



Designation: C 669 – 00

Standard Specification for Glazing Compounds for Back Bedding and Face Glazing of Metal Sash¹

This standard is issued under the fixed designation C 669; 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.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 This specification covers glazing compounds for application on any metal sash for back bedding and face glazing for exterior or interior exposure. This specification does not apply to materials for use in channel or stop glazing.

1.2 The following safety hazards caveat pertains only to the test method described in this specification. *This standard does not purport to address all of 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.*

1.3 The committee with jurisdiction over this standard is not aware of any comparable standard published by other organizations.

2. Referenced Documents

2.1 ASTM Standards:

C 717 Terminology of Building Seals and Sealants²

C 797 Practices and Terminology for Use of Oil- and Resin-Based Putty and Glazing Compounds²

D 2249 Test Method for Predicting the Effect of Weathering on Face Glazing and Bedding Compounds on Metal Sash²

D 2376 Test Method for Slump of Face Glazing and Bedding Compounds on Metal Sash²

D 2451 Test Method for Degree of Set for Glazing Compounds on Metal Sash²

2.2 Federal Specifications:³

RR-S-366E, Sieve, Test

3. Terminology

3.1 **Definitions**—Refer to Terminology C 717 for definitions of the following terms: adhesive failure (loss of adhesion), bedding, compound, cured, face glazing.

4. Manufacture

4.1 The manufacturing process shall ensure a homogeneous mix, free of defects that will affect serviceability, and of a consistency suitable for application by hand or hand tool, without special preparation.

5. Requirements

5.1 **Composition**—The glazing compound shall consist of uniform mixtures of pigments, homogeneously mixed in suitable oils or resinous vehicles, or both. The pigment shall be free of refractory particles larger than 50-mesh fine, other than asbestos fibers; shall be free of lumps; and shall have the structural and physical characteristics necessary to provide the specified physical properties (see 7.5).

5.2 **Working Properties**—The glazing compound after thorough working in the hands shall have a smooth and uniform quality; shall work readily and smoothly under a knife, without crumbling or cracking; and after being molded into place, shall hold its shape until set.

5.3 **Color**—Unless otherwise specified, the color shall be in the range of the commercial natural and gray shades of glazing compounds. Tinting or coloring pigments, if used, shall be of such quality and color to match a sample mutually agreed upon by purchaser and seller.

5.4 **Degree of Set of Cured Compound**—The compound shall show a minimum penetration of 20 and a maximum penetration of 120 tenths of a millimetre.

5.5 Accelerated Weathering Tests:

5.5.1 **Surface Cracking and Peeling**—The compound shall show no surface cracking or peeling greater than illustrated by No. 5 of Fig. 1.

5.5.2 **Deep-Bead Cracking**—The compound shall show no deep-bead cracking greater than illustrated by No. 5 of Fig. 2.

5.5.3 **Loss of Adhesion**—The compound shall show no loss of adhesion greater than illustrated by Nos. 4 and 5 of Fig. 3.

NOTE 1—Some slight degree of loss of adhesion is permissible in the test specimen due to the difficulty in the preparation of the specimen. This condition would not be encountered when glazing compound is applied under field conditions, such as a full sash, rather than a single Muntin Bar.

5.5.4 **Wrinkling**—The compound shall show no wrinkling greater than illustrated by Nos. 4 and 5 of Fig. 4.

¹ This specification is under the jurisdiction of ASTM Committee C-24 on Building Seals and Sealants, and is the direct responsibility of Subcommittee C24.12 on Oil and Resin Base Glazing and Caulking Sealants.

Current edition approved June 10, 2000. Published July 2000. Originally published as C 669 – 70. Last previous edition C 669 – 95.

² Annual Book of ASTM Standards, Vol 04.07.

³ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.

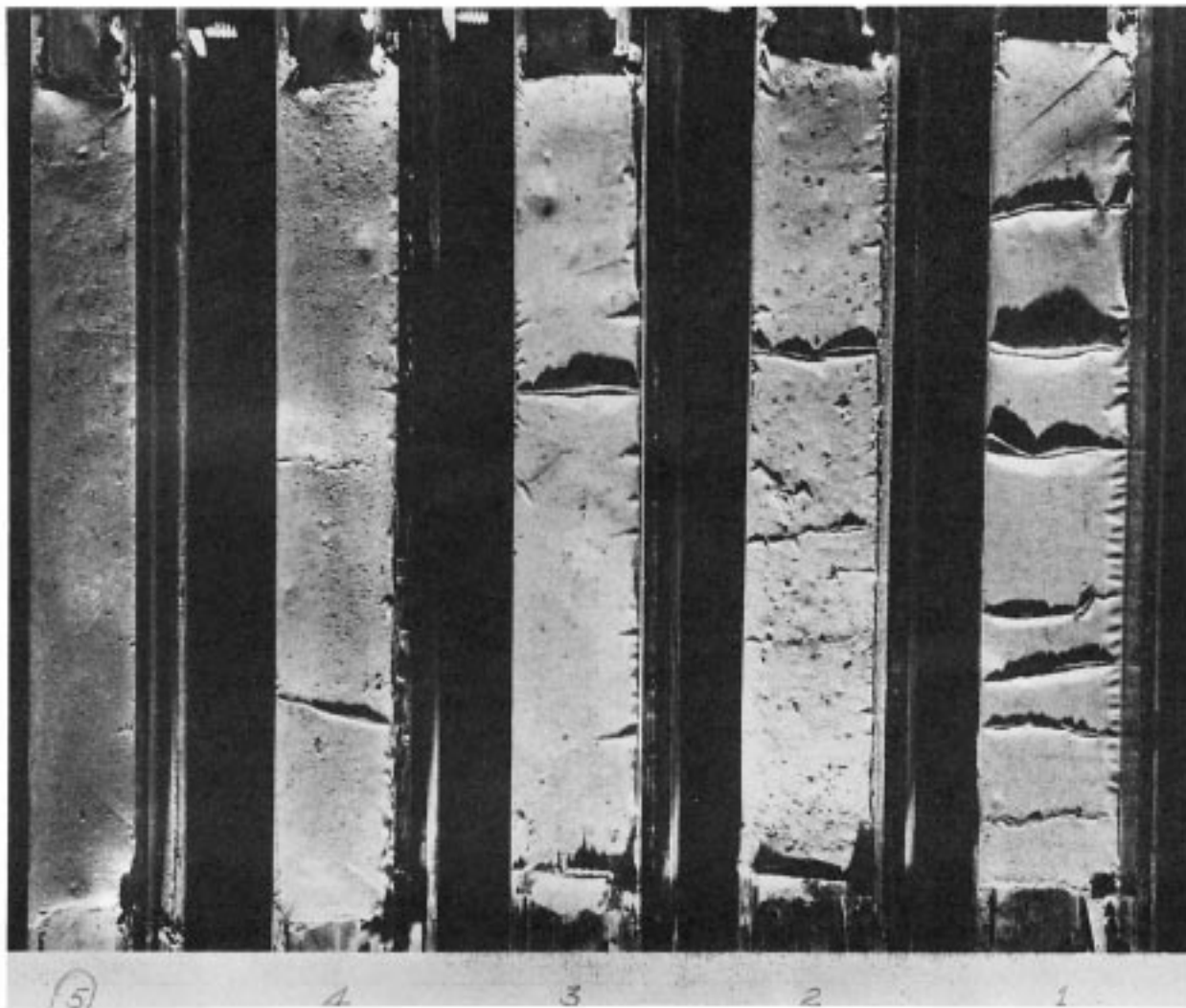


FIG. 1 Surface Cracking and Peeling

5.5.5 *Oil Exudation*—The compound shall show no oil exudation greater than illustrated by No. 5 of Fig. 5.

5.6 *Slump*—The compound shall show no sagging or slumping.

6. Sampling

6.1 Select at random a single previously unopened container. Thoroughly mix the compound before withdrawing enough for tests. Place the sample in an airtight glass or metal container immediately after it is collected. The size of the container shall be such that there is not more than 25 mm (1 in.) of air space over the glazing compound.

7. Test Methods

7.1 *Conditioning*—Perform all tests described in the following paragraphs in a laboratory controlled at $23 \pm 2^\circ\text{C}$ ($73.4 \pm 3.6^\circ\text{F}$) and $50 \pm 5\%$ relative humidity. Condition glazing samples for at least 5 h under these conditions before making any laboratory tests.

7.2 *Degree of Set of Cured Compound*—Prepare, expose, and measure specimens in accordance with Test Method D 2451.

7.3 Accelerated Weathering Tests:

7.3.1 *Surface Cracking and Peeling*—Prepare and expose specimens in accordance with Test Method D 2249.

7.3.2 *Deep-Bead Cracking*—Prepare and expose specimens in accordance with Test Method D 2249.

7.3.3 *Loss of Adhesion*—Prepare and expose specimens in accordance with Test Method D 2249.

7.3.4 *Wrinkling*—Prepare and expose specimens in accordance with Test Method D 2249.

7.3.5 *Oil Exudation*—Prepare and expose specimens in accordance with Test Method D 2249.

7.4 *Slump*—Prepare and expose specimens in accordance with Test Method D 2376.

7.5 *Freedom from Lumps and Grit*—Thin about 5 g of the compound with 3 to 4 mL of normal heptane, spread the mixture to a thin film on glass, using a wide spatula or putty knife, and note whether any grit is present. If grit is suspected, put compound through a test in accordance with Federal Specification RR-S-366E to determine if grit is larger than 50 mesh.

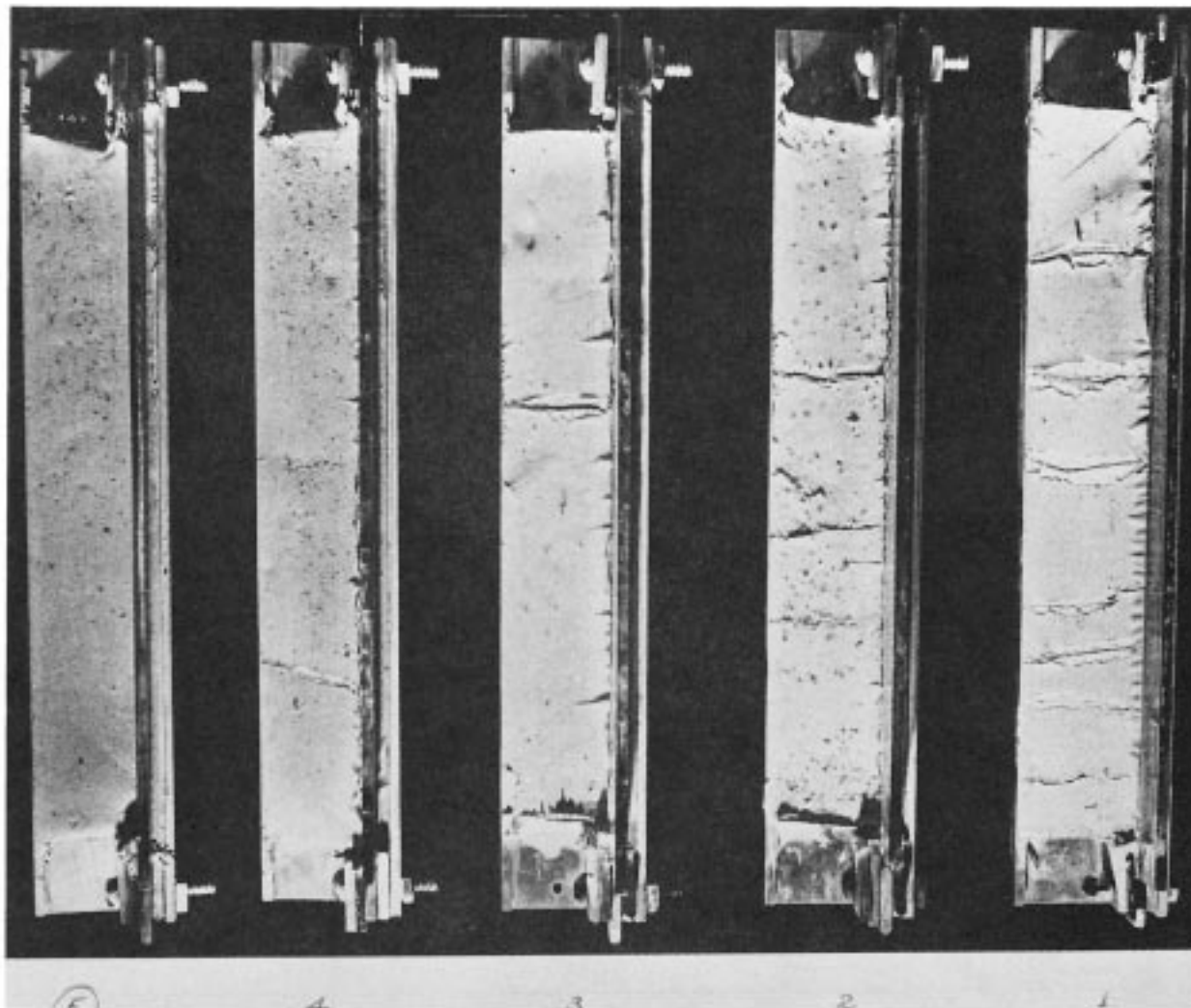


FIG. 2 Deep Bead Cracking

8. Packaging and Marking

8.1 *Packaging*—Unless it is otherwise specified in the contract or order, the compound shall be packaged in standard commercial containers fabricated to ensure acceptance by common or other carrier for safe transportation at the lowest rate to the points of delivery.

8.2 *Marking*—Shipping containers shall be marked with the name of the compound and the quantity contained therein as defined by the contract or order under which shipments are

made, the name of the manufacturer, lot and batch number, the number of the contract or order, and the date of manufacture.

9. Keywords

9.1 back bedding; cracking; face glazing; glazing compound; loss of adhesion; oil exudation; peeling; set; slump; wrinkling

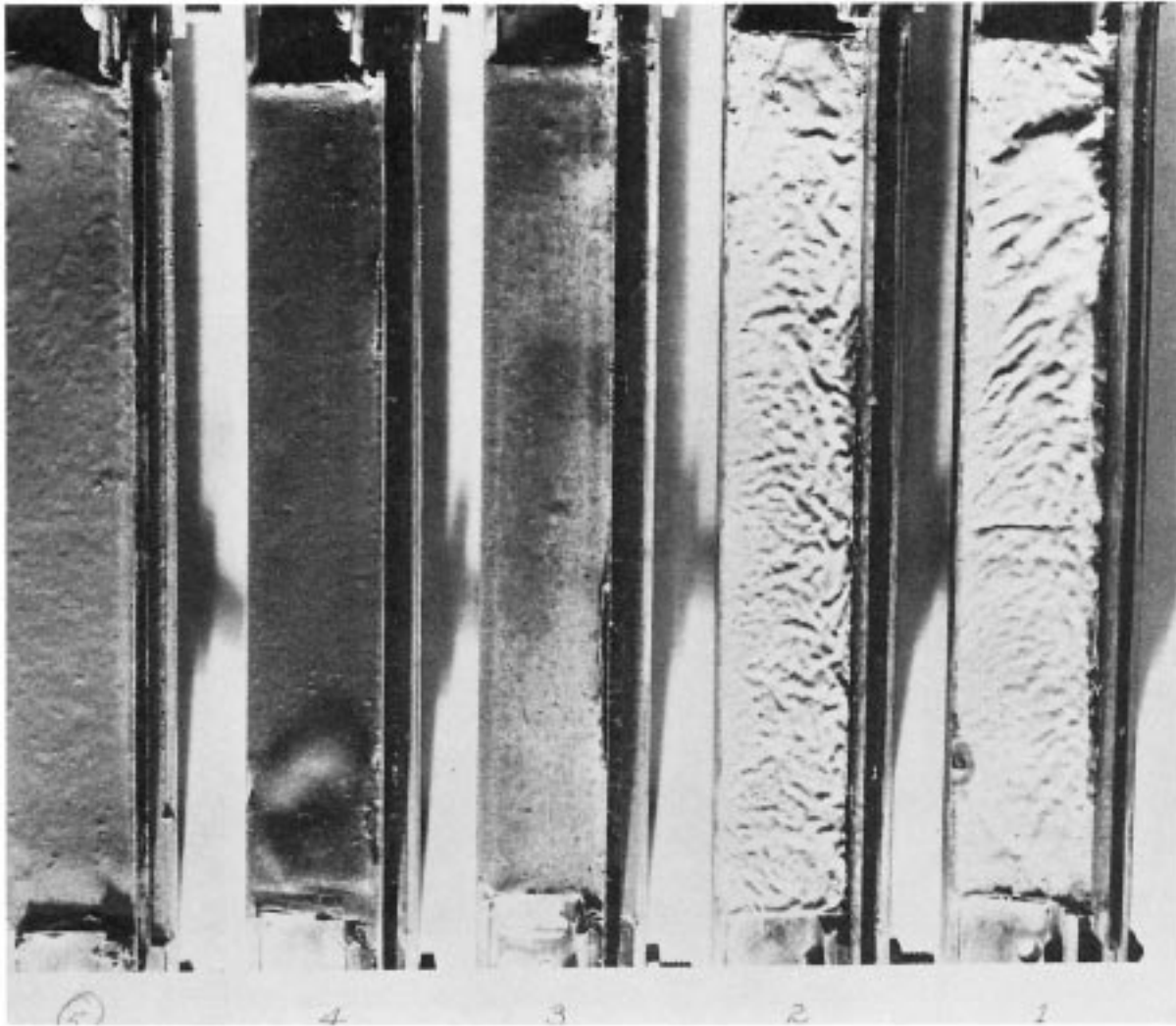


FIG. 3 Loss of Adhesion

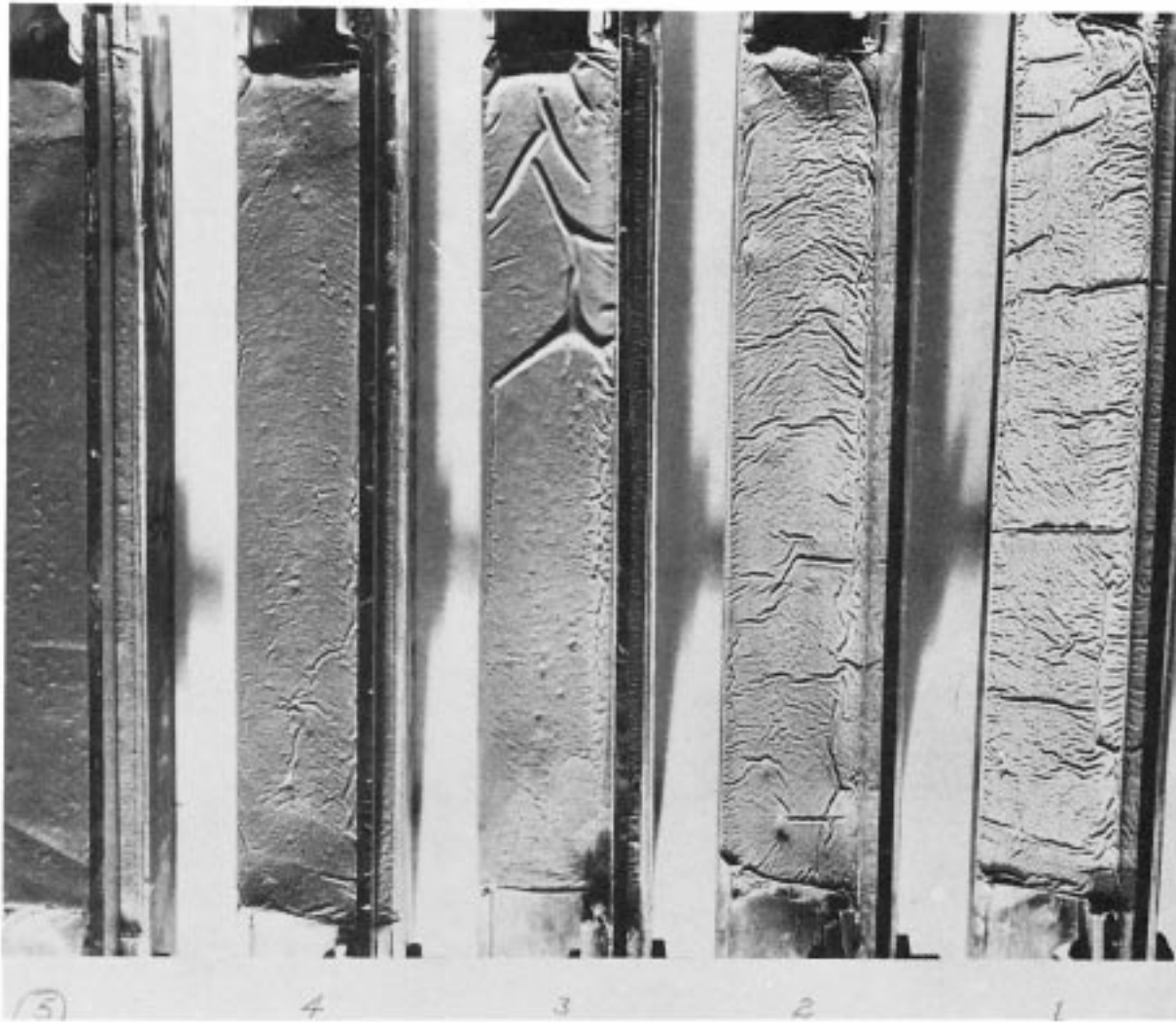


FIG. 4 Wrinkling

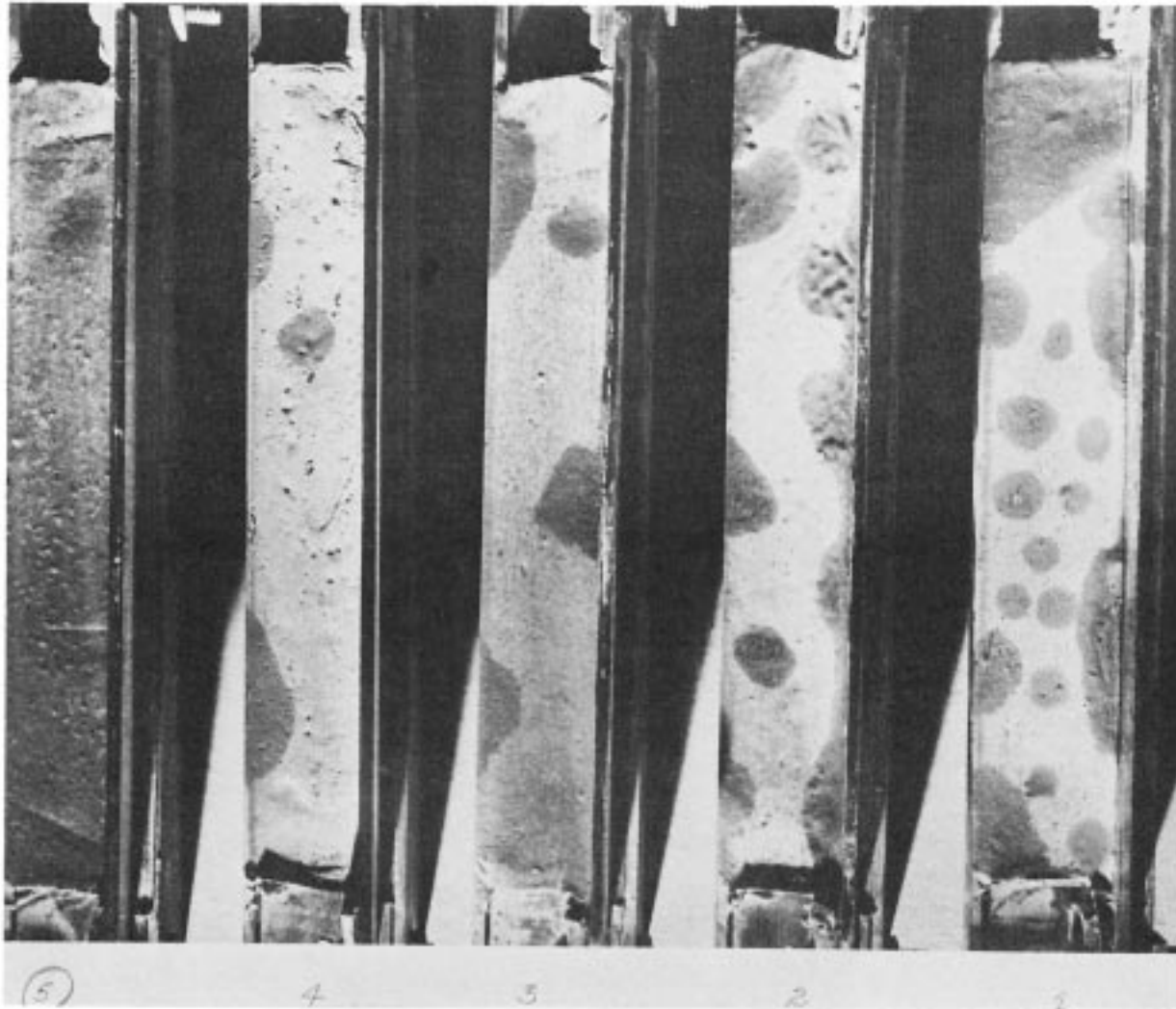


FIG. 5 Oil Exudation

APPENDIX

(Nonmandatory Information)

X1. NOTES ON THE USE OF GLAZING MATERIALS

X1.1 Glazing compounds covered by this specification are intended for general use on metal sash. Elastic glazing compound shall be used for interior or exterior applications. The compound should surface dry but remain slightly soft and plastic or rubbery underneath for reasonable periods of time. Glazing compound should be applied only within the conditions of application as recommended by the manufacturer.

X1.2 Procurement documents should state the size and type of container and the level of packaging required.

X1.3 Damp, dusty, or icy surfaces should not be glazed. The surfaces should be dried and then wiped clean with a cloth saturated with turpentine, mineral spirits, or similar solvent, before applying the glazing compound. Glazing compounds

should not be applied at ambient temperatures below 4°C (40°F) or during damp or rainy weather. On both existing and contract work, it is important that all surfaces be dry and cleaned of dirt, loose paint, or glazing compound. Steel sash should be factory primed with a rust-inhibitive paint or field primed with red lead base or chromate-type coatings, before the glazing compound is applied.

X1.4 If the sash to be glazed exceeds 610 mm (24 in.) in either or both directions, the specific approval for use of the glazing compound should be obtained from the manufacturer.

X1.5 Glazing compound should be used while it is still fresh, and in a homogeneous condition as it comes from the container and without addition of any other material. It is

desirable that the entire contents of a container be removed and mixed uniformly before use.

X1.6 When the compound is applied, be sure to force the compound against the rabbet tightly enough to avoid possible loss of adhesion.

X1.7 Paint the compound as soon as set, or at least within

4 weeks' time, unless the compound is represented by the manufacturer as of the type that does not require painting. Painting extends the life of the glazing installation. Painting should not be done too soon, as it may retard the setting of the compound.

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