SANDHYA FLEX

ISO 9001:2015 certified company

PVC Water Stopper as per IS:15058

TECHNICAL DATASHEET

SANDHYAFLEX is a trusted name in the construction industry, renowned for their top tier PVC Water Stopper. These vital components ensure watertight integrity in various structures, making them essential for projects like:

- Basements: Prevent water seepage and leaks that can damage foundations and create moisture issues.
- Water-Retaining Structures: Ensure water stays contained in reservoirs, swimming pools, and water treatment tanks.
- Structural Foundations: Protect against water infiltration that can weaken the foundation's stability.
- Below-Ground Constructions: Safeguard underground structures like parking garages and tunnels from water damage.

History of PVC Pipes

- **1835 Discovery**: Henri Victor Regnault accidentally discovered PVC.
- **1872 Rediscovery**: Eugen Baumann produced PVC again, but it was brittle.
- **1913 Patent**: Friedrich Klatte patented a polymerization process.
- **1926 Breakthrough**: Waldo Semon (USA) invented plasticizers, making PVC flexible and usable.
- **1930s First Pipes**: Germany produced the first rigid PVC pipes; Leipzig and Dresden installed them for water supply.
- **Modern Era**: PVC pipes/toppers became the global standard in plumbing, irrigation, and sewage systems.

Materials :

The water-stop should be fabricated from a plastic compound, the basic resin of which shall be polyvinyl chloride. The compound shall contain additional resins, plasticizers, inhibitors or other materials such that when the material is compounded, it shall meet the requirements given in this standard.

RAW MATERIALS OF PVC WATER STOPPER

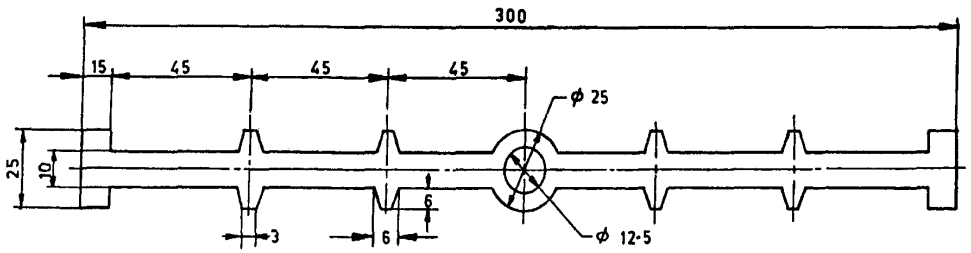
S. No.	Raw Material	Image	Typical Grade / Example	Function / Purpose
1	PVC Resin (Polyvinyl Chloride)		Suspension Grade (SG-5, SG-7, SG-8)	• Main base material • Provides structure and strength
2	Plasticizers		DOP (Dioctyl Phthalate) DINP (Diisononyl Phthalate)	• Provide flexibility • Improve softness and workability
3	Stabilizers		Calcium-Zinc Stabilizer Lead Stabilizer (Older systems)	• Improve heat stability during processing • Prevent degradation
4	Lubricants		Internal Lubricant External Lubricant (Paraffin Wax, Stearic Acid)	• Reduce friction during processing • Improve surface finish
5	Fillers		Calcium Carbonate ($CaCO_3$)	• Improve dimensional stability and rigidity • Reduce production cost
6	Pigments / Colorants		Carbon Black (Black) Iron Oxide (Yellow) Phthalocyanine Blue (Blue)	• Provide desired color • Improve UV resistance (in some cases)
7	Processing Aids / Additives		Acrylic Processing Aid Impact Modifier (CPE) Anti-oxidant, Others	• Improve melt strength • Enhance extrusion quality • Improve surface finish

RAW MATERIALS → MIXING → EXTRUSION → COOLING → CUTTING → FINISHED PVC WATER STOPPER

COLOUR AND ITS APPLICATION:

Colour	Application
White	Cold water plumbing
Grey	Electrical conduits, industry
Blue	Drinking water supply
Green	Sewage, drainage
Orange/Brown	Underground drainage, telecom ducts
Yellow	Gas distribution

For builders and contractors seeking dependable water sealing solutions and high-quality construction materials, SANDHYAFLEX is the ideal partner. Their commitment to excellence and comprehensive product portfolio make them a one-stop shop for all your construction needs.



All dimensions in millimetres.

FIG. 1 TYPICAL CROSS-SECTION OF PVC WATER-STOP

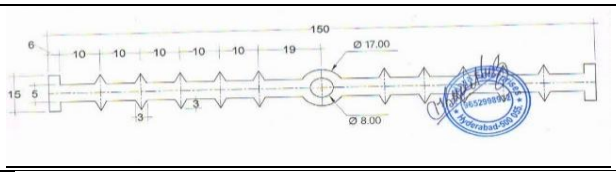
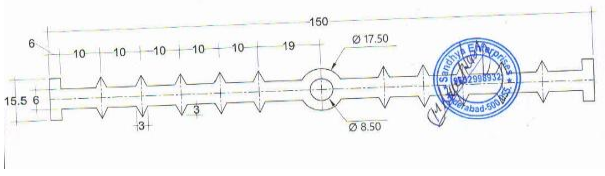
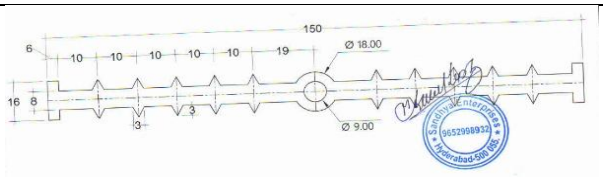
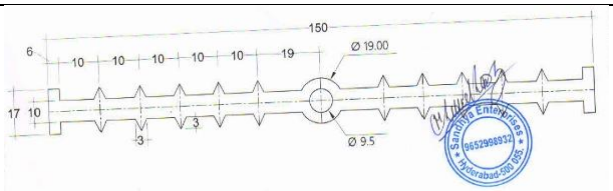
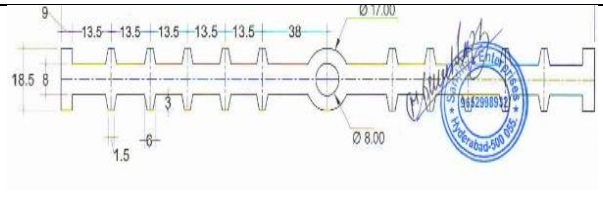
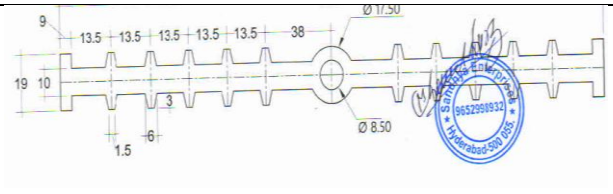
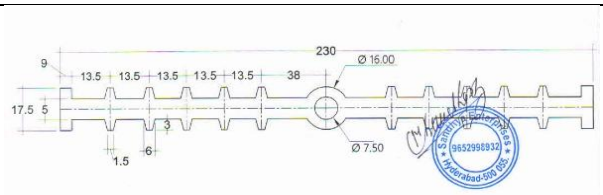
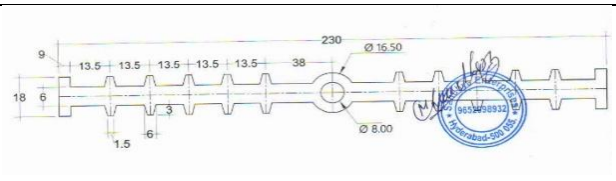
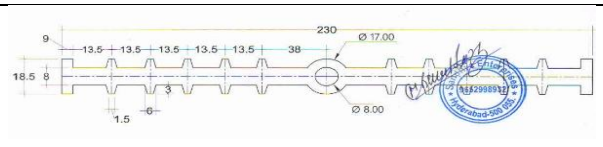
FIG. 1 TYPICAL CROSS-SECTION OF PVC WATER-STOP

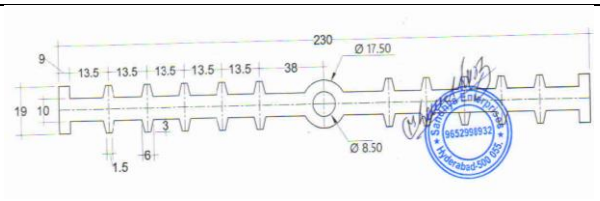
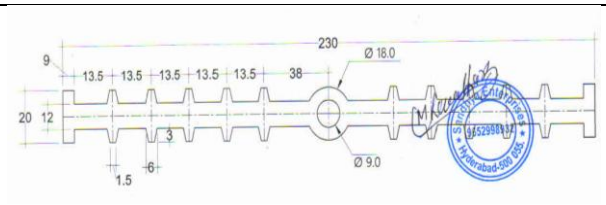
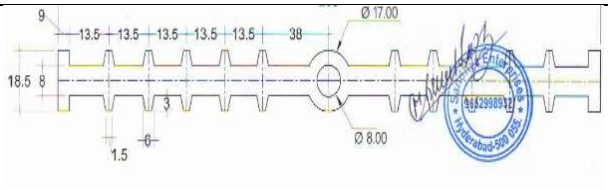
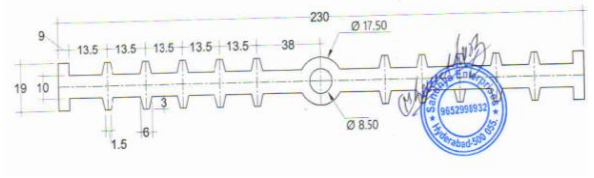
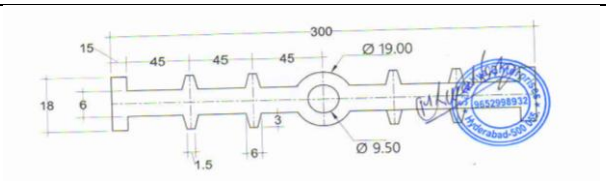
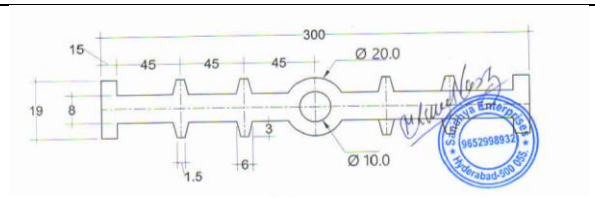
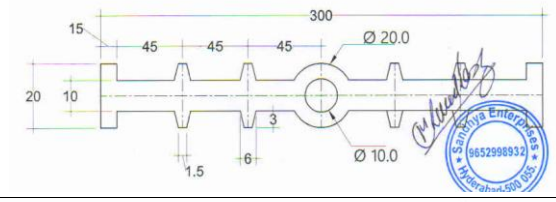
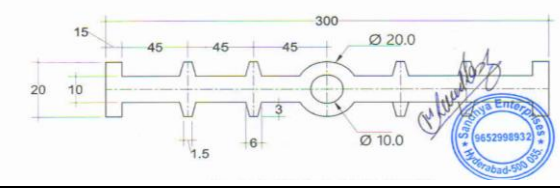
Packing standard of PVC Water stopper

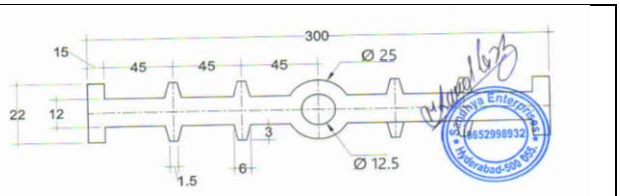
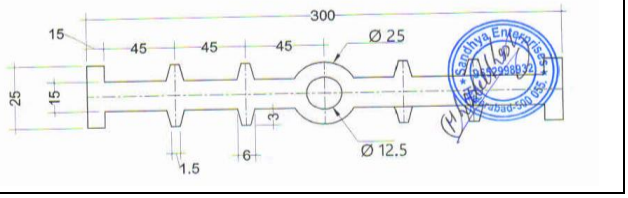
Each Roll 25Mtr

SR No	Dimension	Length	Width	Height	CBM	Weight kg/Roll
1	150x5mm	0.625	0.625	0.150	0.059	40
2	150x6mm	0.625	0.625	0.150	0.059	45
3	150x8mm	0.625	0.625	0.150	0.059	55
4	200x8mm	0.625	0.625	0.200	0.059	70
5	200x10mm	0.65	0.65	0.200	0.078	80
6	225x5mm	0.625	0.625	0.23	0.090	65
7	225x6mm	0.625	0.625	0.230	0.090	70
8	225x8mm	0.65	0.65	0.230	0.097	90
9	225x10mm	0.65	0.65	0.230	0.097	100
10	240x8mm	0.65	0.650	0.240	0.104	110
11	240x10mm	0.650	0.650	0.240	0.104	125
12	250x8mm	0.675	0.675	0.250	0.114	95
13	250x10mm	0.675	0.675	0.250	0.114	115
14	300x6mm	0.700	0.700	0.300	0.147	95
15	300x8mm	0.725	0..725	0.300	0.158	115
16	300x10mm	0.750	0.750	0.300	0.169	145
17	300x12mm	0.775	0.775	0.300	0.18	140
18	300x15mm	0.800	0.800	0.300	0.192	160
Kiker Type						
19	230x4mm	0.625	0.625	0.230	0.090	67
Dumbbell Type						
20	230x8mm	0.650	0.650	0.230	0.097	87
21	230x10mm	0.650	0.650	0.230	0.097	100

PVC WATER STOPPER With Center Bulb Ribbed type Black Color as per IS 15058 and IS:12200 Specificaiton with diagram,

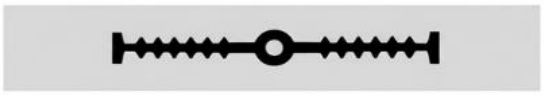
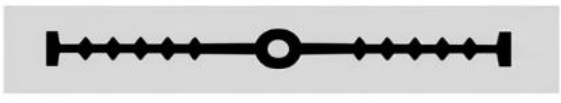
S.No.	Description	HSN Code	Quantity
1	Size: 6"(150mm) width x5.0mm Thick, Bulb Dia 17+/-0.2mm Hole Dia 7.5+/-2mm Collar Hight 17.0+/-0.5mm No of Rib 10Rib	39259090	
2	Size: 6"(150mm) width x6.0mm Thick, Bulb Dia 17+/-0.2mm Hole Dia 8 +/-2mm Collar Hight 17.5 +/-0.5mm No of Rib 10Rib	39259090	
3	Size: 6"(150mm) width x8.0mm Thick, Bulb Dia 18+/-0.2mm Hole Dia 9 +/-2mm Collar Hight 18 +/-0.5mm No of Rib 10Rib	39259090	
4	Size: 6"(150mm) width x10.0mm Thick, Bulb Dia 19+/-0.2mm Hole Dia 9 .5+/-2mm Collar Hight 18+/-0.5mm No of Rib 10Rib	39259090	
5	Size: 8"(200mm) width x8.0mm Thick, Bulb Dia 17.0+/-0.2mm Hole Dia 8.0+/-2mm Collar Hight 18.5+/-0.5mmNo of Rib 10Rib	39259090	
6	Size: 8"(200mm) width x10.0mm Thick, Bulb Dia 17.0+/-0.2mm Hole Dia 8.0+/-2mm Collar Hight 18.5+/-0.5mmNo of Rib 10Rib	39259090	
7	Size: 9"(230mm) width x5.0mm Thick, Bulb Dia 16+/-0.2mm Hole Dia 7 .5+/-2mm Collar Hight 17.5+/-0.5mmNo of Rib 10Rib	39259090	
8	Size: 9"(230mm) width x6.0mm Thick, Bulb Dia 16.5+/-0.2mmHole Dia 8.0+/-2mm Collar Hight 18+/-0.5mmNo of Rib 10Rib	39259090	
9	Size: 9"(230mm) width x8.0mm Thick, Bulb Dia 17.0+/-0.2mm Hole Dia 8.0+/-2mm Collar Hight 18.5+/-0.5mmNo of Rib 10Rib	39259090	

10	Size: 9"(230mm) width x10.0mm Thick, Bulb Dia 17.5+/-0.2mm Hole Dia 8.5+/-2mm Collar Hight 19.0+/-0.5mm No of Rib 10Rib	39259090	
11	Size: 9"(230mm) width x12.0mm Thick, Bulb Dia 18.5+/-0.2mm Hole Dia 9.5+/-2mm Collar Hight 19.0+/-0.5mm No of Rib 10Rib	39259090	
12	Size: 10"(250mm) width x8.0mm Thick, Bulb Dia 18.5+/-0.2mm Hole Dia 8.5+/-2mm Collar Hight 19.0+/-0.5mm No of Rib 10Rib	39259090	
13	Size: 10"(250mm) width x10.0mm Thick, Bulb Dia 18.5+/-0.2mm Hole Dia 8.5+/-2mm Collar Hight 19.0+/-0.5mm No of Rib 10Rib	39259090	
14	Size: 12"(300mm) width x6.0mm Thick, Bulb Dia 19.0+/-0.2mm Hole Dia 9.5+/-2mm Collar Hight 18.0+/-0.5mm No of Rib 4Rib	39259090	
15	Size: 12"(300mm) width x8.0mm Thick, Bulb Dia 19.0+/-0.2mm Hole Dia 9.5+/-2mm Collar Hight 18.0+/-0.5mm No of Rib 4Rib	39259090	
16	Size: 12"(300mm) width x10.0mm Thick, BBulb Dia 20.0+/-0.2mm Hole Dia 10.0+/-2mm Collar Hight 20+/-0.5mmNo of Rib 4 Nos	39259090	
17	Size: 12"(300mm) width x10.0mm Thick, As per ID:15058 Drg.Bulb Dia 25.0+/-0.2mm Hole Dia 12.5+/-2mmCollar Hight 25.0+/-0.5mm No of Rib 4 Nos	39259090	

18	***Size: 12"(300mm) width x12.0mm Thick, Bulb Dia 25.0+/-0.2mm Hole Dia 12.5+/-2mm Collar Hight 25.0+/-0.5mmNo of Rib 4 Nos***	***39259090***	
19	***Size: 12"(300mm) width x15.0mm Thick, Bulb Dia 25.0+/-0.2mm Hole Dia 12.5+/-2mm Collar Hight 25.0+/-0.5mm No of Rib 4 Nos***	***39259090***	

The Ribbed Profile: The edges of the strip feature raised longitudinal ribs (or serrations). These ribs provide a massive surface area that grips tightly into the concrete as it cures, anchoring the water stopper firmly. This prevents water from bypassing the seal.

The Centre Bulb: The hollow, circular bulb located in the middle acts as a flexible hinge or shock absorber. When concrete undergoes structural settlement, seismic vibrations, or thermal expansion/contraction, the bulb stretches and compresses to accommodate the movement while maintaining a continuous watertight seal

WIDTH	WEB THICKNESS	CROSS-SECTION
150mm	5-10mm	
200mm	8-10mm	
230mm	6-12mm	
250mm	8-10mm	
300mm	6-15mm	

ILLUSTRATIONS OF THE PVC WATER STOPPER

PHYSICAL AND CHEMICAL PROPERTIES

S.No	Tests	IS:15058-2002 Specification Clause Number	Permissible Limits as per IS:15058-2002 Specification	Method of Test, Refer to
1.	Physical Properties - Before Ageing			
	Hardness Test	Cl.3.2 (Sl.no.iii)	65 Shore A (min)	IS: 13360 (Part 5/Sec II)
	Tensile Strength	Cl.3.2 (Sl.no.i)	13.8 MPa (Min)	IS: 8543 (Part 4/sec I)
	Elongation at Break	Cl.3.2	285% (Min)	IS: 8543 (Part 4/sec I)
2.	Stability in effects of alkalies Test For 7 Days			
	Weight Increase	IS: 15058:2002 Annex C	0.25 %(Max)	IS : 15058:2002 Annex C
	Weight Decrease		0.10 % (Max)	
	Change In Hardness		±5(Max)	IS: 15058:2002 Annex C/ IS: 13360 (part 5/sec II)
3	Stability In effects of alkalies Test For 28 days			
	Weight Increase	IS: 15058:2002 Annex C	0.40 %(Max)	IS : 15058:2002 Annex C
	Weight Decrease		0.30 % (Max)	
	Change In Dimension		± 1%(Max)	
4	Water absorption @ Room Temperature for 24 Hours	IS: 15058:2002 Annex A	+0.6%(Max)	IS : 15058:2002 Annex A
5	Cold bent Temparature @ -25ºC	IS:9766 Annex G	Shoub be no Crack	IS: 9766
6	Accelerated Extraction Test @ 60-66º Temparature For 14 Days			
	Tensile Strength	IS: 15058:2002 Annex B	10.30 Mpa (Min)	IS: 15058:2002 Annex B/ IS: 8543 (Part 4/sec I)
	Elongation at Break		280% (Min)	
7	Dimensions			
	Width	4.1.1	230 ± 10 mm	IS: 15058:2002 Annex B/ IS: 8543 (Part 4/sec I)
	Thickness	4.1.1	6.0 + 2/-0 mm	

The above tests are carried out on specially moulded test pieces as per IS:15058-2002 Specification specification and found satisfactory.

REQUIREMENTS FOR PVC WATER STOPS:

Sl No.	Characteristic	Requirements	Method of Test, Ref to
(1)	(2)	(3)	(4)
i)	Tensile strength, *Min*	13.8 Mpa	IS 8543 (Part 4/Sec 1)
ii)	Elongation, *Min*	285%	IS 8543 (Part 4/Sec 1)
iii)	Hardness (Shore A), *Min*	65	IS 13360 (Part 5/Sec 11)
iv)	Water absorption, percent by mass, *Max*	0.6	Annex A of this standard
v)	Cold bend temperature at which samples does not crack, *Min*	–25°C	Annex G of IS 9766
vi)	Accelerated extraction test:		Annex B of this standard
	a) Tensile strength, *Min*	10.3 Mpa	
	b) Elongation, *Min*	280%	
vii)	Stability in effects of alkalies test:		
	a) Weight increase at 7 days, percent by mass, *Max*	0.25	
	b) Weight decrease at 7 days, percent by mass, *Max*	0.10	
	c) Change in hardness at 7 days (Shore A)	± 5	Annex C of this standard
	d) Weight increase at 28 days, *Max*	0.40%	
	e) Weight decrease at 28 days, *Max*	0.30%	
	f) Dimension change	± 1%	

Annex A :TEST FOR WATER ABSORPTION

Annex B : ACCELERATED EXTRACTION TEST

Annex c : STABILITY IN EFFECTS OF ALKALIES TEST

APPLICATIONS BY COUNTRIES :

India

- Widely used in **rural water supply** under government programs like *Jal Jeevan Mission*.
- **Agriculture irrigation** (drip and sprinkler systems) is a major application.
- Growing use in **urban sewage and drainage systems**.

China

- Massive demand due to **urbanization and infrastructure projects**.
- PVC pipes dominate **municipal water distribution** and **industrial applications**.
- Strong role in **irrigation networks** supporting large-scale farming.

United States

- Used in **municipal water supply** and **wastewater infrastructure**.
- EPA has allocated **USD 48 billion (2026)** for upgrading water systems, with PVC pipes central to these projects.
- Also common in **residential plumbing** and **stormwater drainage**.

Europe

- Focus on **urban sewage systems** and **cold water plumbing**.
- PVC's corrosion resistance makes it ideal in **coastal regions**.
- Increasing adoption of **PVC-O** for high-pressure pipelines.

Africa

- PVC pipes are vital for **irrigation projects** in arid zones.
- Used in **humanitarian water supply systems** after disasters due to easy transport and installation.

Advantageous Properties: SANDHYAFLEX PVC Water Stoppers boast:

- High elasticity and tensile strength for enduring flexibility.
- Excellent weather resistance for reliable performance outdoors.
- Corrosion immunity for long-lasting protection

Get in touch:

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