S
NOTICE:¬This¬standard¬has¬either¬been¬superceded¬and¬replaced¬by¬a¬new¬version¬or¬discontinued.¬
Contact¬ASTM¬International¬(www.astm.org)¬for¬the¬latest¬information.¬

Designation: D 6189 – 97

AMERICAN SOCIETY FOR TESTING AND MATERIALS
100 Barr Harbor Dr., West Conshohocken, PA 19428
Reprinted from the Annual Book of ASTM Standards. Copyright ASTM

Standard Practice for Evaluating the Efficiency of Chemical Removers for Organic Coatings[1]

This standard is issued under the fixed designation D 6189; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 The practice evaluates the effectiveness of coatings removers used on clear or pigmented coatings as applied to wood and metal.

1.2 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

1.3 *This standard does not purport to address the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*

D 609 Practice for Preparation of Cold-Rolled Steel Panels for Testing Paint, Varnish, Conversion Coatings, and Related Coating Products[2]

D 823 Practices for Producing Films of Uniform Thickness of Paint, Varnish, and Related Products on Test Panels[2]

D 3924 Specification for Standard Environment for Conditioning and Testing Paint, Varnish, Lacquers, and Related Materials[2]

E 145 Specification for Gravity Convection and Forced Ventilation Ovens[3]

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *coatings remover*—a product formulated for the removal of paint, varnish, lacquer, shellac, or polyurethane top coats, or related coatings, or both.

4. Summary of Practice

4.1 Test panels are coated and forced dry. The coatings remover is applied with a brush and the loosened coating is lifted with a plastic scraper after a specified time. Coatings removal efficiency is determined and recorded using the rating scheme of 5 to 0.

5. Significance and Use

5.1 Old coatings, such as paint or related coatings, may have to be removed from a surface before successful recoating can occur. This practice can be used to test the coatings removal efficiency of products designed for such use.

6. Apparatus

6.1 *Forced Draft Oven, Type IB*, in accordance with Specification E 145.

6.2 *Paint Brush*, containing nylon/polyester bristles.

6.3 *Plastic Paint Scraper*.

6.4 *Very Fine Garnet Abrasive-Type Sandpaper*, 240 to 220 grade.

6.5 *Stopwatch*.

7. Testing Materials

7.1 *Finishes*—It is recommended to test coatings removers on a variety of finishes such as latex enamel, alkyd enamel, polyurethane, varnish, shellac and nitrocellulose lacquer, or as agreed upon between the purchaser and the seller.

7.2 Wood test panels of solid wood or wood laminate such as birch plywood, fir, pine, oak or walnut. Smooth sawn panels of dimensions not less than 12 by 12 in. (300 by 300 mm) and 5/16-in. (8-mm) thick.

7.3 Steel test panels with dimensions of 6 by 12 in. (150 by 300 mm) and 0.032-in. (0.8–mm) thick.

8. Panel Preparation

8.1 *Wood Panel Preparation*—Store the wood panels for a least 6 days under standard conditions as specified in Specification D 3924.

8.2 Sand the panels lightly with sandpaper as defined in 6.4 and wipe them clean of debris.

8.3 Coat one side of a panel with a test coating by any method specified in Practices D 823 to ensure uniform film thickness, using the manufactuers' recommended coverage rate. Allow the coating to dry overnight under standard conditions as specified in Specification D 3924.

8.4 Apply a second coat of the same type of coating of a different color (if pigmented) using the same method. Force dry at 120°F (50°C) overnight. Allow the panel to cool to ambient temperature.

8.5 Apply and dry a third coat of the same type of coating as in 8.4.

[1] This practice is under the jurisdiction of ASTM Committee D-1 on Paint and Related Coatings, and Materials, and Applications and is the direct responsibility of Subcommittee D01.42 on Architectural Coatings.

Current edition approved Nov. 10, 1997 . Published April 1998.

[2] *Annual Book of ASTM Standards*, Vol. 6.01.

[3] *Annual Book of ASTM Standards*, Vol. 14.02.

Documents
Document Sharing Hub
Full document details: ASTM D6189-97

NOTICE:¬This¬standard¬has¬either¬been¬superceded¬and¬replaced¬by¬a¬new¬version¬or¬discontinued.¬
Contact¬ASTM¬International¬(www.astm.org)¬for¬the¬latest¬information.¬

NOTE 1—Apply clear finishes in two coats following the manufacturers' recommended application instructions under the same drying conditions described in 8.3 and 8.4.

8.6 *Metal Preparation*—Clean the metal panels as described in Procedure D, Practice D 609 until panels are free from debris, oily film, and corrosion.

8.7 Apply three coats of the test finish as directed in 8.3, 8.4, and 8.5.

9. Procedure

9.1 Apply coatings remover in accordance with the manufacturer's instructions, using a solvent resistant brush unless otherwise directed by the manufacturer. Stroke the surface in one direction only. Start the stopwatch after the panel has been fully coated. Leave the panel in the horizontal position during the test.

9.2 Wait 15 min for solvent-borne removers and 60 min for water-borne removers, or at times specified by the manufacturer for the type of coating being removed.

9.3 Scrape the surface with a plastic paint scraper to remove the coating without damaging the substrate.

9.4 Rate the test panel for coatings removal efficiency on a scale from 5 to 0 in accordance with the following:

Rating	Amount of Coatings Removal, %
5	100
4	75
3	50
2	25
1	10
0	No removal

9.5 Rate the effect of the coatings removal on the condition of the substrate on a scale from 5 to 0 in accordance with the following:

Rating	Condition of Substrate
5	No effect
4	Very slight
3	Slight
2	Moderate
1	Considerable
0	Complete Failure

NOTE 2—Typical effects of coatings removal on wooden substrates include grain-raising and an increase in surface roughness. Typical effects on metal substrates include rusting and pitting.

10. Report

10.1 Report the following information:

10.1.1 Brand, color, and lot or batch number of the finish used,

10.1.2 Type of substrate used,

10.1.3 Method of coatings application,

10.1.4 Coatings removal efficiency rating,

10.1.5 Time of removal to the nearest minute, if different from 9.2,

10.1.6 Rating for condition of substrate, and

10.1.7 Report any significant deviations from this practice.

11. Keywords

11.1 coatings removers; effectiveness of paint removers; coatings, paint and paint strippers

The American Society for Testing and Materials takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this standard. Users of this standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.

This standard is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reapproved or withdrawn. Your comments are invited either for revision of this standard or for additional standards and should be addressed to ASTM Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing you should make your views known to the ASTM Committee on Standards, 100 Barr Harbor Drive, West Conshohocken, PA 19428.

Documents
Document Sharing Hub

Full document details: ASTM D6189-97