

SHAKTI uPVC CASING PIPES

APPLICATIONS

- Bore-well Casing, Irrigation, Domestic, Industrial mining, Chemical distribution.
- A wise replacement for MS, ERW, GI, Asbestos and Cement and SS Pipes.
- uPVC is nearly inert towards corrosion, chemical reaction and due to which, it is ideally used in salty, sandy and chemically aggressive water without any effect over the years.

SPECIFICATION

- Maximum installation depth 450m for CD Series, 250m for CM series, and 80m for CS series.
- Installation: Vertical, Horizontal or Inclined

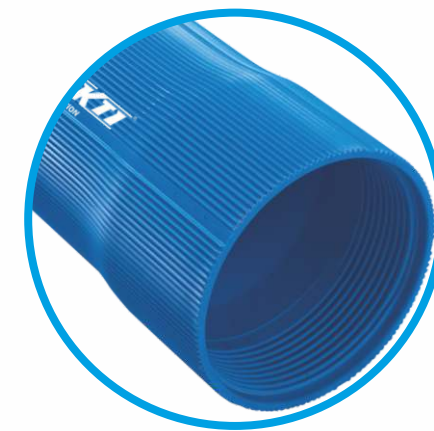
SALIENT FEATURES

- Easy to Handle
- Corrosion Free
- Ultimate Tensile Strength and Impact Strength
- Maximum Yield of Water
- Easy Joining & Installation
- Fire Proof
- Long Life
- Very high collapsible resistance

SPECIAL FEATURES & IDENTITY

- Specification followed IS 12818:2010 equivalent to DIN 4925.
- Trapezoidal threaded socket & spigot ends for easy, reliable jointing, long and better strength.
- Surface finish of this pipe is extremely smooth which reduces the hydraulic friction.
- Ribbed screen pipes are used especially when outer surface area of bore-well casing pipe is to be increased. These ribs provide around 25% of additional surface area by virtue of its design. Besides that it holds gravel balls away from the pipe at a distance of about 2 mm. This arrangement naturally cleans slits due to vertical flow passage and allows more water to seep in, resulting in higher yield than other plain screen pipes from same bore.
- Horizontal Slots to get maximum water yield.
- Color Code :
RMS, PMS, CS : Red
CM: Yellow
RDS, PDS, CD: Green

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PIPE PERFORMANCE

Screen open area in percent for width of slot (w)

Nominal Diameter		Number of Slot N (Min)	Σa± 5%	RMS/PMS							
mm	inch			Slot width in mm							
				0.2	0.3	0.5	0.75	1.0	1.5	2.0	3.0
				Free passage area in Percentage							
50	2	3	108	3.7	5.2	6.0	9.1	9.4	9.7	12.1	----
80	3	3	168	3.7	5.2	6.0	9.1	9.4	9.7	12.1	----
100	4	5	216	3.7	5.2	6.0	9.1	9.4	9.7	12.1	14.0
115	4.5	5	240	3.7	5.2	6.0	9.1	9.4	9.7	12.1	14.0
125	5	5	240	----	4.7	5.6	8.2	8.5	8.8	11.0	13.5
150	6	5	285	----	----	5.6	8.2	8.5	8.8	11.0	13.5
175	7	6	340	----	----	5.6	8.3	8.5	8.8	11.0	13.5
200	8	6	390	----	----	----	8.3	8.5	8.8	11.0	13.5
250	10	6	450	----	----	----	7.6	7.9	8.1	10.2	12.5
300	12	6	530	----	----	----	7.6	7.9	8.1	10.2	12.5
Slot pitch mm				4.0	4.0	5.5	5.5	6.8	9.5	9.5	11.0

Screen permeability for width of slot

Nominal Diameter		RMS/PMS							
mm	inch	Slot width in mm							
		0.2	0.3	0.5	0.75	1.0	1.5	2.0	3.0
		Permeability per meter of Screen in LPS at V=3 cm/Sec.							
50	2.0	0.18	0.25	0.29	0.44	0.45	0.46	0.58	0.67
80	3.0	0.27	0.39	0.45	0.68	0.70	0.72	0.90	1.04
100	4.0	0.35	0.50	0.57	0.87	0.90	0.93	1.16	1.34
115	4.5	0.40	0.56	0.64	0.97	1.01	1.04	1.30	1.50
125	5.0	----	0.56	0.66	0.97	1.00	1.04	1.30	1.59
150	6.0	----	----	0.78	1.15	1.19	1.23	1.54	1.89
175	7.0	----	----	0.93	1.38	1.41	1.46	1.82	2.24
200	8.0	----	----	----	1.59	1.62	1.68	2.10	2.58
250	10.0	----	----	----	1.81	1.88	1.93	2.42	2.97
300	12.0	----	----	----	2.13	2.22	2.27	2.86	3.51

Tolerance on width of slot (w)

Slot width (w) mm	0.2	0.3	0.5	0.75	1.0	1.5	2.0	3.0
Tolerance (mm)	+0.06	+0.06	+0.10	+0.20	+0.20	+0.20	+0.20	+0.30
	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00

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PIPE PERFORMANCE

CS Casing Pipe

Technical Parameters

Nominal Diameter		Mean Outer Diameter		Wall Thickness		Mean Outer Dia Over Connection (Max)	Length of Threads
mm	Inch	Min	Max	Min	Max		
125*	5.0"	140.0	140.4	5.30	5.60	148.0	63
150	6.0"	165.0	165.4	5.70	6.50	174.0	63
165*	6.5"	180.0	180.3	6.10	7.10	188.0	63
175	7.0"	200.0	200.5	7.00	7.80	211.0	63
200	8.0"	225.0	225.5	7.60	8.80	238.0	74
225*	9.0"	250.0	250.5	8.80	9.60	262.0	74
250	10.0"	280.0	280.5	9.60	11.0	292.0	90
300	12.0"	330.0	330.6	11.2	13.3	346.0	90

CM Casing Pipe

Nominal Diameter		Mean Outer Diameter		Wall Thickness		Mean Outer Dia Over Connection	Length of Threads
mm	Inch	Min	Max	Min	Max		
40	1.5"	48.0	48.2	3.5	4.0	52.0	25
50	2.0"	60.0	60.2	4.0	4.6	65.0	30
80	3.0"	88.0	88.3	4.0	4.6	94.0	40
100	4.0"	113.0	113.3	5.0	5.7	120.0	48
115	4.5"	125.0	125.3	5.0	5.7	132.0	48
125	5.0"	140.0	140.4	6.5	7.3	150.0	63
150	6.0"	165.0	165.4	7.5	8.5	178.0	63
165*	6.5"	180.0	180.4	10.0	10.8	196.7	63
175	7.0"	200.0	200.5	8.8	9.8	215.0	63
200	8.0"	225.0	225.5	10.0	11.2	243.0	74
225*	9.0"	250.0	250.5	12.0	12.5	270.0	74
250	10.0"	280.0	280.5	12.5	14.0	298.0	90
300	12.0"	330.0	330.6	14.5	16.2	352.0	90

CD Casing Pipe

Nominal Diameter		Mean Outer Diameter		Wall Thickness		Mean Outer Dia Over Connection (Max)	Length of Threads
mm	Inch	Min	Max	Min	Max		
100*	4.0"	113.0	113.3	7.0	7.9	125.0	48
115*	4.5"	125.0	125.3	7.5	8.5	137.0	48
125	5.0"	140.0	140.4	8.0	9.0	152.0	63
150*	6.0"	165.0	165.4	9.5	10.7	180.0	63
175	7.0"	200.0	200.5	11.8	13.6	217.0	63
200	8.0"	225.0	225.5	13.0	14.8	247.0	74
250	10.0"	280.0	280.5	16.0	17.6	304.0	90
300*	12.0"	330.0	330.6	19.0	21.0	359.0	90

* Not Covered in ISI

All Dimensions in MM

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PIPE PERFORMANCE

R- CS Casing Pipe

Technical Parameters

Nominal Diameter		Mean Outer Diameter		Wall Thickness		Mean Outer Dia Over Connection (Max)	Length of Threads
mm	Inch	Min	Max	Min	Max		
125*	5.0"	144.0	144.4	5.30	5.60	152.0	63
150*	6.0"	169.0	169.4	5.70	6.50	178.0	63
175*	7.0"	204.0	204.5	7.00	7.80	215.0	63
200*	8.0"	229.0	229.5	7.60	8.80	242.0	74
250*	10.0"	284.0	284.5	9.60	11.0	296.0	90
300*	12.0"	334.0	334.6	11.20	13.30	350.0	90

R- CM Casing Pipe

Nominal Diameter		Mean Outer Diameter		Wall Thickness		Mean Outer Dia Over Connection (Max)	Length of Threads
mm	Inch	Min	Max	Min	Max		
40*	1.5"	52.0	52.2	3.5	4.0	56.0	25
50*	2.0"	64.0	64.2	4.0	4.6	69.0	30
80*	3.0"	92.0	92.3	4.0	4.6	98.0	40
100	4.0"	117.0	117.3	5.0	5.7	124.0	48
125	5.0"	144.0	144.4	6.5	7.3	154.0	63
150	6.0"	169.0	169.4	7.5	8.5	182.0	63
175	7.0"	204.0	204.5	8.8	9.8	219.0	63
200	8.0"	229.0	229.5	10.0	11.2	247.0	74
250	10.0"	284.0	284.5	12.5	14.0	302.0	90
300	12.0"	334.0	334.6	14.5	16.2	356.0	90

R- CD Casing Pipe

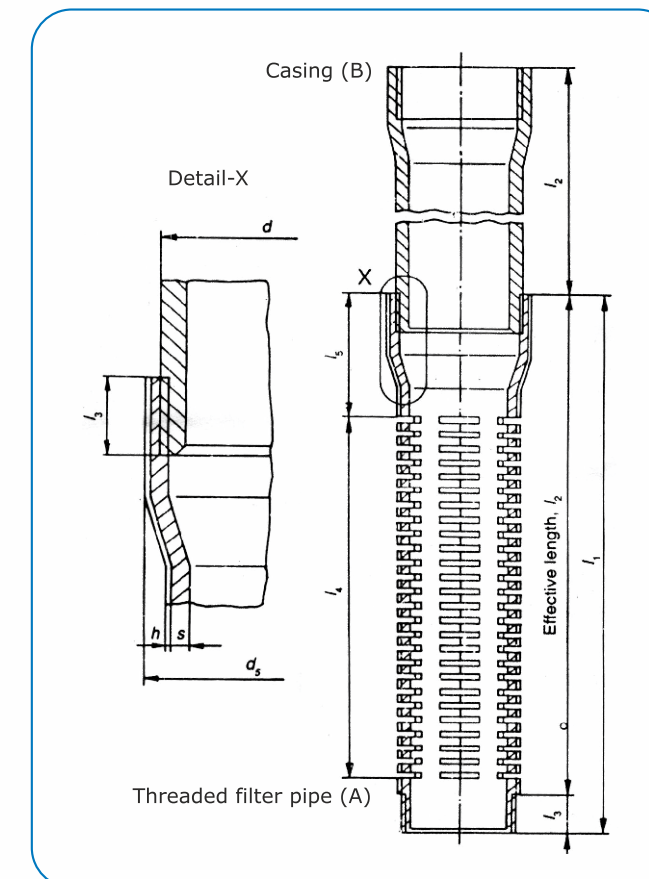
Nominal Diameter		Mean Outer Diameter		Wall Thickness		Mean Outer Dia Over Connection (Max)	Length of Threads
mm	Inch	Min	Max	Min	Max		
100*	4.0"	117.0	117.3	7.0	7.9	129.0	48
115*	4.5"	129.0	129.3	7.5	8.5	141.0	48
125*	5.0"	144.0	144.4	8.0	9.0	156.0	63
150*	6.0"	169.0	169.4	9.5	10.7	184.0	63
175*	7.0"	204.0	204.5	11.8	13.6	221.0	63
200*	8.0"	229.0	229.5	13.0	14.8	251.0	74
250*	10.0"	284.0	284.5	16.0	17.6	309.0	90
300*	12.0"	334.0	334.6	19.0	21.0	363.0	90

* Not Covered in ISI

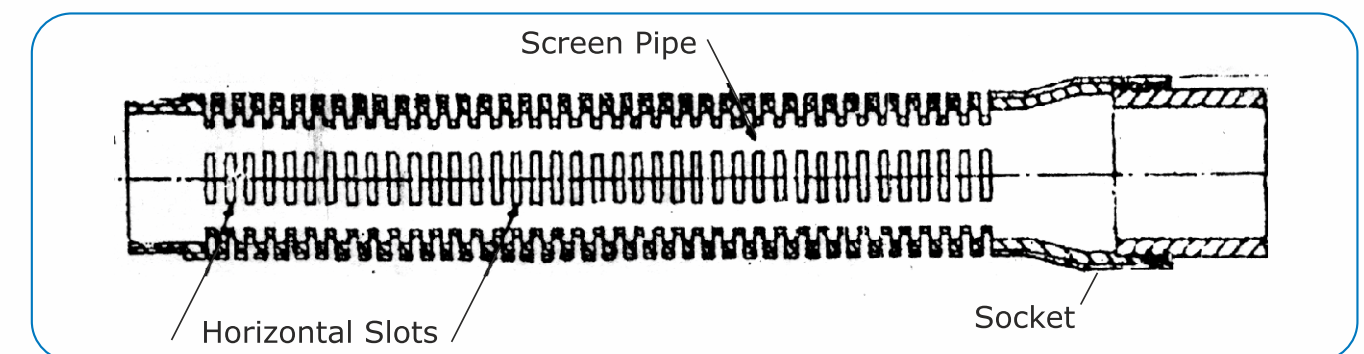
All Dimensions in MM

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SCREEN AND CASING ASSEMBLY



- L1 = Overall Length (L2+L3)
- L2 = Effective pipe length, after assembly
- L3 = Thread length
- D = Outside diameter
- DS = Outside socket diameter
- S = Wall thickness



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THREADING



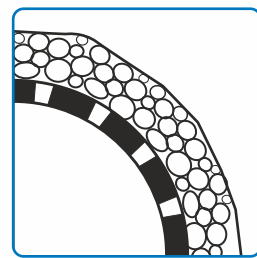
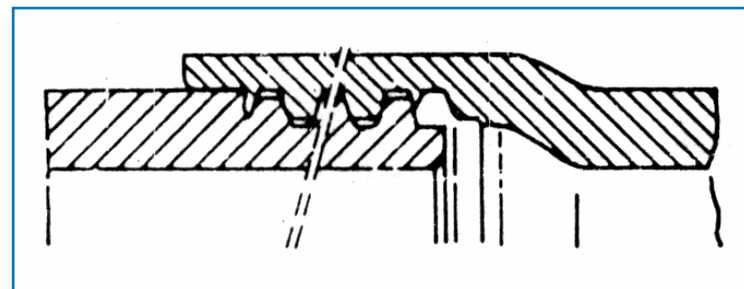
Tensile Strength of the thread joints

ND		Trapezoidal
(mm)	(in)	kN*
100	4	20
115	4.5	20
125	5	30
150	6	40
165	6.5	40
175	7	40
200	8	80
250	10	110
300	12	150

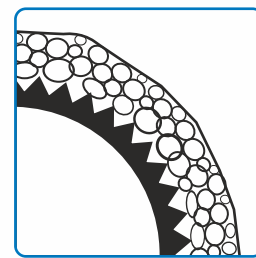
*1kN = 100 Kp

THREAD TYPE:

Metric Trapezoidal



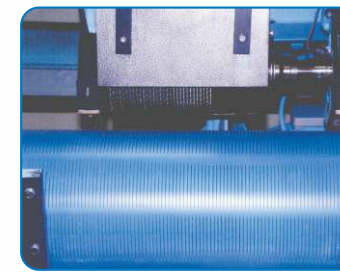
Over half the slots get clogged by the gravel pack.



The V-Channel formed by ribs, keeps the gravel pack 2 mm away from slots.

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SLOTTING



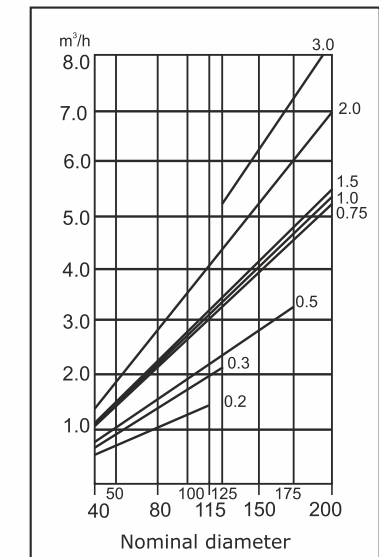
Standard Slot width range (Showing average % open area)

3%	0.20mm
4%	0.30mm
5%	0.40mm
6%	0.50mm
9%	0.75mm
11%	1.00mm
13%	1.25mm
16%	1.50mm
20%	2.00mm
25%	3.00mm

Permeability of Screens

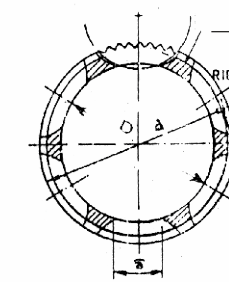
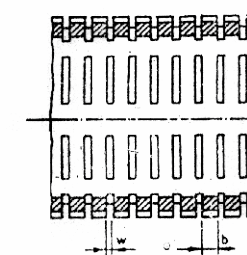
The permeability of the screen has to be higher than that of the sand or gravel layer directly next to the outer layer of the screen.

(for slot width of 0.2 mm - 3.0 mm)
Permeability per m of screen k (m³/h) at V_T = 3 cm/sec.



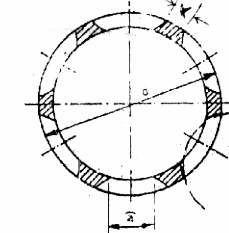
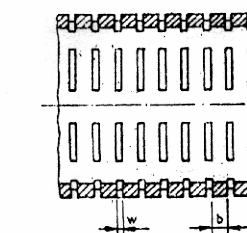
SLOT ARRANGEMENTS

Ribbed Screen Pipe



-This portion may or may not have ribs

Plain Screen Pipe



- A = Slot length
- w = Slot Width
- b = longitudinal pitch of slot
- v = Vertical pitch
- D = Inside Diameter
- d = Out side Diameter

Note : The number of rows of slots in the open area depends on the Pipe diameter

Example showing 6 slots around circumference of pipe