

Reference from gtr No.3 – MC Brake Systems... for use in gtr on ESC.

Specifying a nominal PBC of 0.9 allows for real world variations found on the test track. This allows some freedom in terms of the surface friction, which does not have to be exactly 0.9 to evaluate braking performance. When testing for conformity to the requirements, the manufacturer tests on a surface with a lower PBC, to test for the worst-case scenario. When verification of compliance is conducted by the administrations, it is conducted on a surface with a PBC slightly above 0.9. If the vehicle is unable to meet the braking requirement on this higher friction surface, it is clear the brake system will have problems with the performance requirements, because this is the "best case" for the manufacturer.

FYI... further text includes...

Other scenarios considered and rejected with a PBC specified as:

- (a) *"at least 0.9": would mean that the vehicle could be tested on much higher PBCs, which would lead to compliance disputes, not be representative of a real world surface and could also result in systems with a long reaction time.*
- (b) *"no more than 0.9": would require the vehicle to pass on any surface with a PBC < 0.9, which would lead to compliance disputes and is unrealistic.*
- (c) *"= 0.9": would not be practical as it is not possible to have a surface of exactly 0.9*
- (d) *"from 0.8 to 0.9": would allow the administrations to test at a PBC 0.8 and manufacturers to test at a PBC 0.9, which would lead to disputes. A range in this case is unrealistic.*

Gtr Regulatory text....

2.11. "Peak braking coefficient (PBC)" means the measure of tyre to road surface friction based on the maximum deceleration of a rolling tyre.

4.1.1.3 Measurement of PBC:

The PBC is measured as specified in national or regional legislation using either:

- (a) the American Society for Testing and Materials (ASTM) E1136 standard reference test tyre, in accordance with ASTM Method E1337-90, at a speed of 40 mph without water delivery; or
- (b) the method specified in the appendix to Annex 4 of UNECE Regulation No. 78, 01 series of amendments.