EVOLVED.
TEXTILE TECHNOLOGIES

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TECHNICAL DATA SHEET

Product: NanoTech Fabric Coating

Revision Date: November 2025

Version No.: 1.0

PRODUCT DESCRIPTION

NanoTech Fabric Coat is a pristine-white, water-based acrylic coating designed for fabrics and flexible substrates. It forms a breathable, insulating, and fire-resistant film with excellent adhesion. The coating provides improved thermal barrier performance (k = 0.055 W/m·K) and a protective finish for textiles used in demanding environments.

KEY FEATURES & BENEFITS

- Pristine white, high-opacity finish
- Thermal barrier coating (k = 0.055 W/m·K)
- Fire-resistant, reduces flame spread
- Fast drying: ~1 hour dry time at ambient
- Low viscosity (100–200 cP) for excellent application flow
- Flexible coating compatible with multiple fabric types
- UV-stable, water-based, low odor, low VOC
- Must be protected from freezing

TYPICAL APPLICATIONS

- Technical textiles
- Fire-resistant fabric coverings
- Insulation jackets and wraps
- Canvas tarps, cotton, polyester, fiberglass cloth
- Protective fabric systems in industrial, architectural and commercial settings

THERMAL & FIRE PROTECTION PROPERTIES

Property	Value / Description
Thermal Conductivity (k)	0.055 W/m·K
Thermal Barrier Function	Reduces conductive heat flow and lowers surface temperature rise

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THERMAL & FIRE PROTECTION PROPERTIES (CONTINUED)

Property	Value / Description
Fire Resistance	Flame-retardant acrylic system; slows ignition and flame propagation Has diminished flame spread during textile flame spread testing
Smoke Behavior	Low smoke generation (substrate-dependent)
Heat Reflection	Pristine white film improves solar reflectivity

TYPICAL PHYSICAL PROPERTIES

Property	Value / Description
Appearance	White or opaque tone
Dry Film Appearance	White, flexible matte coating
Chemistry	Water-based acrylic emulsion
Solids by Weight	20–35% (typical)
Density	1.00–1.05 g/mL
Viscosity	100–200 cP @ 25°C
pH	7.5–9.0
VOC	< 50 g/L
Dry Time (Touch)	~1 hour @ 25°C, 50% RH
Full Cure	24–48 hours
Freeze-Thaw Stability	Do NOT freeze
Shelf Life	12 months (sealed, 5–35°C)

APPLICATION GUIDELINES

Step	Instructions
Surface Prep	Ensure substrate is clean, dry, and free of oils or loose fibers.
Application Methods	Brush, roller, dip, HVLP spray, or airless spray.
Wet Film Thickness	5–8 mils (~200 microns) recommended.
Drying	~1 hour touch dry; extended time in low temp or high humidity.
Recoat Window	1–2 hours between coats.

PERFORMANCE CHARACTERISTICS

Performance Area	Characteristic
Flexibility	Conforms to fabric movement without cracking
Adhesion	Excellent to cotton, polyester, fiberglass, and blends
Thermal Insulation	k = 0.055 W/m·K
Fire Behavior	Fire-resistant film with slow ignition response
UV Stability	Suitable for outdoor exposure
Breathability	Maintains fabric flexibility

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STORAGE & HANDLING

Requirement	Details
Storage Temperature	5–35°C (41–95°F)
Freeze Protection	Do NOT freeze—irreversible coagulation may occur
Container Handling	Keep sealed when not in use; mix gently before application
Contamination Avoidance	Avoid strong acids, bases, or oxidizers

SAFETY & REGULATORY

Category	Details
General Safety	Water-based, non-flammable liquid
PPE	Gloves, eyewear recommended during application
Ventilation	Use in well-ventilated areas
SDS	Refer to the Safety Data Sheet for full details

PACKAGING

Package Type	Volume
Pail	1 gallon (3.78 L)
Pail	5 gallon (18.9 L)
Drum	55 gallon (208 L)
IBC Tote	275–330 gallons

WARRANTY

The manufacturer (NanoTech Materials) warrants this product meets published specifications at shipment. Determining suitability for specific use conditions is the responsibility of the user.