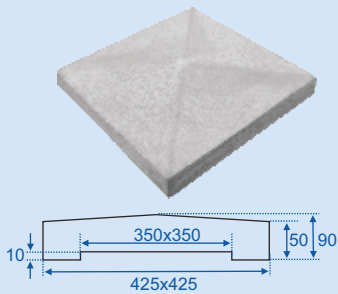


OVERVIEW

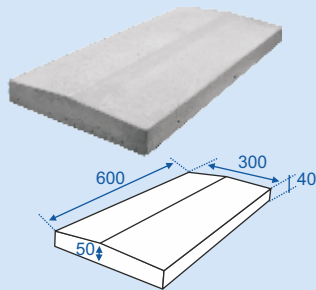
Precast concrete wall caps or coping can be placed on any wall to add protection and beauty. We offer coping in several standard sizes in varying colors and finishes.

Coping can also be provided with drip grooves on the underside so that the rain water flows from the edge to the drip groove and drops to the ground instead of reaching the wall and leaving unsightly water marks.

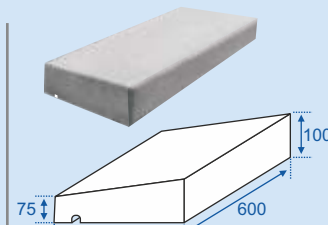
PRODUCT RANGE



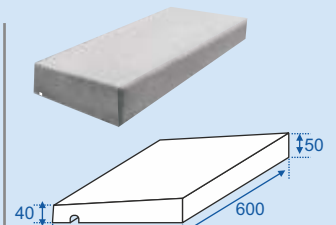
Type - A



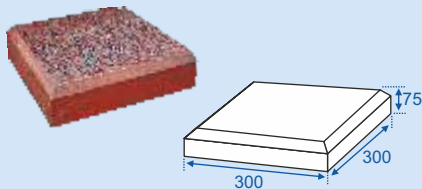
Type - B



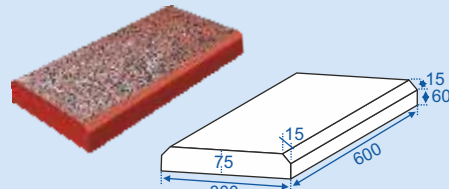
Type - C



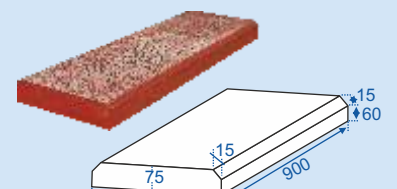
Type - C1



Type - D



Type - E-1



Type - E-2

How to specify?

When deciding what size of wall cap to use, calculate the width of the wall and add least 3/4" on each side for overhang. An overhang will allow the water to drip off of the edge and protect the wall beneath.



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TOILET





OVERVIEW

The KK toilet is ideal for Indian villages and construction sites. The toilet has an Indian style or western style WC which can be connected to a septic tank or sanitary sewer.

It is an all RCC construction which is manufactured in multiple components. These components are transported to the site and assembled using nuts & bolts. The toilet is durable, maintenance free, cost effective and vandalism and theft resistant.



TECHNICAL INFORMATION

- Size:- 1010 mm Width x 1220 mm Depth x 2310 mm Height.
- Weight once assembled is 900 kgs.
- Frames & panels are manufactured from SFRC using M-30 grade concrete
- Door is manufactured from 12mm thick laminated cement particle board.
- Side panels are 25mm thick while the bottom panel is 40mm thick.
- Suitable hinges are provided for the door to swivel.
- A Unique lock is provided which is lock able from either inside or outside but never both.