

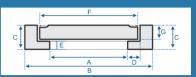




### MANHOLE COVERS AND FRAMES AVAILABLE IN DELHI ONLY



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	Product	Shape		Frame D	<b>Details</b>			Cover De	tails
	Code	Description	Onape	Α	В	С	D	Е	F	G
	MHCF - 01(*)	Extra Heavy Duty - 35	Circular	560	895	175	75	75	715	100
	MHCF - 03	Heavy Duty - 20	Circular	685	965	150	60	50	785	90
	MHCF - 06 <sup>(*)</sup>	Heavy Duty - 20	Circular	560	895	155	75	75	715	80
	MHCF - 08(*)	Heavy Duty - 20	Square	600x600	855x855	130	50	50	710x710	80
	MHCF - 10	Heavy Duty - 20	Square	450x450	700x700	135	50	60	550x550	75
7	MHCF - 11 <sup>(*)</sup>	Heavy Duty - 20	Rectangular	600x450	925x780	165	85	70	755x605	75
5 TON	MHCF - 13 <sup>(*)</sup>	Medium Duty - 10	Circular	560	805	110	50	50	670	60
- 2.	MHCF - 14 <sup>(*)</sup>	Medium Duty - 10	Square	600x600	810x810	100	50	50	710x710	50
	MHCF - 15	Medium Duty - 10	Square	445x445	670x670	100	50	50	550x550	50
TON	MHCF - 16 <sup>(*)</sup>	Medium Duty - 10	Rectangular	600x450	820x670	105	50	50	705x655	50
- 10	MHCF - 17 <sup>(*)</sup>	Medium Duty - 10	Rectangular	900x550	1200x870	135	50	65	1000x650	65
MD	MHCF - 18 <sup>(*)</sup>	Medium Duty - 10	Rectangular	885x790	1365x1260	160	55	85	1005x910	75
TON	MHCF - 19	Light Duty - 2.5	Square	455x445	615x615	80	30	40	500x500	35
- 20 T	MHCF - 20	Light Duty - 2.5	Rectangular	600x450	800x650	80	30	40	665x515	40
모	MHCF - 21 <sup>(*)</sup>	Gully Trap	Square	255x255	395x395	75	20	35	310x310	35
 	GGCF - 01 <sup>(*)</sup>	Gully Grating	Rectangular	500x450	700x655	125	30	55	570x520	70
CAPACITY :-	GGCF - 02 <sup>(*)</sup>	Heavy Duty Gully Grating	Rectangular	500x450	795x745	150	55	50	620x570	100
S	GGCF - 03 <sup>(*)</sup>	Gully Grating	Rectangular	600x300	795x495	120	30	50	670x375	65

<sup>(\*)</sup> above covers can be provided with holes



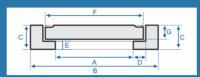
PRODUCT CODE	WT 01	WT 02	WT 03
DIMENSION	30 470 20 360 10	450 125 335	370 270 125



### MANHOLE COVERS AND FRAMES AVAILABLE IN CHENNAI ONLY



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	Product		Shape			Fram	ne D	etails				Cover De	tails
	Code	Description	1	Snape	Α		В		С	D	E	E	F	G
	MHCF-1	600 HD		Cirular	600		920		165	75	7	5	760	90
	MHCF-2	560 HD		Cirular	560		880		165	75	7	5	720	90
	MHCF-3	450 HD		Cirular	450		775		165	75	7	5	595	90
	MHCF-4	900x900 HD		Square	900x900	12	50x12	50	200	100	10	00	1098x1098	100
	MHCF-5	900x450 HD		Rectangular	900 x 450	123	30 x 78	80	160	50	7	0	1025 x 565	90
	MHCF-6	700 x 700 HD		Square	700 x 700	100	0 x 10	000	135	75	5	5	850 x 850	80
	MHCF-7	600 x 600 HD		Square	600 x 600	85	0 x 85	50	135	60	5	0	710	80
	MHCF-8	450 x 450 HD		Square	450 x 450	71	0 x 71	0	135	50	5	0	550	80
	MHCF-9	600 x 450 HD		Rectangular	600 x 450	85	0 x 70	00	140	60	6	0	720 x 570	80
	MHCF-10	600 MD		Cirular	600		820		125	50	5	5	700	70
	MHCF-11	560 MD		Cirular	560		810		105	50	5	0	665	60
	MHCF-12	900 x 900 MD		Square	900 x 900	110	0 x 11	00	120	50	5	0	998 x 998	70
	MHCF-13	900 x 450 MD		Rectangular	900 x 450	123	30 x 78	80	140	50	7	0	1025x565	70
	MHCF-14	600 x 600 MD	:	Square	600 x 600	82	0 x 82	20	80	60	3	0	705	50
	MHCF-15	450 x 450 MD		Square	450 x 450	66	0 x 66	60	80	50	3	0	550	50
	MHCF-16	600 x 450 MD		Rectangular	600 x 450	84	0 x 69	00	100	55	5	0	710 x 560	50
-	MHCF-17	300 x 300 MD		Square	300 x 300	50	0 x 50	00	80	50	3	0	400	50
	MHCF-18	600 x 600 LD	:	Square	600 x 600	80	0 x 80	00	85	35	4	5	670 x 670	40
	MHCF-19	450 x 450 LD		Square	450 x 450	61	0 x 61	0	80	30	4	0	510	40
	MHCF-20	600 x 450 LD		Rectangular	600 x 450	80	0 x 65	50	80	40	4	0	680 x 530	40
	MHCF-21	300 x 300 LD		Square	305 x 305	45	0 x 45	50	70	30	3	0	360	40
	MHCF-22	260 x 260 GT		Square	260 x 260	40	0 x 40	00	70	20	3	0	310	40
2	Product	Product	Shape		Frame				_	er De			ımp Cover	
	Code	Description		Α	В	С	D	Е	F		G	<del>                                     </del>	Н	
	MHCF-6S	700 x 700 HD Sump	Square		1000 x 1000	135	75	55	850 x	850	80	15	50	
5	MHCF-7S	600 x 600 HD Sump	Square	600 x 600	850 x 850	135	60	50	710	)	80	15	50	
	MHCF-14S	600 x 600 MD Sump	Square	600 x 600	820 x 820	100	60	50	70	5	50	15	50	
	MHCF-15S	450 x 450 MD Sump	Square	450 x 450	660 x 660	80	50	30	550	)	50	11	0	

# 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.

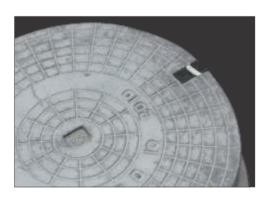


#### 3. Our hooks will last a lifetime

We hot dip galvanize our hooks which inhibits corrosion and ensures that our hooks will last a longtime 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

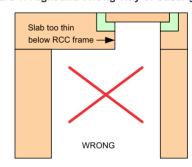
Please note that loads acting on the RCC Manhole Cover and Frame are transferred to the chamber walls or slab on which the frame is placed. Therefore, the support structure (Chamber wall or Slab) should be designed and built to carry the loads. Not doing so may result in failure of the support structure. 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 Figure 2: Problem with Construction of Brick Manhole 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

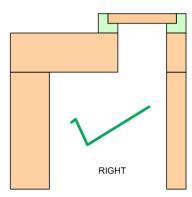
load expected of the RCC Cover.

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 sheer failure of the frame seating because the frame is not designed to carry tensile loads.

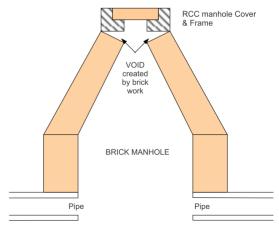
Figure 1: Right and Wrong Way of Casting Slab



**RCC FRAME CAST WITH SLAB** 

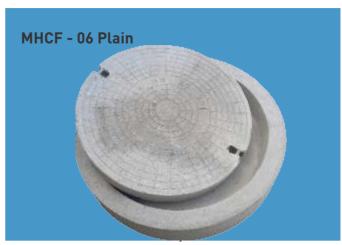


RCC FRAME PLACED ON TOP OF SLAB















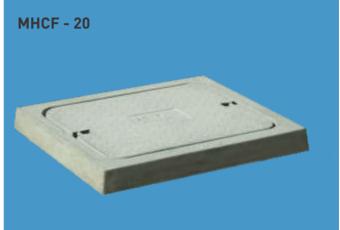










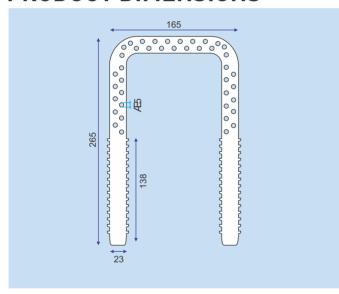




#### **PLASTIC FOOTREST**



#### **PRODUCT DIMENSIONS**



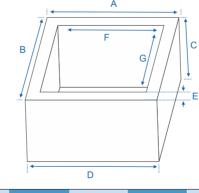
KK plastic footrest is a uniquely designed polypropylene plastic encapsulated steel reinforced manhole safety step. It is a superior alternative to conventional mild steel / cart iron step. It offers unmatched resistance to all types of corrosive environments often characteristic of sanitary sewers.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

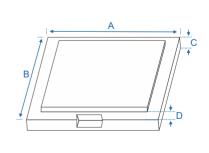
#### **Technical information**

- 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.

### **EARTHING PIT WITH COVER**

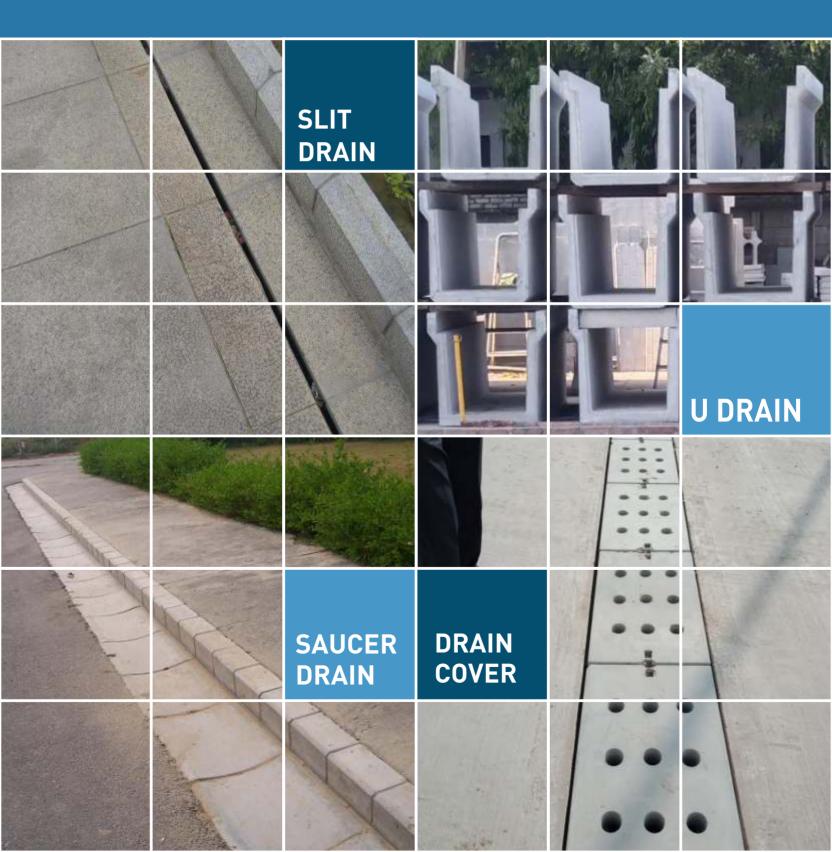






Product Code	Α	В	С	D	E	F	G
Pit	350	350	300	400	37.5	275	275
Cover	355	355	50	40	-	-	-







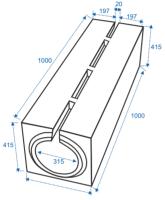
# **SLIT DRAIN SYSTEM**



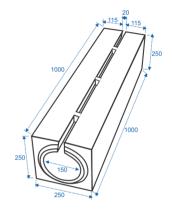








Product Code	Width	Length	Pipe Dia
SLIT-01	250	1000	150
SLIT-02	415	1000	315





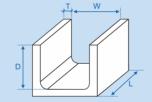


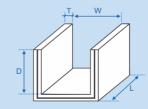


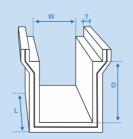
Type 2



Type 3







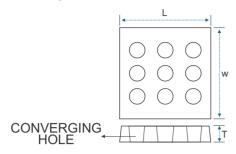
Product Code	W	D	т	L
DR-01	300	300	50	500
DR-02	300	375	50	500
DR-03	300	450	50	500

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
DR-08	760	800	Variable	2000
DR-09	580	450	Variable	2000
DR-10	450	450	Variable	1000/2000
DR-11	600	600	Variable	2000
DR-12	450	600	Variable	2000

DR-13	600	600	Variable	2000
DR-14	900	900	Variable	2000



#### **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 :  $\pm 2$ mm
- Length & width: ± 10mm
  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

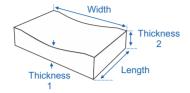
All Dimensions are in "mm"

<sup>\*</sup> THICKNESS CAN BE INCREASED FURTHER TO ACCOMMODATE GREATER LOADS.

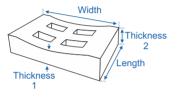


#### **SAUCER DRAIN**

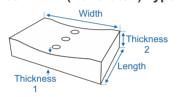
#### Saucer Drain (Plain)



#### Saucer Drain (Perforated) Type A



#### Saucer Drain (Perforated) Type B

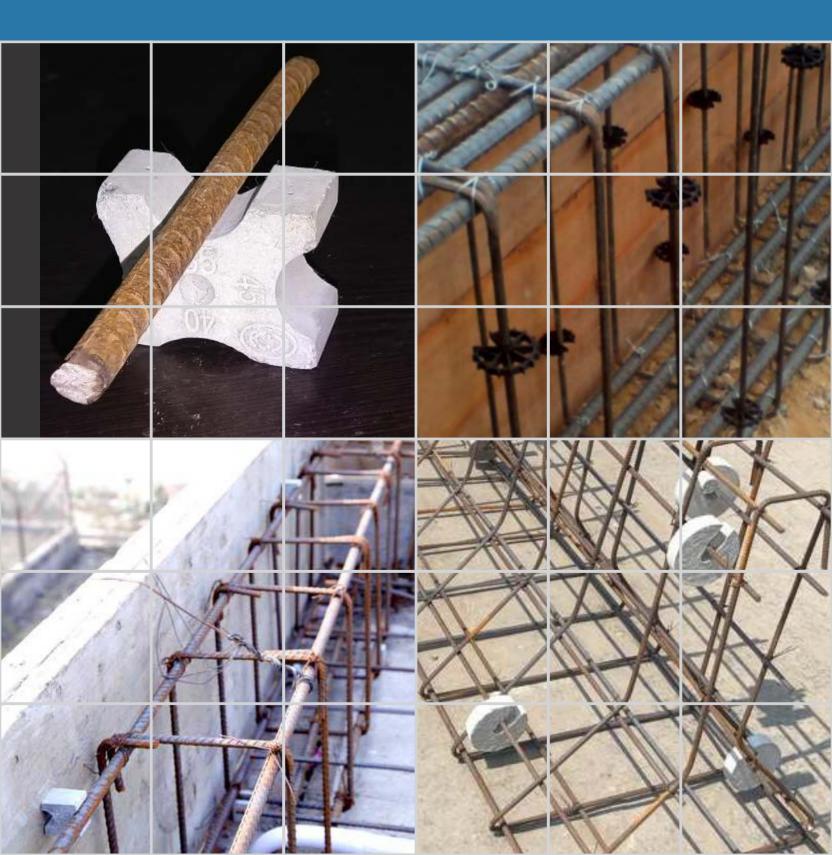


Product Code	Width	Length	Thickness	Thickness	Description
SD-01	450	300	75	100	Plain
SD-01H	450	300	75	100	Perforated Type A
SD-02	450	600	75	100	Plain
SD-02H	450	600	75	100	Perforated Type B
SD-03	600	450	75	100	Plain
SD-03H	600	450	75	100	Perforated Type B
SD-04	300	300	75	100	Plain
SD-05	300	600	75	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	Clear C	pening : 5	Cover + Frame		
with Frame	Frame				













### 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.

# **CONCRETE, & PLASTIC COVER BLOCKS.**

Code Concrete cover Max Rebar	
Code Concrete cover Max Rebar	: KF-25 : 25 mm : 16 mm
Code Concrete cover Max Rebar	
Code Concrete cover Max Rebar	: KF-50/60 : 50 or 60 mm : 40 mm
Code Concrete cover Max Rebar	
Code Concrete cover Max Rebar	: KF-35/40/45/50 : 35 or 40 or 45 or 50mm : 16 mm
Code Concrete cover Max Rebar	

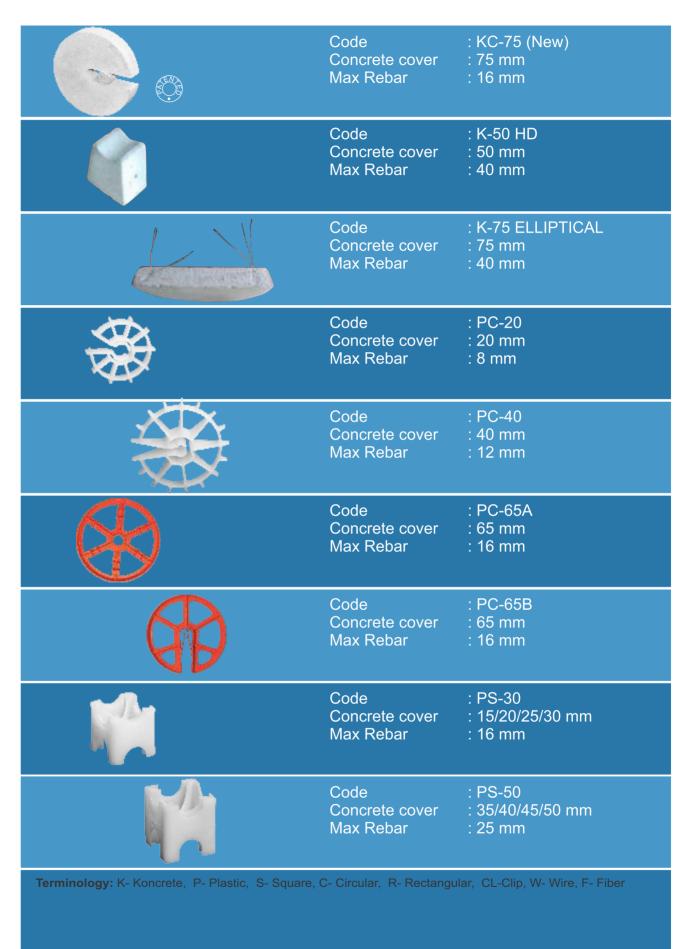


Code Concrete cover Max Rebar	
Code Concrete cover Max Rebar	
Code Concrete cover Max Rebar	
Code Concrete cover Max Rebar	
Code Concrete cover Max Rebar	: 40mm
Code Concrete cover Max Rebar	

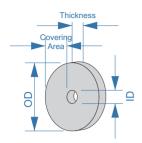


Code Concrete cover Max Rebar	: 50 mm	
Code Concrete cover Max Rebar		
Code Concrete cover Max Rebar		
Code Concrete cover Max Rebar	: 50 mm	
Code Concrete cover Max Rebar		
Code Concrete cover Max Rebar		
Code Concrete cover Max Rebar	: KC-25 (New) : 25 mm : 16 mm	
Code Concrete cover Max Rebar	: KC-40 (New) : 40 mm : 16 mm	
Code Concrete cover Max Rebar	: KC-50 (New) : 50 mm : 32 mm	
Code Concrete cover Max Rebar	: KC-65 (New) : 65 mm : 16 mm	











S. NO.	MODEL NO.	OD	ID	THICKNESS	OD	ID	COVERING AREA
1	KC - 60	145	25	20	150	15	60
2	KC-65	165	35	60	170	30	65
3	KC-70	165	25	25	170	15	70
4	KC1-75	175	25	30	178	22	75
5	KC2-75	175	25	60	180	20	75
6	KC3-75	175	25	40	180	20	75
7	KC4-75	185	35	40	195	30	75
8	KC5-75	183	33	20	190	30	75
9	KC-80	190	30	20	196	27	80

#### **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**

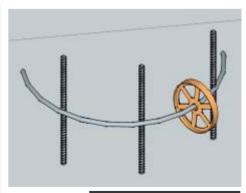


**SLAB** 

# **BEAM/COLUMN**



**PILES** 

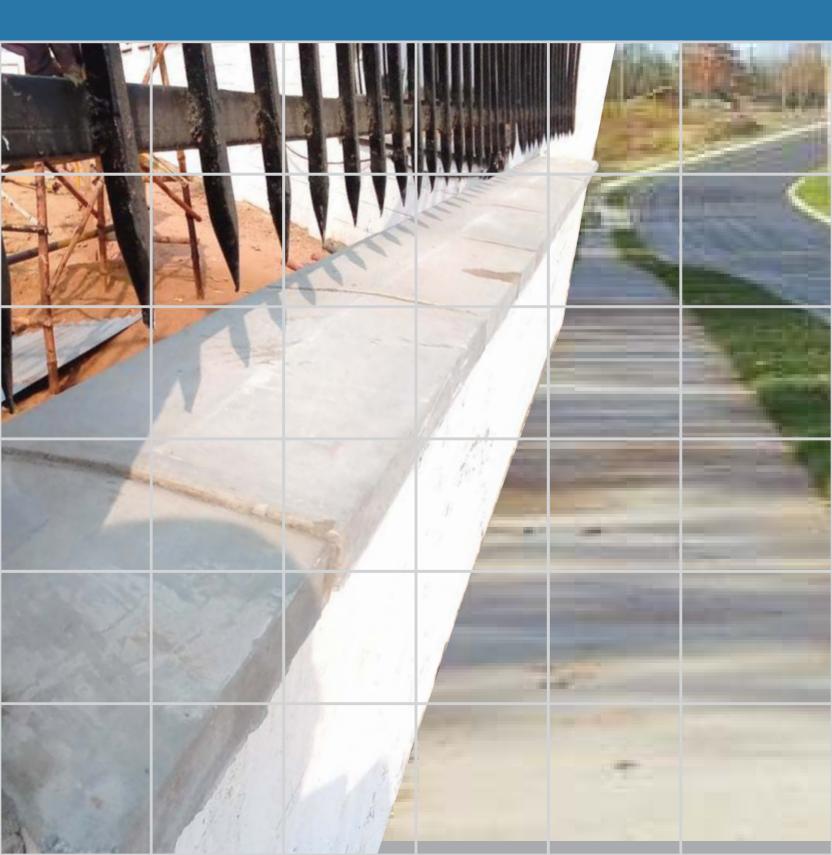


MADE FROM M-50 GRADE CONCRETE





# **COPING** STONE



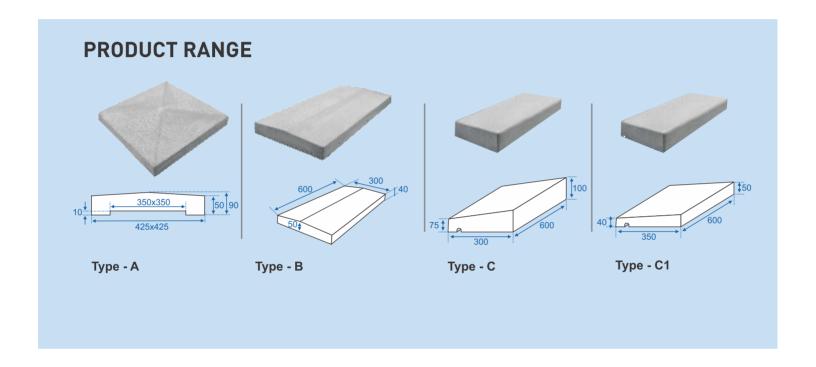


### **COPING STONE**

#### **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.

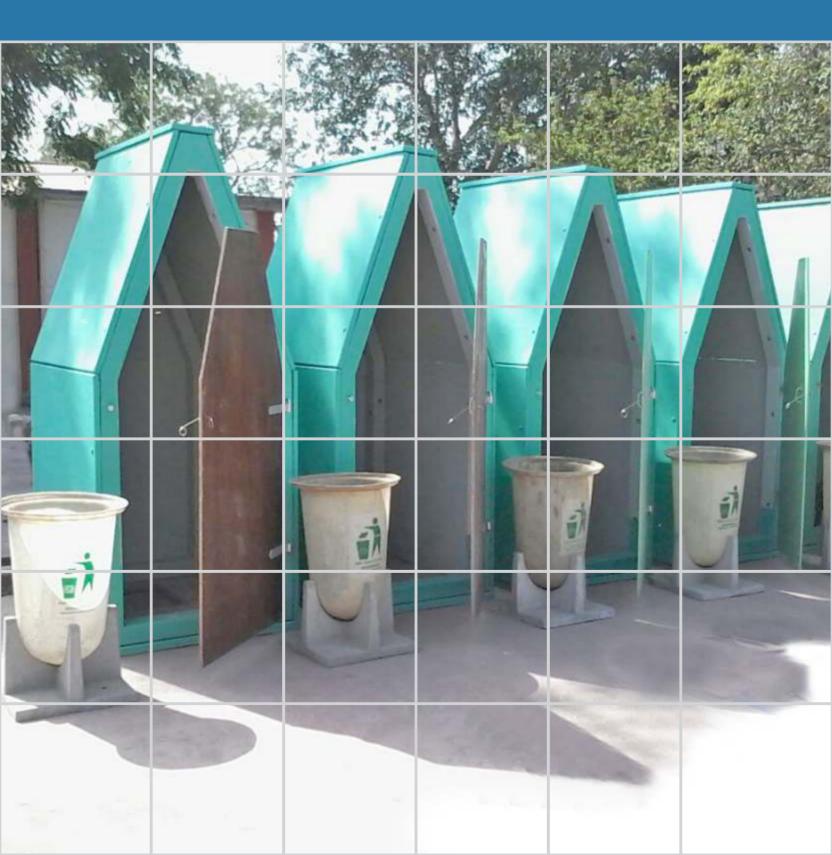


#### How to specify?

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.



# **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.