

Tentative Method of Test for

SHORT-TIME STABILITY AT ELEVATED TEMPERATURES OF PLASTICS CONTAINING CHLORINE¹



A.S.T.M. Designation: D 793 - 44 T

ISSUED, 1944.²

This Tentative Recommended Practice has been approved by the sponsoring committee and accepted by the Society in accordance with established procedures, for use pending adoption as standard. Suggestions for revisions should be addressed to the Society at 1916 Race St., Philadelphia 3, Pa.

Scope

1. This method of test covers the procedure for determining the short-time stability at elevated temperatures of plastics containing chlorine.

Apparatus

2. The apparatus, shown in Fig. 1, shall consist of the following:

(a) *Preheater Coil.*

(b) *Erlenmeyer Flask.*—An Erlenmeyer flask of 250 ml. capacity.

(c) *Glass Tube.*—A glass tube 6 mm. in diameter which is drawn to a point with an opening of 2 to 3 mm. and which extends to within $\frac{1}{2}$ in. of the bottom of the flask.

(d) *Constant Temperature Bath.*—A constant temperature bath which can be controlled at 180 ± 2 C.

(e) *Absorption Tube.*—A tube 18 to 20 mm. in diameter and 13 to 20 cm. in length for absorbing hydrogen chloride in the sodium hydroxide.

(f) *Nitrogen Cylinder.*

Reagents

3. (a) *Sodium Hydroxide (0.1 N).*

(b) *Silver Nitrate (0.02 N).*

(c) *Ammonium Thiocyanate or Potassium Thiocyanate (0.02 N).*

(d) *Distilled Water.*

(e) *Ferric Nitrate.*—Approximately 5 per cent in distilled water.

Test Specimens

4. The test specimen shall be 10 g. of the plastic cut into pieces so that one dimension is no larger than $\frac{1}{16}$ in. The particle size of the specimen shall be agreed upon by the purchaser and the manufacturer.

Procedure

5. (a) The 10-g. specimen, cut or shredded into small pieces, shall be spread evenly upon the bottom of the Erlenmeyer flask. The flask shall be placed in the constant temperature bath so that it is immersed in the heating medium to within 3 cm. of the top. The temperature shall be maintained at 180 ± 2 C. (356 ± 3.5 F.) (Section 6 (b)). The flask shall be fitted with a rubber stopper

¹ Under the standardization procedure of the Society, this method is under the jurisdiction of the A.S.T.M. Committee D-20 on Plastics.

² Accepted by the Society at annual meeting, June, 1944.