

Australian Standard®

Methods of testing bitumen and related roadmaking products

Method 8: Determination of matter insoluble in toluene

1 SCOPE This Standard sets out a procedure for the determination of the proportion of a bituminous material which is insoluble in toluene.

The Method is applicable to the following products:

- (a) Road tars of pavements in accordance with AS 1507.
- (b) Residual bitumen for pavements in accordance with AS 2008.
- (c) The residue from the distillation of cutback bitumen in accordance with AS 2157.
- (d) The residue from the evaporation of bituminous emulsions in accordance with AS 1160.

2 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS

1160	Bitumen emulsions for construction and maintenance of pavements
1507	Road tars for pavements
2008	Residual bitumen for pavements
2157	Cutback bitumen
2341	Methods of testing bitumen and related roadmaking products
2341.1	Part 1: Precision data — Definitions
2341.9	Method 9: Determination of water content (Dean and Stark)
3529	Solvents — Toluene

ISO

5272	Toluene for industrial use — Specifications
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3 PRINCIPLE The bituminous material is dissolved in toluene and the insoluble material separated from the solution by filtration. Hot solvent is used for testing tars and cold solvent for bitumens.

4 REAGENT The following reagent is required:

Toluene complying with AS 3529, ISO 5272 or any commercial grade toluene with a boiling range of less than 1°C and non-aromatic content of less than 1.5 percent.

WARNING: Since toluene is toxic and highly flammable, all working areas should be adequately hooded and free from sparks and flame.

5 APPARATUS The following items of apparatus are required:

- (a) No. 4 porosity sintered glass crucible about 30 mL capacity.
- (b) Vacuum filtration apparatus suitable for Item (a).
- (c) Suction pump (a water aspirator is suitable).
- (d) Squat form beaker of capacity about 150 mL.
- (e) Drying oven thermostatically controllable in the range 100°C to 110°C.
- (f) Desiccator.
- (g) Analytical balance readable to at least 0.0001 g and accurate to at least 0.0003 g.
- (h) Glass stirring rod with flame-polished ends.
- (i) Watch glass cover for beaker.