UDC 678.5/.8

Ref. No.: ISO / R 308 - 1963 (E)

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 308

PLASTICS

DETERMINATION OF THE ACETONE SOLUBLE MATTER (RESIN CONTENT OF MATERIAL IN THE UNMOULDED STATE) OF PHENOLIC MOULDING MATERIALS

1st EDITION
May 1963

Printed in Switzerland

Also issued in French and Russian. Copies to be obtained through the national standards organizations.

BRIEF HISTORY

The ISO Recommendation R 308, *Determination of the Acetone Soluble Matter (Resin Content of Material in the Unmoulded State) of Phenolic Moulding Materials*, was drawn up by Technical Committee ISO/TC 61, *Plastics*, the Secretariat of which is held by the American Standards Association Inc. (ASA).

Work on this question by the Technical Committee began in 1956 and led, in 1959, to the adoption of a Draft ISO Recommendation.

In October 1960, this Draft ISO Recommendation (No. 382) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies:

Australia	India	Spain
Austria	Israel	Sweden
Belgium	Italy	Switzerland
Chile	Japan	Turkey
Czechoslovakia	Netherlands	United Kingdom
France	New Zealand	U.S.A.
Germany	Poland	U.S.S.R.
Hungary	Romania	

One Member Body opposed the approval of the Draft:

Argentina.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in May 1963, to accept it as an ISO RECOMMENDATION.

ISO Recommendation R 308 May 1963

PLASTICS

DETERMINATION OF THE ACETONE SOLUBLE MATTER (RESIN CONTENT OF MATERIAL IN THE UNMOULDED STATE) OF PHENOLIC MOULDING MATERIALS

1. SCOPE

This method of test is designed to determine the percentage of matter that can be extracted by acetone, at a temperature near its boiling point, from phenolic moulding materials. The method applies only to moulding materials based upon novolac resins and not to those based upon resols, as this type of resin may not be completely soluble in acetone.

In this method, the percentage of acetone soluble matter is reported as the resin content, but it should be noted that, while the extract consists mainly of phenolic resin and hexamine, other acetone soluble components such as lubricants and colorants or natural resins from the filler are normally also present and will therefore be reported as resin.

2. APPARATUS

(*a*) *Means* for reducing coarse materials to a finer state of division.

(*b*) *Weighing bottle*, glass stoppered.

(*c*) *Balance* to weigh to 0.001 g.

(*d*) *Extraction apparatus* of the type shown in the figure, page 4. (A glass filter crucible may be used instead of a single-thickness extraction thimble.)

Any other extraction apparatus may be used, provided that it can be shown to give similar results. It is permissible to use a modified Soxhlet apparatus, provided that the material in the extraction thimble is surrounded by the vapour of the solvent at its boiling point.

(*e*) *Desiccator*.

3. PREPARATION OF SAMPLE

A fully representative sample of the moulding material is used. If the material is in the form of preforms, flakes, coarse pieces or sheet (felted, oriented or woven), it is reduced to a powder or small pieces (*a*) before test, care being taken to prevent overheating. The maximum thickness of the particles obtained should not exceed 1 to 1.5 mm and their other dimensions should not exceed 5 mm. Care should be taken that no resin is lost while the sample is being reduced to powder or to small pieces. 4 to 5 g of the material are dried at room temperature, in vacuo, over concentrated sulphuric acid or other desiccant for 24 hours.

The sample should not be ground too finely or it may tend to agglomerate in the extraction thimble.

4. PROCEDURE

A single-thickness extraction thimble free from acetone soluble matter together with a loose plug of absorbent cotton wool, if used, also free from acetone soluble matter, is dried for two hours at 105° C and stored in a desiccator (*e*). When required for use, the dried extraction thimble is quickly transferred to a weighing bottle (*b*) with stopper, and the whole weighed to 0.001 g on the balance (*c*). The stopper is then removed and approximately 3 g of the dried sample placed in the extraction thimble. The stopper is then replaced, and the whole weighed to 0.001 g.

NOTE.—The weighing bottle may be tared or may be weighed separately, if it is desired to know the mass of the empty extraction thimble or to avoid repeating the test in case of breakage.