

**MATERIAL TESTING FACILITIES
FOR
HIGHWAY SECTOR
IN
NATIONAL CAPITAL REGION**



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MATERIAL TESTING FACILITIES FOR HIGHWAY SECTOR IN NATIONAL CAPITAL REGION

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(As on 26th October, 2010)**

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14.	Marathe, D.G.	Chief Engineer, Nashik Public Works Region, Mumbai
15.	Choudhury, Pinaki Roy	Managing Director, Lea Associates (SA) Pvt. Ltd., New Delhi
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19.	Rajoria, K.B.	Engineer-in-Chief (Retd.), Delhi PWD, New Delhi
20.	Ravindranath, V.	Chief Engineer (R&B) & Managing Director, APRDC, Hyderabad

- | | | |
|-----|------------------------|---|
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| 27. | Tyagi, P.S. | Chief Engineer (Retd.), U.P. PWD, Ghaziabad |
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| 35. | Banchor, Anil | Head- Business Expansion, ACC Concrete Limited, Mumbai |
| 36. | Bhasin, Col. A.K. | Senior Joint President, M/s Jaypee Ganga Infrast. Corp Ltd., Noida |
| 37. | Kumar, Ashok | Chief Engineer, Ministry of Road Transport & Highways, New Delhi |

Ex-Officio Members

- | | | |
|----|--|--|
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Corresponding Members

- | | | |
|----|--------------|---|
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|----|--------------|---|

INTRODUCTION

Standard Specifications and Conditions of Contract provide for testing of materials and finished products. According to MORTH Specifications and IRC guidelines some material testing facilities are arranged at project site. Still it is necessary to get several tests done from outside. For this purpose, it is required to approach such laboratories which are reliable and approved by National Accreditation Board of Laboratories (NABL).

Engineers working for different projects need information about, availability of testing facilities with reliable laboratories. This document provides such list of laboratories and available testing facilities in NCR. The information contained in the document being dynamic in nature which is subject to constant up-gradation, every endeavor will be made to update the information of newly accredited laboratories in the subsequent documentation.

The draft document on Material Testing Facilities for Highway Sector in National Capital Region had been under the consideration of Human Resource Development Committee (G-2) for quite sometime. The draft was discussed by G-2 Committee in a number of meetings.

The Human Resource Development Committee (personnel given below) in its meeting held on 10.08.2010 finalized the document and recommended its submission to the General Specifications & Standards Committee (GSS) for consideration.

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Kandasamy, C.	Co-Convenor
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S.K. Vij

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(Liansanga)

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(Sinha, A.V.)

Secretary General, IRC
(Indoria, R.P.)

The draft Document was approved by the General Specifications and Standards Committee (GSS) in its meeting held on 26.10.2010 and authorized the Secretary General, IRC to place the same before Council. The document was approved by the IRC Council in its 192nd meeting held on 12.11.2010. The document after incorporation of comments offered by the Council members was approved by the Convenor, GSS Committee for printing.

This document has been brought out by IRC with the disclaimer that these facilities are as on date of publishing of the document.

For preparation of this document credit goes to Shri Shishir Bansal, Superintending Engineer, Central PWD and Members of the Committee. He deserves appreciation for the hard work. Valuable support given by Shri S.P. Banwait, Retd. Additional D.G. CPWD is also acknowledged. All other members of the HRD Committee rendered guidance and we are grateful to them.

CHAPTER 1

TESTING OF MATERIALS IN HIGHWAY SECTOR

All projects in Highway Sector require extensive testing of the materials which is a pre-requisite for producing quality work. This requires several tests including physical, chemical, ultrasonic, X-ray and various other types of tests which normally cannot be carried out at project site laboratory without adding high-costs on the project. These tests also require trained and experienced personnel to conduct the required tests in controlled environment. Therefore, the need arises for depending on independent laboratories with facilities to conduct the tests as per IRC specifications and in controlled conditions like temperature, humidity etc.

2 In order to help engineers and contractors for the purpose of testing of materials, the compilation of NABL accredited laboratories in NCR region has been done by this Committee. Updated information of NABL accredited laboratories is though available on the website of NABL under category Laboratory Search; however every laboratory may not have the facility for carrying out all the required tests. This compilation gives information about available testing facilities in various reputed laboratories. These laboratories are both in Govt. and Private sectors. Most of the standards and specifications required in Highway projects are met by these laboratories. However, depending on specific requirements, owner of the projects may approve some more laboratories for their projects. These laboratories can be in the Public Sector or Private Sector. For laboratories in the private sector, the past record and reputation of the laboratory must invariably be given due consideration. The infrastructure in these laboratories can be inspected before they are short-listed for testing.

3 The name of the laboratories with addresses and details of contact persons are given in Chapter 2, while the details of testing facilities are given in Chapter 3. The testing facilities are given in tabular form. First Column shows the name of tests along with the reference of the standards. Other Columns show the name of laboratories and wherever such facility is available; it is shown with “√” mark.

4 This compilation, it is expected, will be useful for selecting proper laboratory at convenient distance, from the project site. This will in turn help in achieving required quality control in Highway projects.

CHAPTER 2

LIST OF LABORATORIES IN NCR

1. AES LABORATORIES (P) LTD.

B-118 Phase II
Noida U.P. 201304
Tel: 91-120-2562645, 3078068
FAX: 91-120-2568366
Email: support@aeslabs.com

2. Apex Assessment Labs Pvt. Ltd.

Lab: Plot No. 7, Anand Industrial Estate,
Behind ITS, Mohan Nagar,
Ghaziabad – 201003 (U.P.)
Reg. Office: 909, Hemkunt House,
Rajendera Place, New Delhi - 110008
Tel: 0120-3241669
Mobile: 09871189763
FAX: 0120-2941902
Email: apexlabs_909@rediffmail.com

3. BALAJI ANALYTICAL LABORATORIES

FCA-1556, SGM Nagar, NIT
Faridabad, Haryana,
PIN – 121001 (Haryana).
Tel: 09810738568, 9312089440, 09968108051, 09718358568, 69, 70
FAX: 0129-4057220
E mail: rahul_lab@yahoo.co.in

4. BHARAT TEST HOUSE

109, 1st Floor, Anupam Bhawan,
Azadpur, New Delhi – 110033
Tel: +91-11-27672629, 27675696, 27675900
FAX: +91-11-27681204
Email: bthinfo@bharattesthouse.com
Website: www.bharattesthouse.com

5. BUREAU OF INDIAN STANDARDS

Plot No. 20/9, Site IV,
 Sahibabad Industrial Area,
 Sahibabad – 201010,
 Distt. Ghaziabad (U.P.)
Tel: 0120-4177100 (epabx)
FAX: 0120-2776663
Email: cl@bis.org.in
Website: www.bis.org.in

6. CENGRS GEOTECHNICA PVT. LTD.

B – 3 / 87, Safdarjung Enclave,
 New Delhi – 110029, INDIA
Tel: +91-120-4206771
FAX: +91-120-4206775, 91-11-26193985
Email: cengrs@gmail.com
Website: www.cengrs.com

7. CENTRAL INSTITUTE OF PLASTICS ENGINEERING & TECHNOLOGY

(Ministry of Chemicals & Fertilizers, Govt. of India)
 G.T. Road, Siwah,
 PANIPAT – 132108 (Haryana)
Tel: +91-180-3297993,
FAX: +91-180-2565097
Email: cipetpanipat@yahoo.co.in
Website: www.cipet.gov.in

8. CENTRAL ROAD RESEARCH INSTITUTE

Delhi-Mathura road,
 P.O. CRRI,
 New Delhi – 110020
Tel: 91-11-26921535, 26932601
FAX: 91-11-26845943 (Director's Office), 91-11-26830480 (COA's Office)
Email: root@crriidom.org, root@cscrri.ren.nic.in
Website: http://www.crridom.org
Email: pknanda@crridom.org
Contact person: Dr. S. Gangopadhyay, Director;
Tel: 26848917, 26823437

9. DELHI TEST HOUSE

A-62/3, G.T. Karnal Road,
Industrial Area Phase-I,
New Delhi-110033
Tel: 91-11-27427672, 27437327, 27435509
FAX: 91-11-27435509, 27456917
E mail: deltest@bol.net.in
Website: www.delhitesthouse.com
Contact person: Mr. M. C. Goel, Director
Marketing Manager: Mr. Paras Nath

10. ENKAY Testing Technologies Ltd.

536, Udyog Vihar, Phase V,
Gurgaon, Haryana (India)
Tel: 0124-3079000
FAX: 0124-3079021
Email: info@enkay.co.in
Website: www.enkay.co.in

11. GAIL (INDIA) LIMITED

Gail Polymer Technology Centre,
B-35/36, Sector – 1,
Noida, UP - 201301
Tel: +91-0120-2549155/156, 2549310
FAX: 011-26185941

12. INDIAN INSTITUTE OF TECHNOLOGY, DELHI

Industrial Research & Development Unit
Hauz Khas, Outer Ring Road
New Delhi
Tel: 91-11-26597194
FAX: 91-11-26854715
Website: www.iit.ernet.in
Email: irdadmin@ird.iitd.ac.in

13. MERITORIOUS LABORATORIES

4/119, Subhash Nagar, (Park Side)
New Delhi - 110027
Tel: 011-25138486, 9868219779
Email: meritoriouslaboratories@yahoo.co.in
Website: www.meritoriouslab.com

14. MSME TESTING CENTRE

Ministry of Micro, Small & Medium Enterprise
Government of India, (Northern Region)
Shahid Capt, Gaur Marg, Okhla,
New Delhi – 110020

Tel: 91-11- 26312671

FAX: 91-11-26847973,

E-mail: ddc@rtcnr.gov.in

Website: www.rtcnr.gov.in

Contact person: Sh P.K.Panigrahi, Dy. Director (Admn./ Customer Cell)

15. NATIONAL TEST HOUSE (Northern Region)

Ministry of Consumer Affairs, Food & Public Distribution
Government of India,
Department of Consumer Affairs,
Kamla Nehru Nagar,
Ghaziabad – 201002

Tel: 0120-2960082, 2789813, 906

FAX: 0120-2789883, 2960082

Email: nthnr@rediffmail.com

Website: www.nth.gov.in

16. NATIONAL TESTING LABORATORY

249-A, Sant Garh,
Near Keshopur Depot,
Outer Ring Road,
New Delhi – 110018

Tel: 011-32469295, 28334811

FAX: 011-28334812

Email: ntldelhi@yahoo.co.in

17. NATIONAL COUNCIL FOR CEMENT & BUILDING MATERIAL

34 K.M. Stone, Delhi - Mathura Road (NH-2),
Ballabgarh,
Haryana – 121004

Tel: 91-129- 2242051– 56, 2246174-75

FAX: 91-129–2242100, 2246175

Email: nccbm@vsnl.com, info@ncbindia.com

Website: www.ncbindia.com

18. NORTHERN INDIA TEXTILE RESEARCH ASSOCIATION

Sector – 23, Rajnagar,
Ghazibad – 201002 (India)
Tel: 0120-2786434/451, 2783334/586/592/638
FAX: 0120-2783596
Contact person: Sh. Rajendra Kumar Gaur, Assistant Director &
Quality Manager
ISO/IEC 17025:2005

19. REGIONAL TESTING CENTRE (NR)

Shaheed Capt. Gaur Marg, Okhla,
New Delhi – 110020
Tel: 91-11- 26314616, 26847973, 26312587, 26312671, 26317932
FAX: 91-11-26847973,
E-mail: rtcnr@nde.vsnl.net.in
Website: www.rtcnr.org
Contact person: Sh A.K.Gogia, AIA & Director

20. S. G. ANALYTICAL LABORATORY

H-48, Udyog Nagar, Rohtak Road,
Delhi – 110041
Tel: +91-11-25472287, 25472668
Email: sganalytical@yahoo.co.in

21. SPECTRO ANALYTICAL LABS LTD., NEW DELHI

E-41, Okhla Industrial Area,
Phase II, New Delhi 110020
Tel: 91-11-40522000, 41611000
FAX: 91-11-40503150, 40503151
E mail: kd@spectro.in
Website: www.specto.in
Contact person: Shri Hari Nandan, Dy. Manager

22. SUNBEAM AUTO LIMITED

38/6 K.M Stone,
Delhi-Jaipur Highway,
Narsingpur, Gurgaon - 122 001
Tel: 91-124-5129200, 5129254, 5129246
FAX: 91-124-5129751 / 52
E mail: sunbeam@sunbeamauto.com, lab@sunbeamauto.com,
vsunbeam@del3.vsnl.net.in
Website: www.sunbeamauto.com

23. SGS India Pvt. Ltd.

Consumer Testing Services,
250 Udyog Vihar, Phase, IV,
Gurgaon – 122015, Haryana, India,
Tel: 91-124–2399990-98, Ext-6192; 91-9871799604
FAX: 91-124–2399766
Email: vikram_chauhan@sgs.com

24. SR. QUALITY ASSURANCE ESTT. (METALS)

Ministry of Defense
Murad Nagar,
Distt. – Ghaziabad (U.P.)
PIN – 201206
Tel: 01232-228910-13
FAX: 01232-225761
Email: sqaemmud-dgqa@nic.in

25. SHRI RAM INSTITUTE FOR INDUSTRIAL RESEARCH

19, University Road,
Delhi 110007
Tel: 91-11-27667267, 27667860
FAX: 91-11-27667676, 27667207
Website: <http://www.shriraminstitute.org>
Email: sridlhi@vsnl.com
Contact person: Dr. R.K. Khandal

26. STANDARD TESTING LABORATORY

A-144/1, Wazirpur Industrial Area,
Delhi – 110052
Tel: +91-11-65178546, 42473253
FAX: +91-180-2565097
Email: standardtestinglaboratory@yahoo.com

27. STAR WORE (INDIA) LIMITED

21/4, Mathura Road,
Ballabgarh – 121004
(Haryana) – INDIA
Tel: 0129-4094247, 4094266, 4094280, 2241263/64
FAX: 0129-2246765, 2241265
Email: swdc06@yahoo.co.in

28. XPLOER TESTING LABORATORY

Plot – 3, First Floor, Sarhaul,

Opp. – HIPA, Sector – 18,

Gurgaon – 122001

(Haryana)

Tel: +91-124-4388659

FAX: +91-124-4241962

Email: xplorer@xploreronline.com

Website: www.xploreronline.com

CHAPTER 3 TESTING FACILITIES AT DIFFERENT LABORATORIES IN NCR

Test Houses →	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
AES	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Apex Assessment Labs Pvt. Ltd.																												
Balaji Analytical Laboratories																												
Bharat Test House																												
Bureau of Indian Standards																												
Cengrs Geotechnica Pvt. Ltd.																												
Central Institute of Plastics Engineering & Technology																												
CRRRI																												
DTH																												
Enkay Testing Technologies Ltd.																												
Gail India Ltd.																												
IIITD																												
Meritorious Laboratories																												
MSME Testing Centre																												
National Test House (NR)																												
National Testing Laboratory																												
NCB																												
Northern India Textile Research Association																												
RTC																												
S.G. Analytical Laboratory																												
SAL																												
SBA																												
SGS India Pvt. Ltd.																												
Sr. Quality Assurance Estt. (Metals)																												
SRI																												
Standard Testing Laboratory																												
Star Wire (India) Limited																												
Xplorer Testing Laboratory																												

Test Houses →																														
	Tests ↓	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
IS 2386 (Part III)-1963	AES	✓																												
	Apex Assessment Labs Pvt. Ltd.	✓																												
	Balaji Analytical Laboratories			✓						✓																				
	Bharat Test House				✓																									
d) Mechanical Properties	Bureau of Indian Standards																													
	Cengrs Geotechnica Pvt. Ltd.																													
	Central Institute of Plastics Engineering & Technology																													
	CRRI								✓					✓																
IS 383-1970	DTH									✓																				
	Enkay Testing Technologies Ltd.										✓																			
	Gail India Ltd.																													
	IITD													✓																
IS 2386 (Part IV)-1963	Meritorious Laboratories																													
	MSME Testing Centre																													
	National Test House (NR)																													
	National Testing Laboratory																													
e) Soundness	NCB																													
	Northern India Textile Research Association																													
	RTC																													
	S.G. Analytical Laboratory																													
IS 383-1970	SAL																													
	SBA																													
	SGS India Pvt. Ltd.																													
	Sr. Quality Assurance Estt. (Metals)																													
f) Alkali Aggregate Reactivity	SRI																													
	Standard Testing Laboratory																													
	Star Wire (India) Limited																													
	Xplorer Testing Laboratory																													

Test Houses →																													
	Tests ↓	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
g) Petrography Examination	AES	✓	✓	✓							✓									✓									
	Apex Assessment Labs Pvt. Ltd.																												
	Balaji Analytical Laboratories																												
	Bharat Test House																												
IS 383-1970	Bureau of Indian Standards																												
	Cengrs Geotechnica Pvt. Ltd.																												
	Central Institute of Plastics Engineering & Technology																												
	CRRI																												
IS 2386 (Part VIII)-1963	DTH																												
	Enkay Testing Technologies Ltd.										✓																		
	IITD																												
	Meritorious Laboratories																												
2) Fine Aggregates	MSME Testing Centre																												
	National Test House (NR)																												
	National Testing Laboratory																												
	NCB																												
a) Particle Size and shape	Northern India Textile Research Association																												
	RTC																												
	S.G. Analytical Laboratory																												
	SAL																												
IS 383-1970	SBA																												
	SGS India Pvt. Ltd.																												
	Sr. Quality Assurance Estt. (Metals)																												
	SRI																												
b) Deleterious Materials	Standard Testing Laboratory																												
	Star Wire (India) Limited																												
	Xplorer Testing Laboratory																												

Test Houses →	Tests ↓	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
		AES	Apex Assessment Labs Pvt. Ltd.	Balaji Analytical Laboratories	Bharat Test House	Bureau of Indian Standards	Cengrs Geotechnical Pvt. Ltd.	Central Institute of Plastics Engineering & Technology	CRRI	DTH	Enkay Testing Technologies Ltd.	Gail India Ltd.	IITD	Meritorious Laboratories	MSME Testing Centre	National Test House (NR)	National Testing Laboratory	NCB	Northern India Textile Research Association	RTC	S.G. Analytical Laboratory	SAL	SBA	SGS India Pvt. Ltd.	Sr. Quality Assurance Estt. (Metals)	SRI	Standard Testing Laboratory	Star Wire (India) Limited	Explorer Testing Laboratory
		✓	✓	✓	✓			✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓
c) Specific Gravity, Bulk Density, Water absorption and Surface Moisture																													
IS 383-1970																													
IS 2386 (Part III-1963)																													
d) Soundness		✓	✓	✓	✓				✓	✓	✓	✓	✓			✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓
IS 383-1970																													
IS 2386 (Part V)-1963																													
3) Water																													
a) Chemical Analysis		✓	✓	✓	✓				✓	✓	✓	✓	✓			✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓
IS 456:2000																													
IS 3025(Part 22,23,24,32)																													

Test Houses →																														
	Tests ↓	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
b) Physical Analysis	AES	✓	✓	✓	✓				✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓				✓	✓		
	IS 3025(Part 17, 18)																													
4) Lime																														
	a) CaCO ₃ content	✓	✓		✓				✓	✓	✓		✓		✓		✓	✓	✓	✓		✓	✓			✓	✓			
IS 1195-1978																														
	b) Sieve Analysis	✓	✓		✓					✓	✓		✓				✓	✓	✓	✓		✓	✓			✓	✓			
IS 1195-1978																														
5) Earth																														
	a) Atterberg Limits	✓	✓	✓	✓		✓		✓	✓	✓		✓				✓	✓	✓	✓		✓	✓			✓	✓			
IS 2720 Part 5																														
Apex Assessment Labs Pvt. Ltd.																														
Balaji Analytical Laboratories																														
Bharat Test House																														
Bureau of Indian Standards																														
Cengrs Geotechnica Pvt. Ltd.																														
Central Institute of Plastics Engineering & Technology																														
CRRI																														
DTH																														
Enkay Testing Technologies Ltd.																														
Gail India Ltd.																														
IITD																														
Meritorious Laboratories																														
MSME Testing Centre																														
National Test House (NR)																														
National Testing Laboratory																														
NCB																														
Northern India Textile Research Association																														
RTC																														
S.G. Analytical Laboratory																														
SAL																														
SBA																														
SGS India Pvt. Ltd.																														
Sr. Quality Assurance Estt. (Metals)																														
SRI																														
Standard Testing Laboratory																														
Star Wire (India) Limited																														
Xplorer Testing Laboratory																														

Test Houses ↑																												
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Tests ↓	✓	✓	✓	✓		✓		✓	✓	✓		✓										✓				✓	✓	✓
b) CBR																												
IS 2720 Part 16																												
c) Clay content	✓	✓	✓	✓		✓		✓	✓	✓		✓															✓	
IS 2720 Part 4																												
d) OMC	✓	✓	✓	✓		✓		✓	✓	✓		✓															✓	
IS 2720 Part 16																												
e) Density	✓	✓	✓	✓		✓	✓	✓	✓	✓		✓															✓	
IS 2720 Part 8																												
f) Grading	✓	✓	✓	✓																							✓	
IS 2720 Part 4																												
												</																

Test Houses →	Tests ↓																											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
AES	✓	✓	✓	✓				✓	✓	✓		✓													✓	✓		
Apex Assessment Labs Pvt. Ltd.																												
Balaji Analytical Laboratories																												
Bharat Test House																												
Bureau of Indian Standards																												
Cengrs Geotechnica Pvt. Ltd.																												
Central Institute of Plastics Engineering & Technology																												
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Enkay Testing Technologies Ltd.																												
Gail India Ltd.																												
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NCB																												
Northern India Textile Research Association																												
RTC																												
S.G. Analytical Laboratory																												
SAL																												
SBA																												
SGS India Pvt. Ltd.																												
Sr. Quality Assurance Estt. (Metals)																												
SRI																												
Standard Testing Laboratory																												
Star Wire (India) Limited																												
Xplorer Testing Laboratory																												

Test Houses ↑	Tests ↓																											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
b) Dimension & Mass	Apex Assessment Labs Pvt. Ltd.	✓	✓		✓				✓	✓		✓		✓		✓					✓				✓			
	Balaji Analytical Laboratories								✓																			
IS 14268 - 1995	Bharat Test House			✓																								
	Bureau of Indian Standards				✓																							
c) Physical Properties	Cengrs Geotechnical Pvt. Ltd.																											
	Central Institute of Plastics Engineering & Technology																											
IS 14268 - 1995	CRRI																											
	DTH								✓																			
d) Elongation	Enkay Testing Technologies Ltd.									✓											✓					✓		
	IITD											✓																
IS 14268 - 1995	Meritorious Laboratories																											
	MSME Testing Centre											✓																
e) Relaxation Properties	National Test House (NR)															✓												
	National Testing Laboratory															✓												
IS 14268 - 1995	NCB																											
	Northern India Textile Research Association																											
IS 14268 - 1995	RTC																											
	S. G. Analytical Laboratory																											
IS 14268 - 1995	SAL															✓					✓							
	SBA																✓					✓						
IS 14268 - 1995	SGS India Pvt. Ltd.																											
	Sr. Quality Assurance Estt. (Metals)																											
IS 14268 - 1995	SRI																											
	Standard Testing Laboratory																								✓			
IS 14268 - 1995	Star Wire (India) Limited																											
	Xplorer Testing Laboratory																											

Test Houses →	Tests ↓																											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
AES	✓	✓	✓	✓	✓				✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Apex Assessment Labs Pvt. Ltd.																												
Balaji Analytical Laboratories																												
Bharat Test House																												
Bureau of Indian Standards																												
Cengrs Geotechnica Pvt. Ltd.																												
Central Institute of Plastics Engineering & Technology																												
CRRI																												
DTH																												
Enkay Testing Technologies Ltd.																												
Gail India Ltd.																												
IITD																												
Meritorious Laboratories																												
MSME Testing Centre																												
National Test House (NR)																												
National Testing Laboratory																												
NCB																												
Northern India Textile Research Association																												
RTC																												
S.G. Analytical Laboratory																												
SAL																												
SBA																												
SGS India Pvt. Ltd.																												
Sr. Quality Assurance Estt. (Metals)																												
SRI																												
Standard Testing Laboratory																												
Star Wire (India) Limited																												
Xplorer Testing Laboratory																												

Test Houses →	Tests ↓																													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
ii) Soundness	i Le-Chateliers Method	AES	✓	✓	✓	✓				✓			✓	✓	✓	✓														
		Apex Assessment Labs Pvt. Ltd.																												
ii Auto clave expansion		Balaji Analytical Laboratories	✓	✓	✓	✓																								
		Bharat Test House																												
		Bureau of Indian Standards																												
		Cengrs Geotechnica Pvt. Ltd.																												
		Central Institute of Plastics Engineering & Technology																												
		CRRI																												
		DTH																												
		Enkay Testing Technologies Ltd.									✓																			
iii) Setting time		Gail India Ltd.																												
		IITD																												
		Meritorious Laboratories									✓			✓	✓	✓	✓													
		MSE Testing Centre										✓			✓	✓	✓	✓												
		National Test House (NR)												✓	✓	✓	✓													
		National Testing Laboratory													✓	✓	✓	✓												
		NCB																												
		Northern India Textile Research Association																												
		RTC																												
		S.G. Analytical Laboratory																												
		SAL																												
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		SGS India Pvt. Ltd.																												
		Sr. Quality Assurance Estt. (Metals)																												
		SRI																												
		Standard Testing Laboratory																												
		Star Wire (India) Limited																												
		Xplorer Testing Laboratory																												

Test Houses ↑	Tests ↓																											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
9) Concrete (IRC :21, IS 456)	AES	Apex Assessment Labs Pvt. Ltd.	Balaji Analytical Laboratories	Bharat Test House	Bureau of Indian Standards	Cengrs Geotechnica Pvt. Ltd.	Central Institute of Plastics Engineering & Technology	CRRI	DTH	Enkay Testing Technologies Ltd.	Gail India Ltd.	IITD	Meritorious Laboratories	MSME Testing Centre	National Test House (NR)	National Testing Laboratory	NCB	Northern India Textile Research Association	RTC	S.G. Analytical Laboratory	SAL	SBA	SGS India Pvt. Ltd.	Sr. Quality Assurance Estt. (Metals)	SRI	Standard Testing Laboratory	Star Wire (India) Limited	Xplorer Testing Laboratory
	✓	✓	✓	✓			✓	✓	✓	✓			✓		✓	✓	✓	✓	✓						✓	✓	✓	
	✓	✓	✓	✓			✓	✓	✓	✓			✓		✓	✓	✓	✓	✓						✓	✓	✓	
	✓	✓	✓	✓			✓	✓	✓	✓			✓		✓	✓	✓	✓	✓						✓	✓	✓	
	✓	✓	✓	✓			✓	✓	✓	✓			✓		✓	✓	✓	✓	✓						✓	✓	✓	
10) Plasticiser IS 9103-1999																												
	✓	✓		✓			✓		✓	✓		✓				✓	✓		✓		✓	✓			✓	✓	✓	
	✓	✓		✓			✓		✓	✓		✓				✓	✓		✓		✓	✓			✓	✓	✓	
	✓	✓		✓			✓		✓	✓		✓				✓	✓		✓		✓	✓			✓	✓	✓	
	✓	✓		✓			✓		✓	✓		✓				✓	✓		✓		✓	✓			✓	✓	✓	
a) Water content b) Compressive strength c) Flexural Strength d) Length change																												

Test Houses →	←																											
	Test Houses																											
Tests ↓	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
e) Bleeding	✓	✓		✓					✓	✓		✓				✓	✓		✓		✓				✓		✓	
f) Loss of workability	✓	✓		✓					✓	✓		✓				✓	✓		✓		✓				✓		✓	
g) Air content	✓	✓							✓	✓		✓				✓	✓		✓		✓				✓		✓	
11) Epoxy																												
F.I.P. Guidelines																												
a) Pot Life	✓			✓					✓			✓				✓					✓	✓			✓			
b) Open Time	✓								✓			✓				✓					✓	✓			✓			
c) Thixotropy	✓											✓									✓	✓			✓			
d) Squeezability	✓			✓								✓									✓	✓			✓			
e) Curing Rate	✓			✓								✓									✓	✓			✓			
f) Compressive Strength	✓			✓					✓			✓									✓	✓			✓			
g) Bonding	✓			✓					✓			✓									✓	✓			✓			

Test Houses ↑	Tests ↓																											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
AES	✓			✓								✓				✓						✓				✓		
Apex Assessment Labs Pvt. Ltd.																												
Balaji Analytical Laboratories																												
Bharat Test House				✓																								
Bureau of Indian Standards																												
Cengrs Geotechnica Pvt. Ltd.																												
Central Institute of Plastics Engineering & Technology																												
CRRI																												
DTH									✓																			
Enkay Testing Technologies Ltd.																												
Gail India Ltd.												✓																
IITD												✓																
Meritorious Laboratories																												
MSME Testing Centre																												
National Test House (NR)																												
National Testing Laboratory																												
NCB																												
Northern India Textile Research Association																												
RTC																												
S.G. Analytical Laboratory																												
SAL																					✓							
SBA																					✓							
SGS India Pvt. Ltd.																												
Sr. Quality Assurance Estt. (Metals)																												
SRI																												
Standard Testing Laboratory																												
Star Wire (India) Limited																												
Xplorer Testing Laboratory																												

Test Houses →	Tests ↓	AES	Apex Assessment Labs Pvt. Ltd.	Balaji Analytical Laboratories	Bharat Test House	Bureau of Indian Standards	Cengrs Geotechnica Pvt. Ltd.	Central Institute of Plastics Engineering & Technology	CRRI	DTH	Enkay Testing Technologies Ltd.	Gail India Ltd.	IITD	Meritorious Laboratories	MSME Testing Centre	National Test House (NR)	National Testing Laboratory	NCB	Northern India Textile Research Association	RTC	S.G. Analytical Laboratory	SAL	SBA	SGS India Pvt. Ltd.	Sr. Quality Assurance Estt. (Metals)	SRI	Standard Testing Laboratory	Star Wire (India) Limited	Xplorer Testing Laboratory
		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
c) Time for expansion																	✓					✓				✓		✓	
13) Water Proofing Compounds																													
IS 2645-1975																													
a) Permeability	✓	✓	✓	✓	✓	✓				✓	✓		✓	✓		✓	✓			✓		✓				✓	✓	✓	✓
b) Setting Time	✓	✓	✓	✓	✓	✓				✓	✓		✓	✓		✓	✓			✓		✓				✓	✓	✓	✓
c) Compressive Strength	✓	✓	✓	✓	✓	✓				✓	✓		✓	✓		✓	✓			✓		✓				✓	✓	✓	✓
d) Chloride Content	✓	✓	✓	✓	✓	✓				✓	✓		✓	✓		✓	✓			✓		✓				✓	✓	✓	✓
e) Sulphate Content	✓	✓	✓	✓	✓	✓				✓	✓		✓	✓		✓	✓			✓		✓				✓	✓	✓	✓
14) Polysulphide Sealant																													
IS 12118 (Part I)-1987																													
a) Pot life/work life	✓			✓						✓							✓					✓				✓			

Test Houses →	Tests ↓	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
		AES	Apex Assessment Labs Pvt. Ltd.	Balaji Analytical Laboratories	Bharat Test House	Bureau of Indian Standards	Cengrs Geotechnica Pvt. Ltd.	Central Institute of Plastics Engineering & Technology	CRRI	DTH	Enkay Testing Technologies Ltd.	Gail India Ltd.	IITD	Meritorious Laboratories	MSME Testing Centre	National Test House (NR)	National Testing Laboratory	NCB	Northern India Textile Research Association	RTC	S.G. Analytical Laboratory	SAL	SBA	SGS India Pvt. Ltd.	Sr. Quality Assurance Estt. (Metals)	SRI	Standard Testing Laboratory	Star Wire (India) Limited	Xplorer Testing Laboratory
	b) Adhesion & Tensile Modulus	✓			✓					✓							✓	✓				✓	✓		✓	✓			
	c) Plastic deformation	✓			✓					✓							✓	✓				✓	✓		✓				
	d) Adhesion in Peel	✓			✓					✓							✓	✓				✓	✓		✓				
	e) Loss of mass after heat ageing	✓			✓					✓							✓	✓				✓	✓		✓	✓			
	f) Standing	✓			✓					✓							✓	✓				✓	✓		✓				
	15) Silicon Sealant																												
	BS: 889																												
	ASTMC-920-87																												
	a) Service Temperature	✓								✓							✓	✓				✓	✓		✓	✓			
	b) Application Temperature	✓								✓							✓	✓				✓	✓		✓	✓			

Test Houses →																														
	Tests ↓	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
AES	Apex Assessment Labs Pvt. Ltd.																													
	Balaji Analytical Laboratories																													
	Bharat Test House																													
	Bureau of Indian Standards																													
	Cengrs Geotechnica Pvt. Ltd.																													
	Central Institute of Plastics Engineering & Technology																													
	CRRI																													
	DTH																													
	Enkay Testing Technologies Ltd.																													
	Gail India Ltd.																													
	IITD																													
AES	Meritorious Laboratories																													
	MSME Testing Centre																													
	National Test House (NR)																													
	National Testing Laboratory																													
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	Northern India Textile Research Association																													
	RTC																													
	S.G. Analytical Laboratory																													
	SAL																													
	SBA																													
	SGS India Pvt. Ltd.																													
AES	Sr. Quality Assurance Estt. (Metals)																													
	SRI																													
	Standard Testing Laboratory																													
	Star Wire (India) Limited																													
	Xplorer Testing Laboratory																													

Test Houses →	←																											
	Test Houses																											
Tests ↓	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
a) Water, percent by mass	✓	✓	✓					✓	✓	✓			✓		✓				✓		✓				✓			
b) Flash Point, Cleveland open cup, IS 1209:1978	✓	✓	✓	✓				✓	✓	✓			✓	✓	✓	✓			✓		✓	✓			✓			
c) Softening point	✓	✓	✓	✓				✓	✓	✓			✓	✓	✓	✓			✓		✓	✓			✓			
d) IS 1205:1978		✓																										
e) Penetration	✓	✓	✓	✓				✓	✓	✓			✓	✓	✓	✓			✓		✓	✓			✓			
f) Penetration Ratio	✓	✓	✓	✓				✓	✓	✓			✓	✓	✓	✓			✓		✓	✓			✓			
g) Ductility	✓	✓	✓	✓				✓	✓	✓									✓			✓	✓			✓		
h) Paraffin Wax Content, IS 1208:1983	✓	✓	✓	✓				✓	✓	✓									✓			✓	✓			✓		

[illegible]

Test Houses →																												
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
AES																												
Apex Assessment Labs Pvt. Ltd.	✓																											
Balaji Analytical Laboratories				✓																								
Bharat Test House				✓																								
Bureau of Indian Standards																												
Cengrs Geotechnica Pvt. Ltd.																												
Central Institute of Plastics Engineering & Technology																												
CPRI																												
DTH									✓																			
Enkay Testing Technologies Ltd.																												
Gail India Ltd.												✓																
IITD												✓	✓															
Meritorious Laboratories																												
MSME Testing Centre																												
National Test House (NR)															✓													
National Testing Laboratory																✓												
NCB																												
Northern India Textile Research Association																												
RTC																												
S.G. Analytical Laboratory																												
SAL																✓												
SBA																	✓											
SGS India Pvt. Ltd.																												
Sr. Quality Assurance Estt. (Metals)																												
SRI																												
Standard Testing Laboratory																												
Star Wire (India) Limited																												
Xplorer Testing Laboratory																												

Test Houses	↑	Test Houses																												
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
19) Bearing Plates	AES																													
	Apex Assessment Labs Pvt. Ltd.																													
	Balaji Analytical Laboratories																													
DIN 17200	Bharat Test House																													
	Bureau of Indian Standards																													
	Cengrs Geotechnica Pvt. Ltd.																													
a) Dimension	Central Institute of Plastics Engineering & Technology																													
	CIRRI																													
	DTH																													
b) Hardness	Enkay Testing Technologies Ltd.																													
	Gail India Ltd.																													
	IITD																													
	Meritorious Laboratories																													
	MSME Testing Centre																													
	National Test House (NR)																													
	National Testing Laboratory																													
	NCB																													
	Northern India Textile Research Association																													
	RTC																													
	S.G. Analytical Laboratory																													
	SAL																													
	SBA																													
	SGS India Pvt. Ltd.																													
	Sr. Quality Assurance Estt. (Metals)																													
	SRI																													
	Standard Testing Laboratory																													
	Star Wire (India) Limited																													
	Xplorer Testing Laboratory																													

Test Houses →	Tests ↓	Test Houses																											
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
b) Surface Hardness		✓		✓						✓								✓				✓	✓			✓	✓		
		✓							✓								✓					✓	✓			✓	✓		
c) Load Test			✓																			✓	✓						
Pipes																													
22) Steel Pipes																													
IS :1239 (Part 1and 2)																													
a) Chemical Test	✓	✓	✓	✓	✓		✓			✓	✓		✓	✓	✓	✓	✓					✓	✓		✓	✓	✓	✓	
b) Dimensional Tolerance	✓	✓	✓	✓	✓		✓			✓	✓		✓	✓	✓		✓					✓	✓		✓	✓	✓	✓	
c) Straightness	✓	✓	✓	✓	✓		✓			✓	✓		✓	✓	✓		✓					✓	✓		✓	✓	✓	✓	
d) Tensile Test	✓	✓	✓	✓	✓		✓			✓	✓		✓	✓	✓		✓					✓	✓		✓	✓	✓	✓	
e) Flattig Test	✓	✓	✓	✓	✓		✓			✓	✓		✓	✓	✓		✓					✓	✓		✓	✓	✓	✓	

Test Houses ↑	Tests ↓																											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
23) RCC Pipes																												
IS 458:1988																												
IS 3597 :1985																												
a) Wall Thickness	✓	✓		✓	✓		✓		✓			✓	✓	✓	✓	✓			✓		✓	✓		✓	✓	✓		
b) Three Edge Bearing	✓	✓			✓	✓	✓		✓			✓	✓	✓	✓	✓			✓		✓	✓		✓	✓			
c) Water absorption	✓	✓		✓	✓		✓		✓			✓	✓	✓	✓	✓			✓		✓	✓		✓	✓			
d) Hydrostatic Pressure	✓	✓		✓	✓		✓		✓			✓	✓	✓	✓	✓			✓		✓	✓		✓	✓			
e) Straightness	✓	✓		✓	✓		✓		✓			✓	✓	✓	✓	✓			✓		✓	✓		✓	✓			
f) Reinforcement	✓	✓		✓	✓		✓		✓			✓		✓	✓	✓			✓		✓	✓		✓	✓			
g) Cube Strength	✓	✓		✓	✓		✓		✓			✓		✓	✓	✓			✓		✓	✓		✓	✓			
24) HDPE Pipes																												
IS 4984-1995																												
a) Hydraulic Characteristics		✓		✓	✓		✓		✓										✓		✓	✓			✓			
Apex Assessment Labs Pvt. Ltd.																												
Balaji Analytical Laboratories																												
Bharat Test House																												
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Cengrs Geotechnica Pvt. Ltd.																												
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SRI																												
Standard Testing Laboratory																												
Star Wire (India) Limited																												
Xplorer Testing Laboratory																												

Test Houses →	Tests ↓																											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
a) Reversion Test		✓		✓	✓		✓		✓					✓		✓			✓		✓	✓		✓	✓			
b) Density		✓		✓	✓		✓		✓		✓			✓		✓			✓		✓	✓		✓	✓			
c) Melt Flow Rate (MFR)		✓		✓	✓		✓		✓		✓			✓		✓			✓		✓	✓		✓	✓			
d) Carbon Black Content & DIS		✓		✓	✓		✓		✓					✓		✓			✓		✓	✓		✓	✓			
25) Thermoplastic Paints																												
BS:3262 and MOST Specifications clause 803																												
a) Binder contents				✓					✓						✓	✓					✓	✓			✓			
b) Glass Beads				✓				✓	✓						✓	✓					✓	✓			✓			
c) Titanium Dioxide content				✓					✓						✓	✓					✓	✓			✓			
d) Calcium Carbonate & Inert fillers				✓					✓						✓	✓					✓	✓			✓			
AES																												
Apex Assessment Labs Pvt. Ltd.																												
Balaji Analytical Laboratories																												
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Test Houses ↑	Test Houses																											
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Tests ↓	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
e) Yellow Pigments				✓					✓						✓						✓							
f) Luminance (Daylight)				✓					✓						✓						✓					✓		
g) Drying Time				✓				✓	✓						✓	✓					✓							
h) Skid Resistance								✓	✓						✓						✓							
i) Cracking Resistance at low temperature				✓					✓						✓	✓					✓					✓		
j) Softening Point				✓				✓	✓						✓	✓					✓					✓		
k) Flow resistance								✓	✓						✓	✓					✓							
l) Yellowness Index								✓	✓						✓													
26) Geotextile																												
ASTM D 4355																												
a) Thickness	✓			✓					✓								✓	✓			✓	✓			✓	✓	✓	
b) Weight	✓			✓					✓									✓	✓		✓	✓			✓	✓	✓	

Test Houses →	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
AES		Apex Assessment Labs Pvt. Ltd.	Balaji Analytical Laboratories	Bharat Test House	Bureau of Indian Standards	Cengrs Geotechnica Pvt. Ltd.	Central Institute of Plastics Engineering & Technology	CRRI	DTH	Enkay Testing Technologies Ltd.	Gail India Ltd.	IITD	Meritorious Laboratories	MSME Testing Centre	National Test House (NR)	National Testing Laboratory	NCB	Northern India Textile Research Association	RTC	S.G. Analytical Laboratory	SAL	SBA	SGS India Pvt. Ltd.	Sr. Quality Assurance Estt. (Metals)	SRI	Standard Testing Laboratory	Star Wire (India) Limited	Xplorer Testing Laboratory
Tests ↓																												
c) Tensile Strength		✓		✓					✓							✓	✓	✓			✓	✓			✓	✓	✓	
d) Fiber Composition		✓		✓					✓							✓	✓	✓			✓	✓			✓	✓	✓	
e) Chemical Resistance		✓		✓					✓							✓	✓	✓			✓	✓			✓	✓	✓	
27) Chloroprene Elastomer																												
MOST Specification for Road & Bridge Works																												
a) Hardness								✓	✓			✓						✓			✓	✓			✓			
b) Min. Tensile strengths								✓	✓			✓						✓			✓	✓			✓			
c) Min. Elongation at Break								✓	✓			✓						✓			✓	✓			✓			
d) Max. Compression set								✓	✓			✓						✓			✓	✓			✓			

Test Houses →	Tests ↓																											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
AES		Apex Assessment Labs Pvt. Ltd.	Balaji Analytical Laboratories	Bharat Test House	Bureau of Indian Standards	Cengrs Geotechnical Pvt. Ltd.	Central Institute of Plastics Engineering & Technology	CRRI	DTH	Enkay Testing Technologies Ltd.	Gail India Ltd.	IITD	Meritorious Laboratories	MSME Testing Centre	National Test House (NR)	National Testing Laboratory	NCB	Northern India Textile Research Association	RTC	S.G. Analytical Laboratory	SAL	SBA	SGS India Pvt. Ltd.	Sr. Quality Assurance Estt. (Metals)	SRI	Standard Testing Laboratory	Star Wire (India) Limited	Xplorer Testing Laboratory
e) Accelerated Ageing								✓	✓			✓						✓			✓	✓		✓				
f) Shear Modules								✓	✓			✓						✓			✓	✓		✓				
g) Ash Content								✓	✓			✓						✓			✓	✓		✓				
28) PTFE (Poly Tetra Fluoro Ethylene)																												
BS:3784																												
BS:6564 Part 2 - 1991																												
a) Form									✓			✓									✓	✓		✓				
b) Density									✓			✓									✓	✓		✓				
c) Tensile Strength									✓			✓									✓	✓		✓				
d) Elongation									✓			✓									✓	✓		✓				
e) Resistance to heat									✓			✓									✓	✓		✓				
f) Dimensional stability									✓			✓									✓	✓		✓				

Test Houses →																												
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
AES																												
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Test Houses →	Tests ↓	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
		AES	Apex Assessment Labs Pvt. Ltd.	Balaji Analytical Laboratories	Bharat Test House	Bureau of Indian Standards	Cengrs Geotechnica Pvt. Ltd.	Central Institute of Plastics Engineering & Technology	CRRI	DTH	Enkay Testing Technologies Ltd.	Gail India Ltd.	IITD	Meritorious Laboratories	MSME Testing Centre	National Test House (NR)	National Testing Laboratory	NCB	Northern India Textile Research Association	RTC	S.G. Analytical Laboratory	SAL	SBA	SGS India Pvt. Ltd.	Sr. Quality Assurance Estt. (Metals)	SRI	Standard Testing Laboratory	Star Wire (India) Limited	Explorer Testing Laboratory
30) Elastomer Bearings																													
IRC:83 part-II																													
a) Visual inspection									✓												✓	✓	✓		✓				
b) Dimension Test									✓												✓	✓	✓		✓				
c) Axial Load Test									✓												✓	✓	✓		✓				
d) Shear Modules									✓												✓	✓	✓		✓				
e) Elastic Modulus									✓												✓	✓	✓		✓				
f) Adhesion Strength									✓												✓	✓	✓		✓				
g) Ultimate compressive Strength									✓																				

(The Official amendments to this document would be published by the IRC in its periodical, 'Indian Highways' which shall be considered as effective and as part of the code/guidelines/manual, etc. from the date specified therein)