



Transport
Roads & Maritime
Services

Test method T871

Resistance to grit abrasion

NOVEMBER 2012



Revision Summary

Ed/Rev Number	Clause Number	Description of Revision	Authorisation	Date
		Reformatted and Revision Summary Added	D.Dash	Jun 2001
Ed 2/ Rev 0	All	Reformatted RMS template	J Friedrich	November 2012

Note that Roads and Maritime Services is hereafter referred to as 'RMS'.

The most recent revision to Test method T871 (other than minor editorial changes) are indicated by a vertical line in the margin as shown here.

Test method T871

Resistance to grit abrasion

1. Scope

This test method sets out the procedure for determining the degree of abrasion of a paint film caused by falling grit. The method is derived from BS6044:1987, Appendix F.

2. Apparatus

- (a) Funnel of nominal angle of 80° with sufficient capacity to contain 2.25 kg of the grit and with an orifice diameter of 16 mm attached to a straight tube of 16 mm internal diameter. The tube is 1.25 m long and is immediately below the funnel.
- (b) Stand, for holding the funnel and tube attachment in a vertical position.
- (c) Stand suitable for holding a test panel at an angle of $45 \pm 5^\circ$ to the horizontal.
- (d) Draw-down applicator capable of spreading a film of paint approximately 60 mm to 80 mm wide at a uniform wet film thickness of 0.375 ± 0.025 mm.
- (e) Glass test panels of nominal dimension 300 mm x 100 mm x 5 mm.
- (f) Suitable wet film thickness gauge.

3. Material

Angular steel grit, complying with the requirements of grade G24 of BS2451. The 2.25 kg of grit needed for the test shall be renewed after a total of 24 passes.

4. Test Conditions

Air temperature $23 \pm 3^\circ\text{C}$.

Relative humidity 60 ± 15 percent.

5. Procedure

- (a) Set the blade of the applicator to give a wet film thickness of 0.375 mm on the test panel.
- (b) Spread the paint by moving the applicator at a uniform rate along the full length of the test panel so that the edge of the film is parallel to the long edge of the panel. Immediately check the wet film thickness to ensure it is within the range 0.375 ± 0.025 mm.
- (c) Condition the coated panel in the laboratory for 7 days.
- (d) Secure the coated panel at an angle of $45 \pm 5^\circ$ to the horizontal by means of the stand.
- (e) Place the funnel in the stand in such a manner that the tube is vertical and the bottom of the tube is 25 mm from the paint film and not less than 25 mm from the edge of the panel.
- (f) Quickly pour 2.25 kg of the grit from a 4 litre container into the funnel and allow the grit to fall down the tube in a continuous stream onto the paint film.
- (g) Remove the panel after each pass of the grit and examine by normal corrected vision the area of impact of the grit.
- (h) If the substrate is not visible through the paint, repeat test procedure steps (f) and (g).

6. Reporting

Report the number of passes required to make the substrate visible.