

APPLICATION GUIDE

Rubatex Contact Adhesives

Directions for Use

R-27780 · R-27704 · R-27705 · R-27710 · R-27730 · R-373

This document provides standardized directions for use covering all Rubatex-brand neoprene contact adhesives manufactured by Hanna Rubber Company. All six products share the same contact-adhesive application method; differences in viscosity, solids content, color, and solvent blend determine which product is most appropriate for a given application. This guide is intended for use alongside the product-specific Technical Data Sheet (TDS) and Safety Data Sheet (SDS). In the event of any conflict between this guide and a product-specific TDS, the TDS governs.

1 PRODUCT SELECTION GUIDE

Select the appropriate Rubatex adhesive based on application method, substrate, and performance requirements:

PRODUCT	COLOR	APPLICATION	VISCOSITY	SOLIDS	BEST FOR
R-27780	Amber / clear	Brush, roller	Brushable	~21%	Bridge & highway work; rubber sheeting and pads to concrete and steel; DOT-grade applications
R-27704	Yellow	Brush, roller	Brushable	21%	Fast-setting general industrial bonding; production work; smaller bond areas with quick grab
R-27705	Black	Spray, brush	350 cP ± 50	20% ± 2%	Sprayable applications; wetsuit seam bonding; closed-cell neoprene foam assembly; flexible soft-seam bonds
R-27710	Black	Brush, roller	800 cP ± 100	24% ± 2%	PVC / NBR product bonding; butt splicing of rubber buns into 50° rolls; gap-filling bonds requiring heavier film build
R-27730	Yellow	Brush, roller	350 cP ± 50	20% ± 2%	Lamination work; PVC / NBR bonding; reduced-neurotoxicity formulation (heptane replaces n-hexane)
R-373	Tan	Brush, roller	500 cP	18%	General-purpose brushable bonding; quart-only format for repair and field use; rubber, foam, wood, laminates

Quick selection rules:

- **Spray application required:** R-27705 (only sprayable product in the line)
- **Heavier film or porous substrates:** R-27710 (highest viscosity and solids)
- **Hexane-sensitive application or reduced HAP loading needed:** R-27730 (heptane-based, no n-hexane)
- **Bridge / DOT submittal work:** R-27780
- **Fast production bonding:** R-27704

2 BEFORE YOU START

READ THE SDS AND TDS

Review the product-specific Safety Data Sheet and Technical Data Sheet before opening the container. All Rubatex adhesives are Class 3 flammable liquids (UN 1133, PG II) with low flash points. The SDS contains required information on exposure limits, PPE, first-aid, and handling that is not repeated in full in this guide.

PERSONAL PROTECTIVE EQUIPMENT (MINIMUM)

- Chemical-resistant gloves (nitrile, butyl, or PVA — consult the SDS for the specific product)
- Safety glasses or chemical splash goggles; face shield where splash potential exists
- NIOSH-approved respirator with organic-vapor cartridges if ventilation is inadequate
- Impervious protective clothing; flame-retardant clothing where ignition risk is elevated

WORKSPACE REQUIREMENTS

- Well-ventilated area with mechanical exhaust where possible; vapors are heavier than air and collect in low areas
- All ignition sources removed — pilot lights, heaters, electrical equipment, open flames, hot surfaces; no smoking
- Non-sparking, grounded tools and equipment; static-discharge protection for transfer operations
- Substrate and ambient temperature between 40 °F and 90 °F (see Section 5 for cold-weather procedure)

⚠ FLAMMABILITY WARNING

All Rubatex contact adhesives are highly flammable. Flash points range from –20 °F to +1.4 °F (closed cup). Vapors may form explosive mixtures with air and may travel along the ground to distant ignition sources. Ground and bond all metal containers and transfer equipment. Use only non-sparking tools and explosion-proof electrical equipment.

3 APPLICATION PROCEDURE

01 Condition adhesive and substrates.

Store adhesive at 65–80 °F for at least 24 hours before use. Substrates should be at 65–85 °F for optimum performance. Cold adhesive is more viscous than intended and will produce heavier film; cold substrates extend flash-off time.

02 Prepare surfaces.

All surfaces must be clean, dry, and free of dust, oil, grease, release agents, frost, and standing moisture. Rubber substrates should be wiped with a compatible solvent such as MEK or acetone immediately prior to application. Smooth non-porous substrates benefit from light abrasion. For concrete substrates, ensure full 28-day cure and remove laitance by abrasion or shot-blasting.

03 Stir the adhesive.

Stir thoroughly before use. Pigmented products (R-27705, R-27710) may show carbon-black settling during storage and must be fully redispersed. Do not shake — shaking traps air.

04 Apply a thin, even coat to BOTH mating surfaces.

This is a contact adhesive — both surfaces must be coated. Use brush, short-nap roller, or appropriate spray equipment (R-27705 only). Do not apply heavy coats; heavy films extend flash-off time disproportionately and can trap solvent at the bond line, weakening the bond.

05 Allow to flash off.

Let the adhesive flash off until aggressively tacky but no longer wet to the touch. The film should feel tacky when contacted with a clean, dry finger but leave no transfer. If finger transfer occurs, allow more flash-off time. If the film appears dry with no tack, the open window has closed and the surface should be re-coated. See Section 4 for flash-off time quick reference.

06 Mate surfaces with firm, uniform pressure.

Once both surfaces have reached aggressive tack, bring them together in final alignment — contact adhesives grab on contact and cannot be repositioned. Apply firm, uniform pressure across the entire bond area using a hand roller, pinch roller, or press. For rigid-substrate bonds, higher pressure improves bond strength.

07 Protect during cure.

Handle gently until handling strength is reached. Do not apply service loads (shear, peel, or structural stress) until full cure time has elapsed. Protect the bond from rain, frost, and contaminants throughout the cure period.

4 FLASH-OFF TIME QUICK REFERENCE

Minimum flash-off time at each substrate/ambient temperature. Always verify tack by finger touch before mating; the table below is a starting point, not a substitute for tack verification.

PRODUCT	65–85 °F	55–65 °F	45–55 °F	40–45 °F	FULL CURE (70 °F)
R-27780	10–20 min	20–35 min	35–60 min	60–90 min	24 hr
R-27704	5–12 min	12–22 min	22–40 min	40–60 min	24 hr
R-27705	8–15 min	15–28 min	28–50 min	50–75 min	24 hr
R-27710	10–18 min	18–30 min	30–55 min	55–85 min	24 hr
R-27730	8–15 min	15–25 min	25–45 min	45–70 min	24 hr
R-373	8–15 min	15–25 min	25–45 min	45–70 min	24 hr

Values assume still-air conditions at approximately 50% relative humidity. High humidity, poor air movement, heavy film build, or cold substrates all extend flash-off. Spray application on thin films typically falls at the lower end of each range; brush application on heavier films at the upper end. Consult the product-specific TDS for detailed cold-weather procedure.

5 COLD-WEATHER APPLICATION

All Rubatex contact adhesives remain functional at substrate and ambient temperatures below 65 °F. At reduced temperatures, 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.

COLD-WEATHER PROCEDURE

- Store adhesive at 65–80 °F for at least 24 hours before use. Do not apply cold adhesive to cold substrates.

- Verify substrates are dry and free of frost, condensation, and surface moisture. A clean dry cloth wipe should leave no visible dampness.
- Apply a thin, even coat to both surfaces. Do not apply a heavier coat to compensate for cold temperatures — this extends flash-off time further and can trap solvent.
- Extend flash-off time per the Section 4 reference table. Verify aggressive tack by light finger contact before mating.
- Mate surfaces with firm, uniform pressure. Initial contact strength is reduced at lower temperatures — maintain mechanical support or restraint until handling strength is reached.
- Extend full-cure time: 36 hours at 55–65 °F, 48 hours at 45–55 °F, 72 hours at 40–45 °F. Do not subject the bond to service loads until full cure.

Minimum application temperature: 40 °F. Below 40 °F, risk of solvent retention, condensation on substrates, and reduced initial tack becomes significant. Do not apply Rubatex contact adhesives below 40 °F substrate temperature.

6 SPECIAL APPLICATIONS

BUTT SPLICING RUBBER BUNS INTO 50° ROLLS (R-27710, R-27730)

01 Cut both bun ends square.

Clean and free of loose particles. For worn or compressed ends, skive lightly to expose fresh rubber.

02 Apply adhesive to both mating faces.

R-27710 (heavier film build, 800 cP) is preferred where the cut faces are irregular or where gap-filling is needed. R-27730 (standard viscosity, heptane-based) is suited to cleaner cuts and applications requiring reduced HAP loading.

03 Allow flash-off to aggressive tack per Section 4.

04 Mate faces under hand pressure, then clamp or compress.

Compress the splice for 5–10 minutes at room temperature. Allow 2–4 hours before flexing or loading.

WETSUIT SEAM BONDING (R-27705)

01 Prepare neoprene seam edges.

Clean, dry, and free of dust, talc, and mold-release residue. Wipe with acetone if necessary.

02 Apply R-27705 by brush or spray to both seam faces.

Use a thin, even coat. For production spray work, a 1.4–1.8 mm fluid tip is typical.

03 Flash off to aggressive tack (8–15 min at 70 °F).

04 Mate seam edges with hand pressure or a seam roller.

R-27705's elevated toluene content produces soft, flexible seams that maintain the wetsuit's stretch characteristics.

BRIDGE / DOT APPLICATIONS (R-27780)

For bonding rubber sheeting, bearing pads, or girder stop pads to concrete or steel in bridge and highway applications: concrete surfaces must be fully cured (minimum 28 days) with laitance removed by abrasion or shot-blasting; steel

surfaces cleaned to SSPC-SP 2 minimum, SP 6 preferred. Refer to R-27780 TDS for full cold-weather procedure and submittal documentation.

7 CLEANUP AND DISPOSAL

- Clean tools, brushes, and spray equipment immediately after use with MEK, acetone, or 3M Citrus Base Industrial Cleaner.
- Cured adhesive residue can be removed mechanically by scraping with a sharp-edged tool.
- Do not reuse empty containers. Empty containers contain solvent residue and are regulated hazardous waste.
- Dispose of unused adhesive, contaminated rags, and empty containers in accordance with federal, state, and local regulations. Discarded material should be incinerated at a permitted hazardous-waste facility.
- Contaminated rags and absorbent materials should be stored in closed metal containers under water until disposal — solvent-soaked rags are a spontaneous combustion hazard.

8 STORAGE AND SHELF LIFE

- Store in original unopened containers at 40–90 °F, away from heat, sparks, open flames, and direct sunlight.
- Keep containers tightly closed when not in use. After partial use, seal the container immediately to minimize solvent evaporation and skin formation.
- Do not allow product to freeze.
- Store away from caustics, oxidizers, and incompatible materials.
- Shelf life is 12 months from the date of manufacture in an unopened, sealed container.
- Rotate stock on a first-in, first-out basis. Stamp date of manufacture or receipt on each container upon receiving.

9 TROUBLESHOOTING

SYMPTOM	LIKELY CAUSE	CORRECTIVE ACTION
Bond fails immediately or peels away	Insufficient flash-off; solvent trapped in bond line	Allow longer flash-off; verify tack by finger touch; apply thinner coats
No tack when mating; weak bond	Over-flashed; open window has closed	Apply fresh coat and mate within the tack window
Bond fails at 1–7 days	Contaminated substrate (oil, release agent, moisture)	Clean with MEK or acetone; ensure substrate is fully dry
Adhesive is thick or stringy	Cold adhesive, or partial solvent evaporation from container	Warm to 65–80 °F; if still thick, replace container
Black settling in R-27705 or R-27710	Carbon-black pigment settling during storage (normal)	Stir thoroughly to redisperse; do not shake
Spray fan is irregular (R-27705)	Cold adhesive, incorrect fluid tip, or low atomizing pressure	Warm adhesive; verify 1.4–1.8 mm fluid tip; adjust atomizing air
Reduced bond strength at low temp	Insufficient cure time at reduced temperature	Extend cure per Section 5; maintain bond support until handling strength reached

This document provides standardized directions for use covering the Rubatex adhesive product line. Product-specific technical data, hazard information, and regulatory information are contained in the Technical Data Sheet (TDS) and Safety Data Sheet (SDS) for each product, which should be consulted before use. The data in this guide 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.

HANNA RUBBER COMPANY

908 W. 25th Street
Kansas City, MO 64108
P: (816) 221-9600
Emergency: (800) 424-9300
hannarubbercompany.com