

**NORTHERN INDIA TEXTILE RESEARCH ASSOCIATION, GHAZIABAD**  
**PROTECTIVE AND AUTOMOTIVE TEXTILES TESTING**

S. No.	Nature of Test (Test Parameter)	Commonly used Test Method
<b>A. Flame, Heat, Electric &amp; Thermal Resistance</b>		
1.	Pre-treatment after 05 washes before FR test	IS 15370-2A/ISO 6330-2A
2.	Heat resistance	ISO 17493 (180°C)
3.	Flame spread – Face ignition	IS 15758 (Part 4)/ISO 15025: 2000 (A) /BS 5867/BS 5438-1A
		BS 5438-2A
		BS 5438-3A
4.	Flame spread – Edge ignition	IS 15758 (Part 4)/ISO 15025: 2000 (B)/BS 5867/BS 5438-1B
		BS 5438-2B
		BS 5438-3B
5.	Impact of spatter (up to class-2)	ISO 9150
6.	Electrical resistance	EN 1149-2
7.	Convective heat	IS 15758/(Part 1)/ISO 9151
8.	Radiant heat	IS 15758 (Part 2)/ISO 6942
9.	Molten Aluminium Splash - up to D1 -up to D2 -up to D3	ISO 9185
10.	Molten Iron Splash -up to E1 -up to E2 -up to E3	ISO 9185
11.	Contact Heat –Heating cylinder	ISO 12127
12.	Sweating guard hot plate test -Thermal Resistance (Rct) -Water vapour resistance (Ret)	ISO 11092 (Ret can also be tested as per ASTM F 1868 Part B)
13.	Limiting Oxygen Index -Fabric -Nonwoven, plastic, wood etc	IS 13501/ASTM D 2863/ NCD 14510
14.	Vertical Flammability test - IS 15061 - IS 11871/ BS 5438	IS 15061 Annex B/11871 Method A
15.	Inclined Flammability Test	IS : 11871 Method-B/ASTM D1230/ AATCC-33
16.	Horizontal Flammability Test	IS 15061 Annex A/FMVSS 701

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17.	Methenamine Tablet test	BS 6307/ASTM D 2859/NFPA 101
18.	Cigarette test (Source zero)	BS 5852
19.	Small Flame test (Source-1)	BS 5852
20.	Fire test -NFPA 701 Method 1 -NFPA 701 Method 2	NFPA 701
21.	Thermal Protective Performance Test (TPP /HTP)	NFPA-2112, ISO 17492, NFPA 1971, NFPA 1981, ASTM F 2700, ASTM 2703 (For contact & Space both)
22.	Surface Flammability Test	ISO 5658-2/ IMO A 653
23.	Heat resistance	Hot Air Oven
24.	Humidity Resistance	Humidity chamber
<b>B. High Visibility Clothing</b>		
25.	Colour performance – Chromaticity coordinates and luminance factor (Normal state)	IS 15809/BS EN 20471
26.	Colour performance – Chromaticity coordinates and luminance factor (After Xenon test)	IS 15809/BS EN 20471
27.	Photometric for retro-reflective material (Normal state) -Chromo city -Retero reflection	IS 15809/BS EN 20471
28.	Photometric for retro-reflective material (After exposure to Abrasion, Flexing, Temperature variation, Washing, Cold fold, Dry cleaning, Rainfall)	IS 15809/BS EN 20471
<b>C. Automotive Textiles</b>		
29.	Color Fastness to Light (Xenon Arc) - One sample - For two samples - More than three samples	GME 60292/SAE J 1885/TSL 3600 G/ TSL 0601 G/MS –300-35/AATCC 16 H/JASO M 403-83/HES D 6601/JASO M 346/EDS-T-7415/GM 9538P

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30.	Colour definition ( XYZ & L a b Values )	Using CCM
31.	Abrasion Resistance ( Taber Type) Abrader Wheel (CS-10, H-18, H-22 & H-38) Upto 1000 Cycles Upto 1500 Cycles Upto 2000 Cycles	SAE J1530 – A, SES N 3246, JASO 403, SAE J948, MS 300-32 SES N 3298
32.	Flammability	SAE J 369, FMV SS 302, SES N 3245 HES D-6003, JASO M 313, GM 9070P MS 300-8
33.	Smell (Dry & Wet Condition)	TSL 3505G, TSM 0505 G
34.	Smell (40C- 95% RH X 400 HRS)	TSL 3505G
35.	Odor property	HES D6507/MS 300-32/FMLT 131-01
36.	Fog Test -Fog Number -Fog Percentage -Attached mass	TSL 3608G/MS 300-54/TSM 0503G/ EDS T 7694, FLTM BO 116-03/SAE J 1756
37.	Colour Fastness to Crocking /Rubbing	FLTM BN 107-01/JASO M 313 EDS-T-7643
38.	Dimensional change by Moisturing/ Immersion shrinkage	HES D 6506/JASO M 313-83 MS 300-32/FLTM BN 105-01
39.	Dimensional Stability against Humidity	MS 300-32
40.	Dimensional Change by Heating	HES D 6506/FLTM-BN-105-01
41.	Water Resistance/Repellency	HES D 6506/Ms 300-32
42.	Resistance to Bleeding	AN 101 –01
43.	Resistance to Bleeding	AN 101 –01
44.	Resistance to Heat	(100 <sup>0</sup> c for 8 Hrs.)
45.	Resistance to Humidity	(40 <sup>0</sup> C- 95% RH for 8 hrs.)
46.	Steaming in Auto-Clave	(100 <sup>0</sup> C for 1 hr.)
47.	Colour fastness to Crocking	TSL 3600 G/BN 107-01/FLTM BN 107-01/MS 300-32
48.	Soil Resistance ( Oil, Water and drop)	Automotive standard

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**Note:**

*Tests are being carried out as per IS, ASTM, DIN, ISO, JASO, BS, AATCC, EN, HONDA, HES, SES, NES, GM, KIA Standards, Defence, DGS&D, UIC and any other method as per the party's request.*

*May also create facilities of tests other than above as per the requirement of parties.*

*Before sending the sample, please ensure that sample selected represents the lot.*

*For further necessary details please contact NITRA labs.*