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Standard Guide for Use of Latex Sealants¹

This standard is issued under the fixed designation C 790; 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 This guide describes procedures for the selection and application of latex sealants. Applications where latex sealants are used include interior and exterior joints of residential and commercial buildings. Sections describing substrate surface preparation, weather conditions, backing, primers, gun selection, gunning procedures, painting, clean-up, selection, and identification are included.

1.2 *This standard does not purport to address the safety problems 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:*
C 717 Terminology of Building Seals and Sealants²
C 962 Guide for Use of Elastomeric Joint Sealants²

3. Terminology

3.1 *Definitions*—Refer to Terminology C 717 for definitions of the following terms used in this guide:

bond breaker,
joint,
latex sealant,
primer,
sealant backing,
substrate, and
tooling.

3.2 *Descriptions of Terms Specific to This Standard:*

3.2.1 *extrudability*—force required to produce sealant flow through an orifice.

3.2.2 *tack*—sticky or adhesive quality of the surface of applied sealant.

4. Significance and Use

4.1 This guide provides information and guidelines for consideration by the applicator of latex sealants. Section 6 provides information on the possible effects caused by uncontrollable weather and climate conditions. Section 12 on selection and identification aids the specifier and purchaser, as well as the applicator, in selection of the appropriate sealant for the application.

¹ This guide is under the jurisdiction of ASTM Committee C-24 on Building Seals and Sealants and is the direct responsibility of Subcommittee C24.16 on Emulsion Sealants.

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² *Annual Book of ASTM Standards*, Vol 04.07.

5. Substrate Surface Preparation

5.1 *Cleanliness*—Substrate surfaces to be sealed should be sound, dry, free of oils, dust, mortar spatter, release agents, all old caulking, bitumen, flaking or peeling paint, or other contaminants. Slight substrate dampness can be tolerated. The manufacturer of the latex sealant should be consulted concerning the adhesion of its product to substrates containing special treatments such as protective coatings on metal and waterproofing or water-repellent treatments on wood or masonry.

5.2 *Removal of Contaminants*—Dust and dirt should be removed by blowing with oil-free compressed air, whisking, or wiping. For a wet nonporous surface the moisture can be removed by wiping the area with a clean, dry cloth. For a wet porous surface, a drying period of 48 to 72 h is recommended before sealant application. All old sealant, flaking or peeling paint, and other contaminants that cannot be wiped or blown away should be removed by scraping, cutting, grinding, or chiseling.

6. Weather and Climate Conditions

6.1 *Low-Temperature Application*—Low surface temperature of substrates decreases the ability of sealants to adhere because the surface wetting characteristic of the sealant is reduced. The ease of extrudability of latex sealants is also reduced at low temperatures. Frost, which can form on the substrate surface during periods of high humidity with temperatures below 40°F (4°C), prevents optimum adhesion of the sealant. Frost should be removed and the surface allowed to warm prior to application. Latex sealants should not be applied when freezing temperatures are anticipated within 24 h after application. For these reasons, sealant should not be applied at surface and air temperatures below 40°F (4°C) or when temperatures may fall below 32°F (0°C) within 24 h. Store the sealant above the manufacturer's recommended minimum temperature until just before use.

6.2 *Hot-Weather Application*—Hot-weather application will shorten the tack-free time and cure time of the sealant. The tooling time will also be reduced and therefore shorter runs of sealant may be necessary before tooling is done.

6.3 *Inclement-Weather Application*—Sealing should not be done immediately before, during, or immediately after a rain. However, rain within 8 h after the sealant has become tack free usually has no serious effect unless there is forceful impingement of flowing water or prolonged immersion. No exterior sealing should be performed when there is a threat or knowledge of inclement weather.

6.4 *Humid-Weather Application*—Relative humidity below 50 % presents no problems. Relative humidity increasing