

R-27780

Brushable Neoprene Contact Adhesive

A high-quality, fast-drying, quick-setting polychloroprene contact adhesive formulated for the permanent bonding of elastomeric materials to porous and non-porous substrates. Suitable for use on bridge, highway, and structural applications where rubber sheeting, bearing pads, and girder stop pads are bonded to concrete or steel.

PRODUCT DESCRIPTION

R-27780 is a solvent-based, brush-grade contact adhesive based on a neoprene (polychloroprene) elastomer system. It develops aggressive tack upon solvent flash-off and forms a strong, flexible, permanent bond when two coated surfaces are mated under firm pressure. R-27780 is formulated to bond a wide range of natural and synthetic rubbers, including butyl rubber sheeting and natural rubber girder stop pads, to prepared concrete, steel, wood, and most rigid substrates.

TYPICAL APPLICATIONS

Butyl rubber sheeting to concrete

Natural rubber pads to steel

Girder stop pad bonding

Elastomeric bearing pad seating

Expansion joint rubber installation

General industrial rubber bonding

TYPICAL PHYSICAL PROPERTIES

Appearance	Amber to clear liquid	Application Method	Brush, roller, or flow
Base Polymer	Polychloroprene (neoprene)	Coverage (typical)	200–250 ft ² /gal, two-surface
Odor	Aliphatic solvent	Service Temperature	–20 °F to +200 °F
Weight per Gallon	6.73 lb/gal	Storage Temperature	40–90 °F, avoid freezing
VOC Content	479.92 g/L (4.81 lb/gal)	Shelf Life	12 months from date of manufacture, unopened
Flash Point	–14.8 °F (–26.0 °C) closed cup	Packaging	Quart, gallon, and 5-gallon containers

I APPLICATION PROCEDURE

SURFACE PREPARATION

All surfaces must be clean, dry, and free of dust, oil, grease, form-release agents, laitance, frost, and standing moisture. Concrete surfaces should be fully cured (minimum 28 days) and abraded or shot-blasted to remove laitance. Steel surfaces should be cleaned to SSPC-SP 2 (hand tool cleaning) minimum, SP 6 (commercial blast cleaning) preferred. Rubber substrates should be wiped with a compatible solvent such as MEK or acetone immediately prior to adhesive application.

STANDARD APPLICATION — OPTIMUM CONDITIONS

For best results, condition adhesive and substrates to 65–85 °F (18–29 °C) prior to application. Stir adhesive thoroughly before use. Apply a thin, even coat to *both* mating surfaces using a brush or short-nap roller. Allow to flash-off until aggressively tacky but no longer wet to the touch (typically 10–20 minutes at 70 °F, 50% RH). Mate surfaces with firm, uniform pressure across the full bond area. Bond strength develops rapidly; full cure in 24 hours.

COLD-WEATHER APPLICATION

R-27780 is suitable for application at substrate and ambient temperatures *below 65 °F* when the procedure below is followed.

APPLICATION BELOW 65 °F

The neoprene/solvent system in R-27780 remains fully functional at reduced application temperatures. At temperatures below 65 °F, solvent evaporation and tack development slow in proportion to temperature; open time extends and an extended flash-off period is required before mating surfaces. When the procedure below is followed, final bond strength is not reduced relative to application at optimum temperature.

SUBSTRATE / AMBIENT TEMPERATURE	MINIMUM FLASH-OFF TIME	TIME TO HANDLING STRENGTH	TIME TO FULL CURE
65–85 °F (optimum)	10–20 min	1 hour	24 hours
55–65 °F	20–35 min	2–3 hours	36 hours
45–55 °F	35–60 min	4–6 hours	48 hours
40–45 °F (minimum)	60–90 min	8–12 hours	72 hours

Values are typical and assume still-air conditions at 50% RH. Verify aggressive tack by light finger contact before mating surfaces; the adhesive should feel tacky but leave no transfer to the finger.

COLD-WEATHER PROCEDURE

- 01 Condition the adhesive.** Store R-27780 at 65–80 °F for a minimum of 24 hours prior to use. Do not apply cold adhesive to cold substrates; cold adhesive is more viscous and will produce a heavier film than intended.
- 02 Verify substrate condition.** Substrates must be dry and free of frost, condensation, and surface moisture. A wipe with a clean dry cloth should leave no visible dampness.
- 03 Apply a thin, even coat to both surfaces.** Do not apply a heavy coat to compensate for cold temperatures; this extends flash-off time further and can trap solvent at the bond line.
- 04 Extend flash-off time per the table above.** Verify aggressive tack by light finger contact before mating. If finger transfer occurs, allow additional flash-off.
- 05 Mate surfaces with firm, uniform pressure.** A hand roller or equivalent pressure applicator should be used across the full bond area. Initial contact strength is reduced at lower temperatures; maintain mechanical support or restraint until handling strength is reached.
- 06 Protect the bond during cure.** Do not subject the bond to shear, peel, or service loads until the time to full cure shown above has elapsed. Protect from rain, frost, and contaminants throughout the cure period.

3M COMPARABLE REFERENCE

The following 3M product has a comparable chemistry, application method, and performance envelope to R-27780. This reference is provided to assist specifying engineers and purchasing personnel in identifying a functionally similar product within the 3M catalog.

HANNA / RUBATEX

3M COMPARABLE

R-27780

Brushable neoprene contact adhesive for heavy-duty bonding of rubber sheeting, bearing pads, and girder stop pads to concrete and steel.

3M 1300 / 1300L

Scotch-Weld Neoprene High-Performance Rubber & Gasket Adhesive 1300; general-purpose brushable neoprene contact adhesive for rubber-to-metal and rubber-to-rigid bonding.

Disclaimer: 3M and Scotch-Weld are trademarks of 3M Company. This cross-reference indicates comparable chemistry and general performance envelope; it does not represent a certification of drop-in equivalence. Users switching between manufacturers should conduct independent adhesion and performance testing on representative substrates before committing to production use. Hanna Rubber Company is not affiliated with or endorsed by 3M Company.

LIMITATIONS

- Do not apply below 40 °F or above 100 °F substrate temperature.
- Do not apply to wet, frozen, or contaminated surfaces.
- Not recommended for use on EPDM, silicone rubber, or plasticized vinyl without adhesion testing.
- Not recommended for continuous immersion service or for bonds subject to sustained peel loading.
- Product is flammable. See Safety Data Sheet (SDS) prior to use for handling, storage, and PPE requirements.

STORAGE & SHELF LIFE

Store in original unopened containers at 40–90 °F, away from heat, sparks, and direct sunlight. Do not allow product to freeze. Rotate stock on a first-in, first-out basis. Shelf life is 12 months from the date of manufacture in an unopened, sealed container. Date of manufacture is stamped on each container.

HEALTH & SAFETY

R-27780 is a Class 3 flammable liquid (UN 1133, PG II). Flash point –14.8 °F closed cup. Contains hexane, acetone, and toluene. Use only in well-ventilated areas with appropriate respiratory, skin, and eye protection. Keep away from heat, sparks, open flames, and hot surfaces — no smoking. Refer to the current R-27780 Safety Data Sheet for complete hazard information, exposure limits, first-aid measures, and regulatory data prior to use.

The data presented in this document represents typical values based on material of standard quality produced under standard conditions. It is offered in good faith as information only and not as a product specification. No warranty, express or implied, is made. Each user is responsible for determining suitability for the intended end use. Users should conduct their own adhesion testing for critical applications and should verify that the product, as supplied, meets the requirements of the specifying authority.

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