



Product: 701 Silicone Sealant
Type: 100% Neutral Silicone
Date: 2026.01.03



TECHNICAL DATA SHEET (TDS)

Product Name: Xproseal 701 Silicone Sealant (RTV Silicone)

1. Product Description & Key Features

Xproseal™ 701 is a professional-grade, single-component, neutral-cure (oxime) silicone sealant formulated for versatile weatherproofing, window and door perimeter sealing, and architectural joint applications. It reacts with atmospheric moisture at room temperature to form a permanently flexible, durable elastomeric seal with outstanding adhesion, weatherability, and thermal resistance.

- **Neutral Cure & Non-Corrosive:** Neutral cure (oxime) formulation; non-corrosive to most construction materials, low odor, non-staining.
- **Superior Weatherability:** Outstanding long-term resistance to UV radiation, rain, snow, ozone, extreme temperatures, and environmental contaminants.
- **Excellent Adhesion:** Primerless adhesion to glass, glazed surfaces, aluminum, steel, masonry, ceramic tiles, and sealed woods.
- **Easy Gunability & Non-Sag:** Thixotropic gun-grade formulation suitable for vertical and overhead joints without slumping.
- **Low VOC Compliance:** Meets US environmental requirements (< 30 g/L, approx. 4%~7% wt VOC content).

2. Technical Data & Physical Properties (Typical Values)

Property / Parameter	Test Standard / Method	Typical Value / Specification
Chemical Base / Curing System	Internal Standard	Neutral Silicone (Oxime-cure)
Appearance & Consistency	Visual	Non-sag, Thixotropic Paste (0 mm sag)
Color Availability	Visual	Clear, Translucent, White, Black, Bronze, Gray, Custom 5 ~ 20 minutes
Tack-Free Time	ASTM C679 (23°C / 50% RH)	30 ~ 48 hours (approx. 2 ~ 3 mm / 24h)
Curing Time / Depth	23°C (73.4°F), 50% RH	1.03 ± 0.03 g/cm³ (approx. 8.6 lbs/gal)
Specific Gravity / Density	ASTM D1475 / ISO 1183	26 ± 5 Shore A
Hardness (Fully Cured)	ASTM D2240 (Shore A)	1.7 MPa (approx. 246.5 psi)
Tensile Strength	ASTM D412	360% ± 50%
Elongation at Break	ASTM D412	≥ 90 %
Elastic Recovery	ISO 7389	± 20% to ± 25%
Movement Capability	ISO 11600 / Internal Standard	-40°C to +150°C (-40°F to +302°F)
Service Temperature Resistance	Fully Cured	+4°C to +40°C (+39.2°F to +104°F)
Application Temperature Range	Substrate / Ambient	< 30 g/L (approx. 4% ~ 7% wt)
VOC Content	EPA M24 / SCAQMD Rule 1168	

* Test Conditions: Tested at 50 ± 5% RH and 23 ± 2°C (73.4 ± 3.6°F). Values represent typical laboratory test results and should not be used as exact engineering specifications without prior testing.

3. Applications & Recommended Uses

- **Door & Window Perimeter:** Sealing exterior and interior perimeter joints around residential and commercial window and door frames.
- **Glass & Sunrooms:** Sealing small sunrooms, glass ceilings, skylights, storefront glazing, and non-structural perimeter joints.
- **Bathrooms & Sanitary:** Joint sealing around bathtubs, shower stalls, sinks, backsplashes, and ceramic tiles.
- **General Construction:** Weatherproofing joints between aluminum, steel, masonry, precast concrete panels, and painted finishes.
- **Mildew/Fungus Prevention:** Suitable for hot, humid areas and environments requiring hygiene and fungus resistance.

4. Application Instructions

- **Surface Preparation:** Joint surfaces must be structurally sound, thoroughly clean, dry, and free of oil, grease, wax, dust, rust, and old sealant residues. Clean non-porous surfaces with isopropyl alcohol (IPA) using the two-cloth wipe method.
- **Application Temperature:** Apply when ambient and substrate surface temperatures are between +4°C and +40°C (+39.2°F to +104°F). Do not apply on frosted, wet, or damp surfaces.
- **Joint Design & Tooling:** Joint depth should be approximately half the joint width (minimum depth 6 mm / 1/4 in). Cut nozzle tip at a 45° angle to desired bead size. Tool the sealant bead immediately after extrusion within the tack-free time (5–15 minutes) using light pressure to ensure complete contact with joint sides.
- **Curing Process:** Cures by reacting with air moisture. Tack-free in 5–20 min; full cure is achieved within 30 to 48 hours depending on bead thickness and ambient humidity.
- **Clean-Up:** Clean uncured sealant from tools and non-porous surfaces immediately using mineral spirits or solvent. Fully cured sealant can only be removed by mechanical trimming or scraping.

5. Packaging, Storage & Shelf Life

- **Packaging:** 300 ml (10.1 fl oz) plastic cartridges; 24 cartridges per master carton. Custom sausage foil packs available upon request.
- **Storage Conditions:** Product should be stored at or below 27°C (80.6°F) (recommended +5°C to +27°C / +41°F to +80.6°F) in original, unopened containers in a cool, dry, well-ventilated area.
- **Moisture Sensitivity:** Keep containers tightly sealed when not in use. A plug of cured material may form in the tip of an opened nozzle during storage; this is easily removed and does not affect the remaining contents.
- **Shelf Life:** 12 months from date of manufacture when stored in original unopened containers under recommended conditions.
- **Transportation:** Non-hazardous for ground, air, and maritime transport (DOT, TDG, IMDG, IATA non-regulated).

6. Limitations & Restricted Uses (Do NOT Use / Not Recommended)

This product is neither tested nor represented as suitable for medical or pharmaceutical uses. To ensure proper performance and safety, observe the following application limitations:

- **Structural Glazing:** Do NOT use as a structural glazing adhesive or in load-bearing structural silicone applications.
- **Continuous Water Immersion:** Not recommended for joints subject to continuous, permanent water submersion (e.g., swimming pools, aquariums, marine water tanks).
- **Aquarium Construction:** Not recommended for the construction or sealing of aquariums.
- **Porous Stone & Marble:** Not recommended for use on marble, granite, and similar highly porous natural stones where plasticizer bleed may cause staining or discoloration.
- **Copper & Brass:** Sealant may cause discoloration or slight corrosion on copper, brass, and zinc-coated alloys upon prolonged contact.
- **Polycarbonate & Sensitive Plastics:** Not recommended for direct use on polycarbonate plastic sheeting (may induce stress cracking). Pre-test suitability on other plastics prior to full application.

- **Confined / Airtight Spaces:** Silicone cures by contact with atmospheric moisture vapor. Do NOT use in totally enclosed or airtight spaces where cure will be inhibited by lack of air/moisture.
 - **Paintability:** CANNOT be painted. Architectural paints will not adhere to silicone surfaces. Complete all adjacent painting prior to sealant application.
 - **Rubber Components:** Avoid direct contact with rubber materials (e.g., EPDM gaskets, neoprene strips, rubber pads) to prevent plasticizer migration and yellowing.
 - **Bleeding / Oily Substrates:** Should not be applied to materials that bleed plasticizers, oils, or solvents (e.g., bituminous-based adhesives, asphalt coatings, tar, or freshly oiled wood).
 - **Freshly Painted Surfaces:** Do not apply on freshly painted surfaces (solvent-containing or enamel paints must be fully cured first).
 - **Chemical / Solvent Contact During Cure:** Do not clean or treat the sealant with aggressive solvents or cleaning agents during the curing period as this will inhibit cure or cause discoloration.
 - **Substrate Temperatures:** Do not apply when substrate surface temperatures are below 4°C (39.2°F) or exceed 40°C (104°F).
 - **Food & Potable Water Contact:** Should not be applied to surfaces in direct contact with food or drinking water (not tested under U.S. FDA direct food-contact regulations).
 - **Mirror Reflective Coatings:** Not recommended for direct contact on the reflective silver/backing coatings of mirrors.
 - **Firestop Systems:** Should not be used as an interior penetration firestop sealing system.
 - **Insulated Glass (IG) Units:** Do NOT use in the secondary seal manufacturing of insulated glass (IG) units.
 - **High Abrasion / Physical Abuse:** Not recommended for joints subject to heavy pedestrian/vehicle traffic abrasion or physical abuse.
- Substrate Compatibility Test:** Due to the vast diversity of construction substrates and finishes, always perform a small-scale trial patch test prior to full application.