

TEST METHOD T855

GRADATION OF PIGMENT EXTRACTED FROM THERMOPLASTIC ROAD MARKING MATERIAL

REVISION SUMMARY

Date	Clause Number	Description of Revision	Authorised By Gen Mgr Pavements
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TEST METHOD T855

GRADATION OF PIGMENT EXTRACTED FROM THERMOPLASTIC ROAD MARKING MATERIAL

1. SCOPE

This test method sets out the procedure for determining the gradation of the pigment extracted from thermoplastic road marking materials where the word pigment is used loosely to include pigment, extender, aggregate and glass beads. This method is derived from B.S.3262.

This method is carried out on the residue obtained in Test Method T856- Determination of the Pigment to binder Ratio of Thermoplastic Road Marking Material.

2. APPARATUS

- (a) 2.8 mm and 0.600 mm AS sieves together with pan and lid.
- (b) A mechanical sieve shaker.
- (c) A porcelain evaporating dish of 120 mm diameter.
- (d) A balance, of at least 200 g capacity, accurate and readable to 0.1 g.
- (e) A bunsen burner.
- (f) A tripod.
- (g) A silica triangle.
- (h) A fume cupboard.
- (i) A furnace capable of maintaining a temperature of 510°C to 525°C.
- (j) A desiccator.
- (k) A small long-haired artist's brush.

3. PROCEDURE

- (a) Place thimble, filter papers and retained residue obtained from the procedure described in Test Method T856, Clause (4(h)) into the weighed evaporating dish and place the dish onto the silica triangle on the tripod.
- (b) Using the bunsen burner, ash the thimble and papers slowly in the fume cupboard, taking care that the papers or thimble do not catch alight.
- (c) Transfer the crucible with the ash and residue into the furnace, heat to approximately 525°C and maintain the temperature for 1 hour.
- (d) Allow to cool below 200°C and place in desiccator to cool.
- (e) Weigh crucible and pigment.

- (f) Clean and dry all sieves thoroughly before assembly.
- (g) Brush pigment from the crucible onto the sieve on top of the next.
- (h) Shake the sample in a mechanical sieve shaker for 20 minutes.

4. CALCULATION AND REPORTING

Record the following:

- (a) Sample mass (g) = $M - M_1$

where

M_1 = Mass of crucible.

M = Mass of crucible and pigment after ashing has been completed.

- (b) Mass of pigment retained on each sieve on pan.
- (c) Total of mass recorded in (b).
- (d) Calculate the mass of the sample passing each sieve and on pan.
- (e) Calculate the percentage by mass of the sample passing each sieve.

Report the proportion of pigment passing each sieve as a cumulative percentage of the total mass of pigment recovered from all sieves and from the pan.

Report the loss of pigment as a percentage of the original sample mass after ashing has been completed.