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### **AUTOMOTIVE VEHICLES – WHEEL RIMS FOR TWO AND THREE WHEELED VEHICLES – LIGHT ALLOY WHEEL RIMS – METHOD OF TESTS AND REQUIREMENTS**

A **wheel rim** is the outer part of a wheel that holds the tire in place. It is typically made of metal, such as steel or aluminum, and forms the circular boundary of the wheel. The rim provides the structural foundation for the tire to mount onto and is crucial for the wheel's overall strength, stability, and performance.

Rotating load carrying member between the tyre and the axle is called wheel. It usually consists of two major parts: a) The rim; and b) The wheel disc. The outer edge of the wheel is called Rim and Rim and wheel are generally attached through welding.

The quality parameters expected by the customers may primarily be the following:

- 1) Longevity of the rim
- 2) Proper balance while driving
- 3) Sophisticated looks
- 4) Should not break in case of an accident
- 5) No leakage from the tyre
- 6) Smooth surface

Let's see if our standard covers these quality parameters or not!

The rims shall have a **smooth contour free from sharp edges**, on the tyre and tube-mounting surface as per the general requirements mentioned in the standard.

**Rotation Bending Fatigue Test** mentioned in the standard ensures better balance.

**Radial Impact Resistance Test** ensure better protection in case of accident.

**Air Leak Test for tubeless tyres wheel rim** prescribed in the standard ensures no leakage from the tyre.

The tests such as radial load durability test ensures the wheel endures 500,000 cycles without significant wear or failure and 100000 cycles in the rotation bending test ensures rims must remain free from cracks or abnormal deformation in normal operation for a long time.