



NOISE VIBRATION & HARSHNESS LAB (NVH)



NVH lab at ICAT would be one of the unique facility in India for research and development of vehicles and components. The Centre of Excellence would offer services in the field of -

- ⤴ Vehicle interior and exterior noise analysis
- ⤴ Sound Source Identification
- ⤴ Sound transmission Loss, Sound Absorption Coefficient
- ⤴ Modal Testing on components, sub-assemblies and vehicles

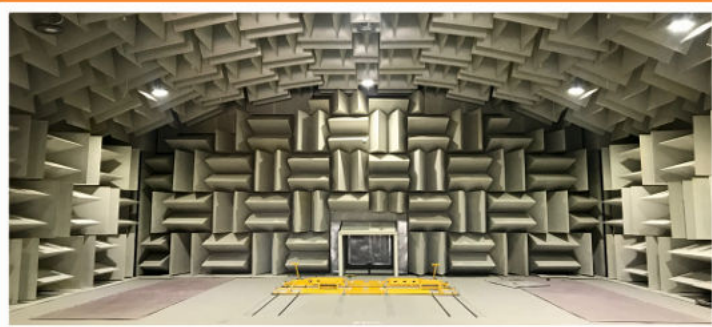
PURPOSE

Interior and exterior noise tests on components, systems and complete vehicle

COMPONENTS	SYSTEMS	VEHICLE
Acoustic isolation of components	Acoustic performance of systems like intake, exhaust, driveline, brakes	Global acoustic performance of entire vehicle
Structural vibrations (modal analysis of structure)	Acoustic isolation and source detection of complex panels, HVAC	Advanced analysis on the source detection and vibration paths analysis
	Source identification and performance of acoustic barriers	

ADDITIONAL TESTS

- ⤴ Indoor pass by noise test can be conducted as per ISO 362
- ⤴ Measurement of sound absorption in a reverberation room: ISO 354
- ⤴ Measurement of sound transmission loss as per as per IS 140 & SAEJ1400
- ⤴ Evaluation and optimization of the component



01 PASSENGER CAR VSAC

Expandable Load Capacity
Interior Pass by Noise Test
Optimal Inertia Range: 150Kg-3500Kg
Maximum Speed: 200 km/h
Maximum Weight: 3500Kg



02 HEAVY DUTY VSAC

Expandable Load Capacity
Load Capacity for Trucks and Heavy Buses
Maximum Speed: 130 km/h
Maximum Weight: 10000Kg



03 MODAL ROOM

To perform FRF measurement & analysis on independent systems, assemblies, sub assemblies and entire vehicle



04 COUPLED ACOUSTIC ROOMS

Performance evaluation (transmission loss) or effectiveness of sound barriers and acoustic panels used in vehicles, buildings and other sound isolation applications.



05 LISTENING ROOM

Determination & generation of sound quality matrix with objective and subjective (jury sessions) methods.



06 INSTRUMENTATION

Pass by Noise system
Vibration systems
Scanning system
Transfer path analysis
Modal testing equipments and etc

STATUS OF LAB

- ⤴ Labs to be ready by August 2018
- ⤴ B1 @ site 1 - transmission noise measurement
- ⤴ B10 @ site 2 - Accoustics chambers for full vehicle noise measurement, sound quality measurement, sound transmission noise measurement
- ⤴ Major civil construction over
- ⤴ Installation & Commissioning in progress



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