atul

F.R.L.S

RIGID PVC CONDUITS

FOR ELECTRICAL INSTALLATIONS

I.S. 9537

Part 3 - 1983

CM/L - 0941959

(Since 1975)



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COMPOUNDING MIXER - COOLER



TWIN SCREW



TWIN DIE HEAD

VIP EXTRUSIONS

(Formerly Wahi Industrial Products)

was established in 1975 at its own premises for manufacturing of rigid P.V.C conduits as per I.S. 9537 (Part 1) 1980 and I.S. 9537 (Part 3) 1983 under B.I.S licence CM/L 0941959 dated 10.02.1981under the brand name of **atul**. It has built up an impeccable reputation with a host of customers. We has always remained at the cutting edge of technological advances, ensuring value for money. The complete plant and laboratory equipments has been modernised and replaced with the latest automatic twin screw, twin die extrusion technology from Kabra Extrusiontechnik in technical collaboration with Battenfeld of Germany.



PVC CONDUIT PLANT

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FACILITIES AT OUR LABORATORY FOR TESTING OF RIGID PVC CONDUITS AND TEST RESULTS

Each batch of **atul** rigid P.V.C conduits is tested as per scheme of testing and inspection as per I.S. 9537 (Part 1) 1980 and I.S. 9537 (Part 3) 1983 in our laboratory regularly and also tested by us at C.P.R.I. / C.I.P.E.T

Bureau of Indian Standards is inspecting our unit periodically and are drawing the samples from our plant as well as from the market for testing in their laboratory.

1. Classification:-

Rigid Plain Conduit made of Insulating material i.e. P.V.C in different stresses.





2. Marking on each length:-
(Screen printing)

atul 25 mm HEAVY RIGID PVC CONDUIT
MADE IN INDIA,CM/L 0941959.
I.S. 9537 PART III (F.R.L.S - A.S.T.M)

3. Dimension :-

All dimensions are as per I.S. specification and are measured by various instruments.





4. Construction :-

The inside and outside surface of the conduit is smooth, free from burs, flash and similar defects.

5. Compression Test:-

(a) The difference between the initial diameter and the diameter of the flattened conduit when a compression force of 750 N is applied does not exceed 25 % of initial diameter and

(b) it does not exceed 10 % after 1 minute of removal of compression force.

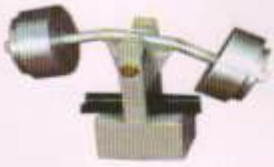


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6. Impact Test :-

There is no sign of disintegration or crack on Impact testing after conditioning and fall of mass of hammer from a specified height.





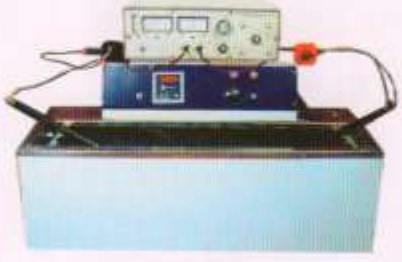
7. Resistance to heat :-

On Ball pressure test the impression diameter does not exceed 2.0 mm.



8. Resistance to Burning:-

The conduit does burn but the flame dies out within 1 second (specified 5 seconds) after removal of the burner.



9. Electrical Characteristics:-

No flashover or breakdown occurs and the measured insulation resistance is not less than 100 MΩ

10. Bending Test :-

Conduits of 16, 20 and 25 mm does not show any crack after testing the sample on bending up to 180° angle on a bending device at room temperature.





11.Collapse Test :-

The specified gauges passes through the conduit to check the minimum I.D. in case of conduits of diameters 16, 20 and 25 mm.

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THE PRODUCT RANGE

O.D*	WALL THICKNESS IN mm			Eccent-ricity**	Ovality **	Std. Packing Length x mtr
	Light	Medium	Heavy			
16(-0.3)	1.00 - 1.15	1.35 - 1.50	1.75 - 1.90	0.2	0.5	150 L x 3 mtr
20 (-0.3)	1.15 - 1.30	1.40 - 1.55	1.95 - 2.10	0.2	0.5	100 L x 3 mtr
25 (-0.4)	1.25 - 1.45	1.60 - 1.80	2.00 - 2.20	0.2	0.5	50 L x 3 mtr
32 (-0.4)	1.50 - 1.70	1.90 - 2.10	2.50 - 2.70	0.2	0.5	50 L x 3 mtr
40 (-0.4)	1.90 - 2.10	2.10 - 2.30	2.60 - 2.80	0.2	0.5	25 L x 3 mtr
50 (-0.5)	2.20 - 2.45	2.60 - 2.85	3.15 - 3.40	0.4	0.5	25 L x 3 mtr

(Screen Printed) Colour Code - (1) Light → Yellow. (2) Medium → White. (3) Heavy → Gold.
* Outside diameter and (Tolerance) in mm. ** Maximum permissible.

COLOURS :- BLACK ,GREY, WHITE , RED , BLUE, GREEN and ORANGE.

F.R.L.S :- All sizes of conduits and accessories are available in F.R.L.S. (Fire Retardant and Low Smoke) grade in above colours.

ADVANTAGES OF USING RIGID P.V.C CONDUITS: -

1. Are light in weight and can be installed easily in no time with less labour resulting in substantial cost saving.
2. Have excellent corrosion, chemical and scale forming resistance.
3. Are Fire Retardant, Low smoke and Rat Retardant. P.V.C is self extinguishing and does not promote fire.
4. Has required Mechanical, Electrical and Thermal Properties and can be used in open, concrete and underground applications.
5. Can be bent in any shape with help of Bending Spring, **atul** conduits of 20 mm can be bent in 'O' shape, 25 mm in 'U' shape and 32 mm in 'L' shape without any aid.
6. Can be joined permanently by applying P.V.C solvent.
7. **atul** P.V.C conduits have Specific Gravity of 1.35 - 1.45 g/ml
   Tensile Strength of 492 / 562 kg/cm2.
8. **atul** P.V.C conduits are available in various colours for Colour Coding of wiring for Power , Fire Alarm, Telecom , Lighting , UPS , CCTV , Data Cabling and Sound System etc.
9. Use of non metallic conduits i.e. P.V.C conduits manufactured as per I.S. 9537 (Part I) 1980 and (Part 3) 1983 specification is approved by Tariff Advisory Committee for electrical installations and Fire alarm systems [illegible]

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FIRE RETARDANT AND LOW SMOKE

Following tests are conducted by us at the laboratory of C.P.R.I / C.I.P.E.T

TESTS	FUNCTION	SPECIFICATIONS	RESULT
Oxygen Index Test :- ASTM-D-2863-1987	To determine % of oxygen reqd. for supporting combustion of insulating material at room temp.	Min. 21	34.0
Temp. Index Test :- ASTM-D-2863-1987	To determine at what temp. normal oxygen content of 21% in air will support combustion of insulating material.	Min. 250°C	> 250°C
Smoke Density Test :- ASTM -E-662-1983	To determine the visibility (light transmission) under fire of Insulating material.	-	> 40%
Flammability Test :- ASTM-D-635-1981	To determine the rate of burning and / or extent and time of burning.	Max. 25 mm	< 25mm

ACCESSORIES : Conduit accessories i.e., P.V.C Bend, Coupler, Junction box, Solvent, Metal Junction Box and Fan Box are available.

VIP EXTRUSIONS

269/29, Pipe Line Road
Sunkadakatte, Vishwaneedam Post,
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