

Laboratory **Materials Testing Laboratory, Johnson Controls Automotive Limited,
Plot-1, S. No. 235 & 245, Hinjewadi, Taluka-Mulshi, Pune, Maharashtra**

Accreditation Standard **ISO/IEC 17025: 2005**

Discipline **Mechanical Testing** **Issue Date** **04.07.2014**

Certificate Number **T-0743** **Valid Until** **03.07.2016**

Last Amended on **-** **Page** **1 of 2**

S.No	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I. AUTOMOTIVE COMPONENTS				
1.	Front Seat Cushion (FSC)	Abrasion Test (Ingress Egress Test)	IN-PLUS-WI-01-04-E,Rev 5, 2014	Qualitative
2.	Front Seat Cushion (FSC), Front Seat Back (FSB), Rear Seat Back (RSB), Rear Seat Cushion (RSC)	Fatigue Test	IN-PLUS-WI-04-04-E,Rev 6, 2014	Qualitative
3.	Front & Rear Seat Complete Assy	Seat Back Strength Test. Head restraint Performance Test	IN-PLUS-WI-02-04-E,Rev 5, 2014	Qualitative
4.	Front & Rear Seat Complete Assy	H – point Measurement, (Angle & Co-ordinates)	ECE Regulation No. 25: 1999, AIS 016 – 2000 IS 13749 – 2009	H-point – 1 m Sphere
5.	Powder Coated Frame, Brackets, Head rest Rod	Salt Spray Testing	ASTM B117 -2011 IS 9844 – 1981	Qualitative
6.	Polyurethane Foam	Hardness	ISO 2439 – 2008	50 N to 4500 N
		Core Density & Overall Density	ASTM D 3574 - 2011	0.1 kg/m ³ to 100 kg/m ³

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Last Amended on **-** **Page** **2 of 2**

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		Tensile Strength Break Elongation	ISO 1798 – 2008	0.1 kgf/cm to 20 kgf/cm Upto 200%
		Tear Strength	JIS K6252 – 2007	0.1 kgf/cm to 20 kgf/cm
		Resilience	ISO 8307 – 2007	Max. 100%
		Compression Set	ISO 1856 – 2000 (Amd1:2007)	Max. 75%
7.	Assly Front seat	BSR test	EGE-PLUS-ST-04-25-22-E EGE-PLUS-SP-25-20-E (Engg.Spec.)	Frequency range 5 Hz. to 150 Hz. Amplitude upto 38mm Noise rating from 1 to 10 (Company rating)
8.	Fabric sample	Abrasion test (Martindale)	ASTM D4966 – 12 ISO-12947:2007	Cycles upto 100,000, Force:1 kPa to 15 kPa
9.	Polyurethane Foam and Fabric samples	Flammability test	FMVSS 302 – 1998 (US Federal reregulation)	Burn rate Max. 100mm/min
-X-X-X-X-X-X-X-X-X-X-X-X				