

BONFORT TECHNICAL DOCUMENT

BFT-609-NRAC Non-Curing Rubberized Asphalt Waterproofing

TECHNICAL DATA SHEET

BFT-609-NRAC Non-Curing Rubberized Asphalt Waterproofing Compound

Single-Component Hot-Melt Viscoelastic Asphalt Waterproof Compound

PRODUCT DESCRIPTION

BFT-609-NRAC is a single-component hot-melt viscoelastic non-curing rubberized asphalt waterproofing compound formulated with SBS-modified petroleum asphalt, synthetic rubber polymer, tackifier oil, mineral fillers, and anti-flow thixotropes. It maintains a permanent non-curing elastic creep state and is designed for roofing, below-grade waterproofing, detail sealing and composite membrane bonding applications.

Code	BFT-609-NRAC
Product Name	Non-Curing Rubberized Asphalt Waterproofing Compound
Material Type	Single-component hot-melt viscoelastic asphalt waterproof compound
Color	Solid black heavy bituminous paste
Materials	SBS-modified petroleum asphalt, synthetic rubber, tackifier oil, mineral fillers, anti-flow thixotropes; asbestos-free
Primary Function	Permanent non-curing waterproof barrier, self-healing detail sealant and hot-applied membrane bonding compound

FEATURES / BENEFITS

- Permanent Non-Curing Viscoelastic Property Maintains elastic creep state permanently, never hardens or forms rigid film; absorbs substrate thermal expansion, shrinkage and structural settlement stress without cracking.
- Superior High & Low Temperature Climate Adaptability High heat sag resistance for southern US exposed roofing; low-temperature flexibility for northern freeze-thaw regions.
- Ultra-High Non-Volatile Content $\geq 98\%$ solids, near-zero solvent emission, compliant with US low-VOC construction regulations, no post-application shrinkage or depression.
- Quantitative High Adhesion Performance Measured bond strength to concrete, metal, bitumen sheets and single-ply membranes; eliminates interlayer lateral water migration (water channeling).
- Inherent Self-Healing Capacity Automatic flow re-seal after puncture, gravel abrasion or minor tearing, reduces long-term roof leak warranty risks.
- Multi-Purpose Detail Repair & Composite Bonding Serves as standalone flashing sealant and hot-melt adhesive for SBS/APP, TPO, PVC roofing membranes; ideal for all complex roof penetration joints.

TYPICAL USES

- Roofing systems: Exposed & covered low-slope / steep-slope commercial & residential roofing; modified bitumen BUR, single-ply TPO/PVC/EPDM, SPF spray foam overlay systems; metal roof renovation, flashing, vent pipe, chimney base, parapet wall waterproofing.
- Below-Grade & Plaza Decks: Basement slab, retaining wall, plaza deck, parking garage roof, planter box waterproofing.
- Special Structural Details: Expansion joints, cold joints, pipe penetrations, curb fillets, roof edge transition zones.
- Repair Scenarios: Aged roof system patch repair, bitumen substrate crack sealing, bridge deck asphalt overlay repair.

CHARACTERISTICS / ADVANTAGES

- Dual ASTM D4586 Type I + Type II performance, integrates self-healing and high-temperature sag resistance into one product.
- Permanently viscoelastic non-curing structure eliminates cracking risks caused by substrate displacement; continuous waterproof barrier without hollow delamination.
- $\geq 98\%$ non-volatile content minimizes VOC emissions, satisfies California AQMD low-emission construction requirements; no material shrinkage after hot melt application.
- Quantified adhesion strength ≥ 0.7 MPa delivers reliable bonding on damp substrates (ASTM D4586 Class II damp-surface approved) without primer dependency on standard concrete/asphalt.
- Outstanding self-healing creep property conforms to ASTM D4586 Type I mandatory self-healing specification; minor mechanical damage self-recovers without manual rework.
- Wide US climate coverage: stable performance from northern -20°C cold winters to southern 90°C surface high-temperature exposed roofs.
- Dual-function: independent detail sealing + hot-melt adhesive for all mainstream US roofing membranes, shortens construction cycle with no curing waiting time before membrane installation.



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TECHNICAL DATA - TYPICAL PROPERTIES

Property	Typical Value / QC Target	Test Method / Basis
Packaging	4.75 US gal pail; 42.75 lb (19.39 kg) net weight	Product label / QC packaging specification
Density	9.0 lb/US gal (1.08 kg/L)	ASTM D1475 / QC check
Color	Solid black heavy bituminous paste	Visual inspection
Main Components	SBS-modified petroleum asphalt, synthetic rubber, tackifier oil, mineral fillers, anti-flow thixotropes; asbestos-free	Formulation / supplier declaration
Non-Volatile (Solid) Content	>=98% by weight	ASTM D2369 / ASTM D1353
VOC Content	<25 g/L	EPA Method 24 / ASTM D3960
High-Temperature Flow / Sag	No sag; <=2 mm flow at 194°F (90°C)	ASTM D5329 / internal high-temperature flow check
Low-Temperature Flexibility	Pass at -4°F (-20°C), no cracking	ASTM D4586 / internal cold-flexibility check
Adhesion to Concrete / Asphaltic Substrate	>=100 psi (>=0.69 MPa), firm cohesive bond	ASTM D4541 / ASTM D7234
Self-Healing Performance	Pass: compound re-seals after puncture under service conditions	Internal puncture recovery test
Water Impermeability	Pass: no water penetration at 0.2 MPa for 30 min	ASTM D4586 water resistance basis
Flash Point	>=430°F (221°C)	ASTM D92
Application Temperature	320°F-356°F (160°C-180°C)	Jobsite application control
Continuous Service Temperature Range	-4°F to 194°F (-20°C to 90°C)	Internal thermal cycling check

Note: Values shown are typical QC targets and representative lab results. Actual results may vary with equipment, heating temperature, application method, site conditions and substrate condition. Confirm project-specific requirements by mock-up or field adhesion test.

APPLICATION INFORMATION

Theoretical Coverage Rate	1.3-1.5 kg/m ² for 1 mm finished thickness; 2.6-3.0 kg/m ² for standard 2 mm design thickness
Hot Melt Heating Temperature	160°C ~ 180°C (320°F ~ 356°F) via dedicated bitumen melter
Minimum Ambient Air Temperature	5°C (41°F)
Maximum Ambient Air Temperature	35°C (95°F)
Maximum Relative Air Humidity	85% R.H.
Substrate Allowable Condition	Damp substrate acceptable; standing water prohibited

APPLICATION INSTRUCTIONS

Versatile Application Methods	Hot melt trowel scraping, hot melt airless spray for large-area roof decks; tooth trowel recommended to control uniform film thickness.
High-Build Hot Melt Formulation	No sagging on sloped substrates after hot application; multi-layer construction allowed for thicker design requirements.
Surface Preparation	Substrate must be structurally sound, clean, free of loose mortar, dust, oil, grease, frost, mold and standing water. Grind and remove blistered, chalky, unstable surface layers; form 50 mm radius fillet at all internal corners. Heavily porous, dusty or powdery substrates shall be primed with a universal multi-purpose roof primer prior to coating. Complete all underlying substrate defect repairs (cracks, holes, voids) before hot melt application of BFT-609-NRAC.
Adhesion Verification	Conduct small-scale pull-off adhesion test on unknown substrates before full construction; confirm compatibility with existing roof membrane materials.
Usage & Mixing Guidance	No solvent dilution allowed; heat uniformly within 160-180°C temperature window, avoid overheating exceeding 180°C to prevent material aging. Stir thoroughly after melting to eliminate sediment separation and ensure consistent performance.
Post-Construction Cleaning	Uncured hot material: Wipe and clean tools with mineral spirits while hot. Fully cooled/cured compound: Only removable via mechanical grinding, scraping or abrasive blasting.
Spray & Construction Control	Avoid hot melt spraying under high wind conditions to prevent material drift onto adjacent buildings, vehicles and vegetation. Mask windows, ventilation pipes and non-waterproofing surfaces to avoid overspray contamination. After scraping/spraying BFT-609-NRAC, install waterproof sheet membrane immediately without waiting curing period to form composite waterproof system.
Application Environment Restrictions	Do not construct when rain, snow, hail or heavy dew is forecast within 24 hours. Frost-covered substrates must be fully thawed and dried before hot melt operation.
Temperature Impact	Cold Weather (<=10°C / 50°F): Material cooling speed accelerates; reduce single construction area to guarantee uniform film thickness. Hot Weather (>=30°C / 86°F): Control heating temperature strictly below 180°C, shorten continuous hot melt operation time.
Matching Construction Tools	Bitumen melter, tooth trowel, hot melt airless spray rig, wet mil thickness gauge, high-temperature resistant gloves, safety goggles, heat-resistant protective coveralls, mineral spirits solvent for cleaning.

LIMITATIONS / SAFETY / STORAGE

- Limitations: Not recommended for constant pedestrian heavy-traffic walkways, vehicle bearing decks, continuous full water immersion service, unventilated underground enclosed tanks. Do not apply to structurally unsound, wet, oily, moldy, unprimed highly absorbent asphalt substrates without primer treatment. Incompatible with certain unvulcanized rubber tapes, failed aged sealants and untested caulking compounds; conduct compatibility test prior to use. Not suitable for application in fully sealed, zero-ventilation confined spaces without mechanical air circulation.
- Product Hazard Overview: Hot melt material reaches high temperature (160-180 °C) during construction; direct skin contact causes severe thermal scalding. Mild volatile fumes generated under heating; maintain sufficient site ventilation during construction. Unopened sealed pails have no surface skin formation; partial-used containers must be tightly sealed to avoid cooling curing skin blocking melter equipment.
- Storage Conditions: Store sealed pails in cool, dry, ventilated warehouse, storage temperature controlled 5° C-25° C (41° F-77° F). Keep away from open flame, welding sparks and direct long-term sunlight exposure. Freeze-resistant in winter unheated warehouses; no crystallization or irreversible property loss after low-temperature storage.
- Shelf Life: 9 months from production date under intact sealed original packaging.
- Transportation: Classified as general non-dangerous goods for ocean/land transport; protect containers from frost and high-temperature exposure during transit; avoid violent impact and barrel deformation.

LEGAL DISCLAIMER

Prior to use, all applicators shall review the current BFT-609-NRAC Technical Data Sheet, Safety Data Sheet and product label instructions. Product selection, surface preparation, jobsite condition assessment and application risk are the responsibility of the contractor, applicator and project owner. Published information is based on typical laboratory and field experience and is provided for reference only. Actual performance may vary depending on site conditions, substrate type and application methods. No warranty of merchantability or fitness for a particular purpose is implied. Contact BONFORT technical service for current product information before final specification.