



Vehicle Handling on Wet Road Surface (Wet Handling)

1 Introduction

Note: Nothing in this standard supercedes applicable laws and regulations.

Note: In the event of conflict between the English and domestic language, the English language shall take precedence.

1.1 Purpose. This standard describes the test of tire characteristics (traction, tracking stability, steering and cornering behavior) on wet road surfaces.

1.2 Applicability. For all makes from the range supplied by the tire industry.

1.3 Remarks. Not applicable.

2 References

Note: Only the latest approved standards are applicable unless otherwise specified.

2.1 External Standards/Specifications.

GMW14264

2.2 GM Standards/Specifications.

None

3 Resources

3.1 Facilities.

3.1.1 Calibration. The test facilities and equipment shall be in good working order and shall have a valid calibration label.

3.1.2 Alternatives. Alternative test facilities and equipment may also be used. However, all measuring variables as specified in this standard shall be determined correctly with respect to their physical definition.

3.1.3 Test Track. Wet-road handling course at Contidrom (Conti Co.) or Idiada or equivalent.

3.2 Equipment.

3.2.1 Four (4) test wheels and 4 reference tires.

3.2.2 Stopwatch or other suitable chronometer.

3.2.3 Wetted asphalt road with constant watering and constant friction coefficient.

3.3 Test Vehicle/Test Piece. Completely equipped vehicle, fitted with the tire makes to be tested.

3.4 Test Time.

Calendar time: 1 day

Test hours: 3 h

Coordination hours: 2 h

3.5 Test Required Information. Not applicable.

3.6 Personnel/Skills. Not applicable.

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4 Procedure

4.1 Preparation.

- 4.1.1 The vehicle shall be checked for correct chassis data.
- 4.1.2 The function of the drive and screen wipers shall be checked.
- 4.1.3 The track shall be sprinkled evenly.
- 4.1.4 Tires shall be run in appropriately.

4.2 Conditions.

4.2.1 Environmental Conditions. The environmental conditions existing at the time of the test (seasonally dependent) shall be recorded.

4.2.1.1 Temperatures.

Summer tires: (+10 to +30) °C

Winter tires: (+5 to +15) °C

ALS tires: (+10 to +30) °C

4.2.1.2 No heavy rain conditions.

4.2.2 Test Conditions. Deviations from the requirements of this standard shall have been agreed upon. Such requirements shall be specified on component drawings, test certificates, reports, etc.

4.3 Instructions.

4.3.1 The vehicle shall be occupied by one person. The tires shall be inflated to partial load pressure, eventually with ECO pressure.

4.3.2 Five (5) laps shall be driven at the maximum possible speed without ESP. The lap times shall be recorded and the handling characteristics evaluated according to GMW14264 (traction, braking characteristics, vehicle handling, grip during cornering).

4.3.3 Comparisons to previous tests and correction of the daily deviation shall be made possible by repeated driving with a reference tire set.

5 Data

5.1 Calculations. Not applicable.

5.2 Interpretation of Results.

5.2.1 The vehicle should understeer slightly and remain forgiving with no unstable reactions. Rating target according to GMW14264, see program related CTS.

5.2.2 The overall grade for a tire set is composed of the lap time determined and the subjective grade according to GMW14264. The daily deviation shall initially be corrected based on the reference tires and a time correction made in comparison with previous tests, also based on the reference tires. The remaining test tires can thus be evaluated in relation to the reference tires.

In addition to a fast lap time, a prerequisite for a good overall grade is a good subjective grade. Experience has shown that oversteering does not result in slower times, but only in a poorer subjective evaluation. In contrast, the times achieved with understeering tires are significantly poorer than the subjective evaluation.

Should vehicle have tendency for oversteer or load alternation, evaluation with ESP shall be recruited.

5.3 Test Documentation. The test data shall be added to the Global Tire Evaluation Chart according to Appendix A and represented in a test report with reference to this Test Procedure.

6 Safety

This Engineering Standard may involve safety requirements for hazardous materials, the method of operations and equipment. This standard does not propose to address all the safety issues associated with its use. It is the responsibility of the user of this standard to ensure compliance with all appropriate safety and health practices. This would include any specific training that may be required. The safety and health standards include site specific rules and procedures, company rules and procedures, and Government Standards. Contact shall be made with the appropriate site Safety and Health personnel for further direction and guidance in these matters.

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