



**PRODUCT MANUAL**  
**FOR Solvent Cement for use with Unplasticized Polyvinyl Chloride Plastic Pipe and Fittings**  
**ACCORDING TO IS 14182:1994**

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.

1.	<b>Product</b>	:	IS 14182:1994
	<b>Title</b>	:	Solvent Cement for use with Unplasticized Polyvinyl Chloride Plastic Pipe and Fittings
	<b>No. of Amendments</b>	:	02
2.	<b>Sampling Guidelines:</b>		
a)	Raw material	:	As given in Table 1 of IS 14182:1994 (For information only)
b)	Grouping guidelines	:	NA (Sample of each class i.e. regular bodied, medium bodied and heavy bodied cement shall be drawn to cover these classes of cement in scope of licence)
c)	Sample Size	:	3.5 litres with PVC sheet of appropriate dimensions
3.	<b>List of Test Equipment</b>	:	Please refer Annex –A
4.	<b>Scheme of Inspection and Testing</b>	:	Please refer Annex - B
5.	<b>Possible tests in a day :</b>	:	Visual, Vinyl Chloride Polymer Content, Dissolution, Viscosity, Lap Shear Strength (only for 2 hr curing time) and Hydrostatic burst strength
6.	<b>Scope of the Licence :</b>		
			Licence is granted to use Standard Mark as per <b>IS 14182:1994</b> with the following scope:
	Name of the product		Solvent Cement for use with Unplasticized Polyvinyl Chloride Plastic Pipe and Fittings
	Class		Regular bodied and/or medium bodied and/or heavy bodied cement

**ANNEX-A**  
**PRODUCT MANUAL**  
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**LIST OF TEST EQUIPMENTS**  
**Major test equipment required to test as per the Indian Standard**

Sr. No.	Test Equipment	Tests used in with Clause Reference
1.	Beaker,brush.	Clause 4.3
2.	Ointment tins(30ml all metal),Vaccum oven fitted with pressure gauge to maintain 15mmHg minimum,Desiccator,glass rod,chemical – tetrahydro furan,Analytical balance,Centrifuge.	Clause 4.7 (Vinyl chloride polymer content)
3.	Un plasticized PVC granular for Dissolution.	Clause 4.8 (Dissolution)
4.	Brookfield Viscometer,250ml beaker	Clause 4.9 (Viscosity)
5.	Rigid plastic sheet,solvent methyl ethyl ketone or acetone,25mm natural bristle brush,2 Kg weight,Air conditioner for maintaining 27+-2 deg cent.,Shear strength testing machine as per figure 1 & 2 of IS 14182:1994, 2 inch PVC pipe and coupling,Hydrostatic test machine,suitable end closures,pressure gauge,stop watch.	Clause 4.10 (Lap Shear Strength) and 4.11 (Hydrostatic burst strength)

**The list above is indicative and may not be taken as exhaustive**

ANNEX – B

SCHEME OF INSPECTION AND TESTING

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1. **LABORATORY** - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.
  - 1.1 The manufacturer shall prepare a calibration plan for the test equipment.
2. **TEST RECORDS** – The manufacturer shall maintain test records for the tests carried out to establish conformity.
3. **PACKING AND MARKING** – The Standard Mark as given in the Schedule of the license shall be stenciled or printed on each container and / or printed on the label applied to the container; provided that the material in each container to which this mark is thus applied conforms to every requirement of the specification.
  - 3.1 Marking and packing shall be done as per the provisions of the Indian Standard. In addition In addition, the following details shall be mentioned on each container:
    - a) BIS Licence No. CM/L \_\_\_\_\_.
    - b) BIS website details i.e.–“For details of BIS certification please visit [www.bis.gov.in](http://www.bis.gov.in)”
  - 3.2 In addition, the following information may preferably be given in a leaflet accompanying each container:
    - i. List of thermoplastic pipes and sizes for which the material is recommended
    - ii. Intended uses and end use applications (potable water, pressure or non-pressure pipes)
4. **CONTROL UNIT** – For the purpose of this scheme, a control unit is defined as the material manufactured in one continuous operation from the same consignment of raw materials.
5. **LEVELS OF CONTROL** - The tests as indicated in column 1 of Table 1 and the levels of control in column 3 of Table 1, shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.
  - 5.1 All the production which conforms to the Indian Standard and covered by the licence should be marked with Standard Mark.
6. **REJECTIONS** – Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016.

**Table 1 LEVELS OF CONTROL  
(Scheme of Inspection and Testing)**

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required(or) S:Sub contracting permitted	Recommended Levels of Control		
Cl.	Requirement	Test Methods	Clause Reference		No. of Sample	Frequency	Remark
4.1, 4.2	Material	4.1, 4.2, 4.6	IS 14182:1994	R	One	Each consignment	See Note 3
4.3, 4.4	Visual and applicability test	4.3, 4.4	-do-	R	One	Each control unit	See Note 4
4.5	Effect on water limit	10.3	IS 4985	S	One	Every six months	See Note 4
4.7	Vinyl chloride polymer content	Annex A	IS 14182:1994	R	One	Each control unit	See Note 4
4.8	Dissolution	4.8	-do-	R	One	Each control unit	See Note 4
4.9	Viscosity	Annex B	-do-	R	One	Each control unit	See Note 4
4.10	Lap shear strength	Annex C	-do-	R	One	Each control unit	See Note 4
4.11	Hydrostatic burst strength	Annex C, C-1.2	-do-	R	One	Each control unit	See Note 4

Note-1: Whether test equipment is required or sub-contracting is permitted in column 2 shall be decided by the Bureau and shall be mandatory. Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empaneled by the Bureau.

Note-2: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification for approval to BO head.

Note-3: Conformity of materials to the requirement of the specification may be established through either of the following or a combination of the same (No testing is required if the material is ISI marked):

- i. Test report from a laboratory recognized by the Bureau or Government laboratories empaneled by the Bureau
- ii. Material manufacturer's test certificate
- iii. In house factory test report

Note-4: If no failure is found, the control unit : shall be declared no passing, if however, the failure is found, two more samples shall be taken from one control unit and tested. The control unit shall be considered as passing , if no failure is found, otherwise control unit shall be rejected.