

Test Tracks- NATRAX

The test tracks are essential tool in the process of developing new vehicle, systems and their components. This type of facilities in India are limited and not in line with the demand from the OEM's and component manufacturers. This cause major roadblock for the development of new products. To remove this bottleneck for development of new products, complete homologation and R&D for Indian automotive industry, **a full fledge proving ground has been planned at National Automotive Test Tracks (NATRAX – Indore)** .The test tracks are design to use by all vehicle categories from 2/3 wheelers to commercial vehicles. The details of tracks are as follows :

Test Tracks At NATRAX

Test Tracks	Technical Specification	Use of Track
High speed circuit	<p>Oval shape circuit of two straights 3500 m each one and Curves radius 1000m</p> <p>16 meters wide. <u>Total length of 13282 m.</u></p> <p>250 km/h neutral speed, maximum testing speed up to 350 km/h.</p> <p style="text-align: center;">Total area= 230000 m²</p>	<p>The Track is design to meet performance needs of lot of tests i.e. 1. High Speed Vmax > 200 Km/h, 2. Lane Changes, 3. Breaking at high speed,. Vehicle type approval test, 5. Other R&D tests.</p>
Dynamic platform	<p>Dynamic area of 150 m radius and two acceleration lanes of 1000 m</p> <p>Testing speed higher than 200 km/h.</p> <p style="text-align: center;">Total area= 180000 m²</p>	<p>The Track is useful for performing lot of R&D tests such as vehicle dynamics, tyers development and type approval tests.</p>
Straight line braking	<p>Four different braking surfaces for homologation and R&D purposes:</p> <p style="padding-left: 40px;">Low μ (basalt tiles) 250 m long</p> <p style="padding-left: 40px;">Low μ (ceramic tiles) 250 m long</p> <p style="padding-left: 40px;">High μ (asphalt mu) 200 m long</p> <p style="padding-left: 40px;">Aquaplanning and checkerboard 200 m long</p> <p>Acceleration/stabilization lane length 1000 m sized for heavy duty vehicles up to 100 km/h testing speed.</p> <p style="text-align: center;">Total area=89500 m²</p>	<p>This track could carry out a number of tests like development related to ABS and tyre development , homologation and road driving under low grip conditions.</p>

Wet pad	<p>Circular pad to develop ESP systems and tyres in wet conditions. Includes two lanes with different adhesion coefficient: basalt and asphalt.</p>	<p>The wet skid pad is a track with a low grip in which tests of TCS, development of tyres and electronics can be performed.</p>
Test slopes	<p>Hills for homologation and R&D purposes with different gradient slopes (6/8%, 12%, 18%, 20%, 24% and 30%)</p> <p>Mu-split section for development of traction systems.</p> <p>Total area=11000 m²</p>	<p>This track could also fulfill requirements of development testing and durability programs</p>
External noise test track	<p>20x20 ISO surface with acceleration/deceleration lanes sized for heavy duty vehicles testing.</p> <p>Total area=4600 m²</p>	<p>Measurement of external noise</p>
Accelerated fatigue track	<p>Two parallel lanes with different surfaces (pavé, stones, rough concrete, etc)</p> <p>1250 m long and 8 m wide</p> <p>Total area=20000 m²</p>	<p>Designed to produce accelerated ageing of the vehicle's structure and components.</p>
Water wade	<p>Drive in water wade of 80 m long. Situated close to the fatigue track.</p>	<p>Part of Fatigue Track</p>
Salt water wade	<p>Drive in salted water wade of 50 m long. Situated close to the fatigue track.</p>	
Car shower (rain simulator)	<p>Facility to simulate (in static condition) different levels of rain over the vehicle. Includes pump station with sprinkler collector and water recovery system.</p>	
Gravel road	<p>One lane of gravel surface with lateral protection for the stones of 3000 m long and 6 m wide</p> <p>Total area=18000 m²</p>	<p>General assessment of vehicle performances such as internal noise, comfort, low speed handling and endurance.</p>
Off-road track	<p>Track of different surfaces as pyramids, water crosses, sand and mud road and speed area with slope changes. Length approximated 3000 m</p> <p>Total area=165000 m²</p>	<p>The track could test features such as suspension and traction etc.</p>

Dry handling circuit	<p>Circuit combined of curves and straights in an approximated length of 4000 m and 6 m wide.</p> <p>Total area=24000 m²</p>	<p>It is a high speed handling track and reproduces different driving situations for development and tuning of vehicle chassis and tyres.</p>
Dust tunnel	<p>Covered surface of 100x8 m to drive in vehicles in dusty environment</p>	<p>The track are used to test comfort, impact of speed breakers etc .</p>
Sustainability track for commercial vehicles	<p>Longitudinal constant gradient (8%) track of 1500 m</p>	
Speed bumper track	<p>Different speed breaker road bumpers to evaluate damage of vehicles</p>	
2/3 wheeler handling track	<p>Curvy track of 1000 x 5 m with small radius curves for testing of low/medium speed motorbikes and three wheelers</p>	<p>It is similar to the dry handling track specially designed for 2 and 3 wheelers.</p>
Comfort track	<p>Parallel lanes with different surfaces (badly maintained road, pavé, washboards, rough asphalt, profiles and shapes)</p> <p>Total area=16000 m²</p>	<p>This track is composed of different types of surfaces which are aimed for vibration and comfort evaluation</p>