



E-Mark ECE R-90

ECE Regulation 90 (abbreviated "ECE R90") is an ECE Regulation specifying design, construction, and performance requirements and test protocols for replacement brake linings for roadgoing motor vehicles and trailers.

R90 calls for linings to be tested for speed sensitivity, cold performance, and replacement Brake pads and brake shoes are permitted to deviate from the frictional characteristics of their original-equipment counterparts by not more than 15%. In addition, R90 requires tamper-evident, sealed packaging for replacement brake linings.

Introduced in 1999, ECE R90 stipulates that all brake pads and linings manufactured and sold within the EU must comply with R90 standards. The test involves comparing the performance of replacement pads and linings with those originally fitted.

To comply, the brake pads and linings must be put through speed sensitivity and cold performance equivalence tests. Pads that have passed will have an "E" mark alongside a number denoting which authority has approved the pad (e.g. UK - 'E11').

Test protocols:

Tests required by R90 include:

- Bedding (burnishing)
- Performance Check
- Brake Tests
- Cold Performance Equivalence and Speed Sensitivity Tests

For the tests the vehicle brake for which the replacement linings are designed is installed in an inertia dynamometer instrumented for continuous recording of rotative speed, brake torque, brake line pressure, number of rotations after brake application, braking time, and brake rotor temperature.

Muller™ has obtained ECE R90 certification for over 700 part numbers, which is required for all brake products to be used throughout the European Union and other countries that have adopted to ECE regulations.