



IS 2414:2005 - Cycle and Rickshaw Pneumatic Tyres - Specification

A pneumatic tyre for cycles and rickshaws consist of rubberized cord fabric casing, enclosing steel wire bead rings, and a suitable rubber compound tread, designed to support weight, **absorb road shocks**, provide traction, and ensure a smooth **comfortable ride** for both the driver and passengers on various road conditions.

Tyres are a critical safety component of a vehicle. **Indian Standard IS 2414**, developed by the Bureau of Indian Standards (BIS), outlines the safety and performance requirements for pneumatic tyres used in cycle and Rickshaw.

The standard provides detailed dimensions for various tyre sizes, including overall diameter, section width, and rim diameter, ensuring compatibility with the appropriate rims. It also specifies the crown thickness requirements for the two tyre types. The standard also provides minimum casing strength requirements based on the tyre type and cord material used. The rubber compound used in the tread and sidewall shall meet specific requirements for **tensile strength, elongation at break, tension set, and accelerated aging**.

Tyre are also tested for **Performance test**. The standard includes a **tyre endurance test** procedure to ensure the tyre can withstand the specified loads and speeds without any evidence of structural failures or defects.

Tyre markings provide crucial information for selecting the right tyre. For instance, marking of 32-630 (27 x 1¹/₄) inflate up to 4.08 kgf/cm² (4 bar) –3/05 indicate a tyre of nominal section width 32 mm and nominal rim diameter code 630, formerly identified as 27 x 1¹/₄, having a maximum recommended inflation pressure of 4 bar of March 2005.

The DPIIT Quality Control Order mandates that Cycle and Rickshaw Pneumatic Tyres sold, manufactured, or imported in India comply with IS 2414 and display the BIS Standard Mark, ensuring high-quality and safe tyres for Indian roads.

Overall, this Indian Standard establishes the **technical specifications and performance criteria** for cycle and rickshaw pneumatic tyres to **ensure their safety and reliability** for normal and heavy-duty applications.