

Laboratory National Centre for Automotive Testing (NCAT), Vehicles Research and Development Establishment (VRDE), Government of India, Ministry of Defence, DRDO, Vahan Nagar, Ahmednagar, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6566

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Validity 15.11.2017 to 14.11.2019

Last Amended on 07.02.2018

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MECHANICAL TESTING

I.	AUTOMOTIVE COMPONENTS			
1.	Two Wheelers	Maximum speed	IS 10278-2008	Speed upto 150 km/h
		Acceleration	IS 10407-1998	Speed upto 90km/h
		Fuel consumption	IS 10881-1994	Flow rate upto 60 l/h
		Dimensions of two wheeled motor vehicles	IS 11432-2002	Upto 3 m
2.	Two/Three wheelers	Brakes and braking system compliance	IS 14664:1999 IS 14664:2010	Stopping distance upto 200 m
		3.	Four wheelers	Turning circle diameter
Interior noise	IS 12832-2010			Upto 130 dB(A)
4.	Two/Three/Four wheelers	Automotive vehicles-Spray Suppression system Fitment requirement	AIS 013-2004	Upto 2 m
		Maximum speed	IS 11877-1986	Speed up to 160 km/h
		Acceleration	IS 11851-1986	Speed up to 90 km/h
		Brakes and braking system compliance	IS 11852 (Part 1 to 8) 2001	Stopping distance upto 200 m
		Dimension of road vehicles	IS 9435-2004	Upto 20 m
		Arrangement of foot controls	AIS-035-2006	Upto 1 m
		Steering effort	IS 11948-1999 IS 11948-2010	Effort upto 500 N
		Fuel consumption	IS 11921-1993	Flow rate upto 120 l/h
		Horn installation	IS 15796-2008	Upto 130 dB(A)
		Evaluation of speedometer	IS 11827-2008	Speed upto 120 km/h
Evaluation of odometer	IS 11850-1998	10 km to 30 km		
Noise emitted by moving vehicles	IS 3028-1998	Upto 130 dB(A)		

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		Starting gradeability	AIS-003-1999 IS 13988:2002	Upto 30°
		Road-Load constants by Coast Down Test	IS 14785-2000	Upto 130km/h
		Noise emitted by stationery vehicles	IS 10399-1998	Upto 130 dB(A)
		Weightment of Automotive Vehicles -2 wheelers -3 or 4 wheelers	IS 11825-1986	upto 500 kg upto 30 ton
		Evaluation of requirement for vehicles fitted with Anti-Lock Braking system - Braking stopping time - Stopping distance	IS 11852(part 9): 2003	Upto 50 s Upto 100 m
5.	4 Wheeler Petrol, CNG & LPG Vehicles With Equivalent Inertia from 454 to 6810 kgf	Idling CO, HC & Lamda (Petrol, CNG & LPG vehicles) CO CO ₂ NO _x THC	MoRTH/CMVR/TAP/115-116, Issue No. 4.	0 to 5000 ppm 0 to 20 Vol% 0 to 1000ppm 0 to 5000ppm
		Tail pipe emission for Petrol CNG & LPG vehicles CO CO ₂ NO _x THC	MoRTH/CMVR/TAP/115-116, Issue No. 4.	0 to 5000 ppm 0 to 20 Vol% 0 to 1000ppm 0 to 5000ppm
		Crank case emission for petrol vehicles Light absorption Co-efficient	MoRTH/CMVR/TAP/115-116, Issue No. 4.	upto10 per m

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6.	4 Wheeler Diesel Vehicles With Equivalent Inertia from 454 to 6810 kgf	Tail pipe emission for Petrol, CNG & LPG vehicles CO CO ₂ NO _x THC	MoRTH/CMVR/TAP/115-116, Issue No.4.	0-50 ppm~0-20 Vol% 0-0.5vol%~0-20 Vol% 0-10ppm~0-10000ppm 0-10ppmC~0-50000ppmC
		Gaseous & Particulate emission for Diesel Vehicles	MoRTH/CMVR/TAP/115-116, Issue No.4.	0-50 ppm~0-20 Vol% 0-0.5vol%~0-20 Vol% 0-10ppm~0-10000ppm 0-10ppmC~0-50000ppmC
		Smoke density-Free acceleration	MoRTH/CMVR/TAP/115-116, Issue No.4.	Light absorption Co-eff upto 100 HSU
7.	Automotive and Electromechanical products and Assemblies (Engineering Items)	Dry Heat Test Cold Test	IS 9000 (Part 3): 1983 IS 9000(Part 2): 1983	Ambient to 200°C Ambient to (-)65°C
8.	Windscreen wiping system	Cold Test	IS 15804-2008 EU No.1008/2010 IS 15802-2008	(-)10°C (-)18°C 0°C
		Hot Test	IS 15802-2008	55°C
9.	Warning Triangle	Cold Test Hot Test	AIS 022-2001	(-)10°C 70°C
10.	Automotive and Electromechanical products and Assemblies	Damp Heat Test Hot Test RH	IS 9000-Part V-1995 IS 10250-1992	Up to 55°C RH up to 95%

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ELECTRONICS TESTING

I. EMC TEST FACILITY					
1.	Wheeled/Tracked Vehicles & System/Sub System	Radiated EMI Off-Board emissions tests (For Vehicle/On ESA)	AIS 004 Part 1 AIS 004 Part 3	30MHz to 1GHz, Max level 137dBμ	
			CISPR 12	9 kHz to 1 GHz, Max level 137dBμ	
			ISO13766 IEC 60034-1	30MHz to 1GHz, Max level 137dBμ	
			ECE R10.05	30MHz to 1GHz, Max level 137dBμ	
			MIL STD 461 E MIL STD 461 F MIL STD 461G	10 kHz to 18 GHz, Max level 137dBμ	
			EEC 2015/208/EU	30 MHz to 1GHz, Max level 137dBμ	
2.	Wheeled/Tracked Vehicles & System/Sub System	Radiated Immunity (Susceptibility) Off-Board Immunity tests (For Vehicle & ESA)	AIS 004 Part 3	20MHz to 2GHz, 50V/m Max level 200V	
			ISO 11451-2 ISO 11452-2	10 kHz to 18GHz, Max level 200V	
			ECE R10.05	20MHz to 2GHz, Max level 200V	
			EEC 2015/208/EU, ISO 13766	20 MHz to 1 GHz, Max level 200V	
			RS 101	MIL STD 461 E MIL STD 461 F MIL STD 461 G	30 Hz to 100 kHz 50V/m Max level 200V

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		RS 103	MIL STD 461 E MIL STD 461 F	100kHz to 40 GHz, 50V/m, Max level 200V		
		RS105	MIL STD 461 G	50kV/m, Max level 100kV		
3.	Wheeled/ Tracked Vehicles & System/Sub System	ESD (Electro Static discharge) Test CS 118 Test	ISO 10605	Up to ± 25 kV		
IEC 61000-4-2			Up to ± 15 kV			
MIL STD 1686 MIL STD 461G			Up to ± 16 kV Up to ± 15 kV			
4.	Wheeled/ Tracked Vehicles & System/Sub System	Conducted Emissions Test CE 101 CE 102	MIL STD 461 E MIL STD 461 F MIL STD 461 G	30 Hz to 10 kHz 10 kHz to 10 MHz		
5.			Wheeled/ Tracked Vehicles & System/Sub System	Conducted Susceptibility/ Immunity (CS 114) BCI (Bulk Current Injection)	MIL STD 461 E MIL STD 461 F MIL STD 461 G ISO 11451-4, ISO 11452-4	10 kHz to 400 MHz
					CS 101,CS106,CS 109, CS115,CS116	MIL STD 461 E MIL STD 461 F MIL STD 461 G
	Conducted Susceptibility/ Immunity Test	ISO 7637 Part 2 (Pulse 5a, 5b, 5a/5b)			For 12V: T_d :40 ms to 400 ms & T_r :10 ms For 24V: T_d :100ms to 300 ms & T_r :10 ms	
		Integrated Lighting Induced Transient Test	ISO 7637 Part 2 (Pulse 4, Pulse 2a,2b)	12/24V : T_d 50 μ s & t_r : 1 μ s 12/24V: T_d :0.2 s & T_r : 1 msec \pm 0.5 msec		

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		Ultra Compact Simulator	ISO 7637 Part 2 (Pulse 1, Pulse 3a,3b)	Pulse 1: For 12 V: T_d 2 ms & T_r :1 μ s For 24 V: T_d 1ms T_r :1 μ s Pulse 3a/3b: For 12V: T_d :0.1 μ s & T_r :5 ns \pm 1.5 ns
6.	System/Sub System	Integrated Lighting Induced Transient Test CS 117	MIL STD 461 G DO160G	up to 1600 A at 1600V
7.	Shelter	Shielding Effectiveness	IEEE299-2006	9 kHz to 40 GHz

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PHOTOMETRY TESTING

I.	LUMINAIRES			
1.	Head Lamp	Luminous Intensity Distribution	AIS-012, AIS -010, AIS-062 ECE R1, ECE R5, ECE R8, ECE R20, ECE R31, ECE R56, ECE R57, ECE R72, ECE R76, ECE R82,	10^{-3} to 2×10^5 lux
		Colour Co-ordinates	AIS -010(Part 1 to 5)(Rev 1)	2000 K to 8000 K 0.0001 to 1.0 for x & y Coordinates
2.	Reflex Reflector	Coefficient of Luminous Intensity	AIS-057, AIS -057 (Rev 1), ECE R3	10^{-1} to 1.999×10^5 mcd/lux
3.	Front and Rear Position (side) Lamps, Stop Lamp	Luminous Intensity Distribution	AIS -012, AIS-010, AIS-062 AIS -012(Part 6)(Rev 1), ECE R7, ECE R50	10^{-3} to 2×10^5 lux
		Colour Co-ordinates.	AIS -010(Part 3&5)(Rev 1)	2000 K to 8000 K 0.0001 to 1.0 for x & y Coordinates
4.	End outline Marker Lamp	Luminous Intensity Distribution.	AIS -012, AIS-062. AIS -012(Part 6)(Rev 1)	10^{-3} to 2×10^5 lux
		Colour Co-ordinates	AIS -010(Part 5)(Rev 1)	2000 K to 8000 K 0.0001 to 1.0 for x & y Coordinates
5.	Reversing lamp	Luminous Intensity Distribution.	AIS -012, AIS-010, AIS-062. AIS -010(Part 3)(Rev 1) AIS -012(Part 7)(Rev 1) ECE R23	10^{-3} to 2×10^5 lux

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		Colour Co-ordinates	AIS -010(Part 5)(Rev 1)	2000 K to 8000 K 0.0001 to 1.0 for x & y Coordinates
6.	Direction Indicator Lamp	Luminous Intensity Distribution.	AIS -012, AIS-010, AIS-062. AIS -010(Part 3&5)(Rev 1) ECE R6, ECE R50	10^{-3} to 2×10^5 lux
		Colour Co-ordinates	AIS -010(Part 5)(Rev 1)	2000K to 8000K 0.0001 to 1.0 for x & y Coordinates
7.	Fog Lamp	Luminous Intensity Distribution.	AIS -012, AIS -012(Part 1&2) (Rev 1) ECE R38	10^{-3} to 2×10^5 lux
		Colour Co-ordinates	AIS -010(Part 5)(Rev 1)	2000 K to 8000 K 0.0001 to 1.0 for x & y Coordinates
8.	Parking Lamp	Luminous Intensity Distribution.	AIS -012, AIS-062. AIS -012(Part 8) (Rev 1) ECE R77	10^{-3} to 2×10^5 lux
		Colour Co-ordinates	AIS -010(Part 5)(Rev 1)	2000 K to 8000 K 0.0001 to 1.0 for x & y Coordinates
9.	Retro Reflecting Sheets and Tapes	Coefficient of Luminous Intensity	IS: 14221. AIS-090	10^{-1} to 1.999×10^5 mcd/lux
10.	Advance Warning Triangle	Luminance Factor, Coefficient of Luminous Intensity	AIS-022, ECE R27	0-100% 10^{-1} to 1.999×10^5 mcd/lux
11.	Side marker lamp	Luminous Intensity Distribution	AIS -012 (Part 9)(Rev 1)	10^{-3} to 2×10^5 lux
		Colour Co-ordinates	AIS -010(Part 5)(Rev 1)	2000 K to 8000 K 0.0001 to 1.0 for x & y Coordinates

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12.	Cornering Lamp	Luminous Intensity Distribution	AIS -012 (Part 3)(Rev 1)	10^{-3} to 2×10^5 lux
		Colour Co-ordinates	AIS -010(Part 5)(Rev 1)	2000 K to 8000 K 0.0001 to 1.0 for x & y Coordinates
13.	Day time Running lamp	Luminous Intensity Distribution	AIS -012 (Part 9)(Rev 1)	10^{-3} to 2×10^5 lux
		Colour Co-ordinates	AIS -010(Part 5)(Rev 1)	2000 K to 8000 K 0.0001 to 1.0 for x & y Coordinates
14.	Rear marking plates	Coefficient of Retro Reflection	AIS-089	1.999×10^5 mcd/lux