

Permax™ 4399

Urethane Based Cooling Coating for Performance Apparel

PERFORMANCE COATINGS

PRODUCT DESCRIPTION

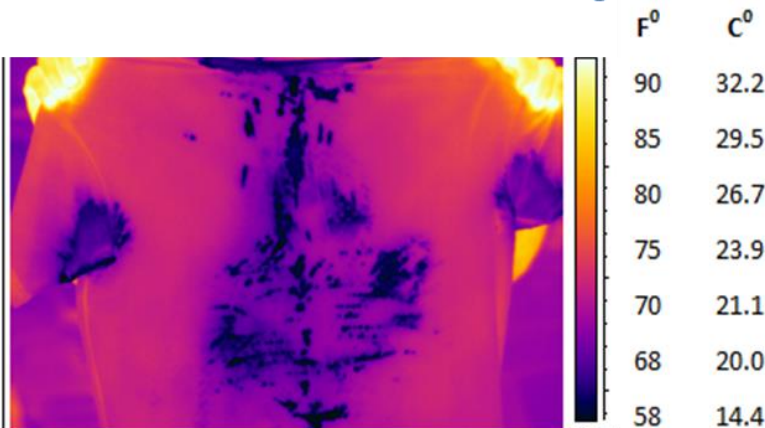
Permax™ 4399 is a high performance, hydrophilic compound that can provide a number of unique properties such as enhanced comfort, cooling, wicking, air-flow, wash-durability and cost-value performance vs. competing coatings. These performance characteristics are partially dependent on the base textile substrate being coated and the application technique. This ready-to-use, water-borne, urethane based compound forms a soft, flexible film which has excellent adhesion to a variety of substrates including cotton, polyester, nylon and blends. This material can be used on knit, woven, or non-woven substrates.

Permax™ 4399 can be applied using traditional full-coverage techniques such as knife coating and Meyer rod applicators as well as printing patterns via rotary screen, placement screen, gravure roller, offset as well as digital and spray applications. Permax™ 4399 can be pigmented if desired to provide visual impact. Suggested drying temperatures are 250° F-300° F, and a curing temperature of 325° F-350° F for best wash durability.

FEATURES/BENEFITS

- Excellent wash durability
- Excellent adhesion to a variety of substrates
- Good thermal transfer and drying properties that provide cooling
- Wide application possibilities

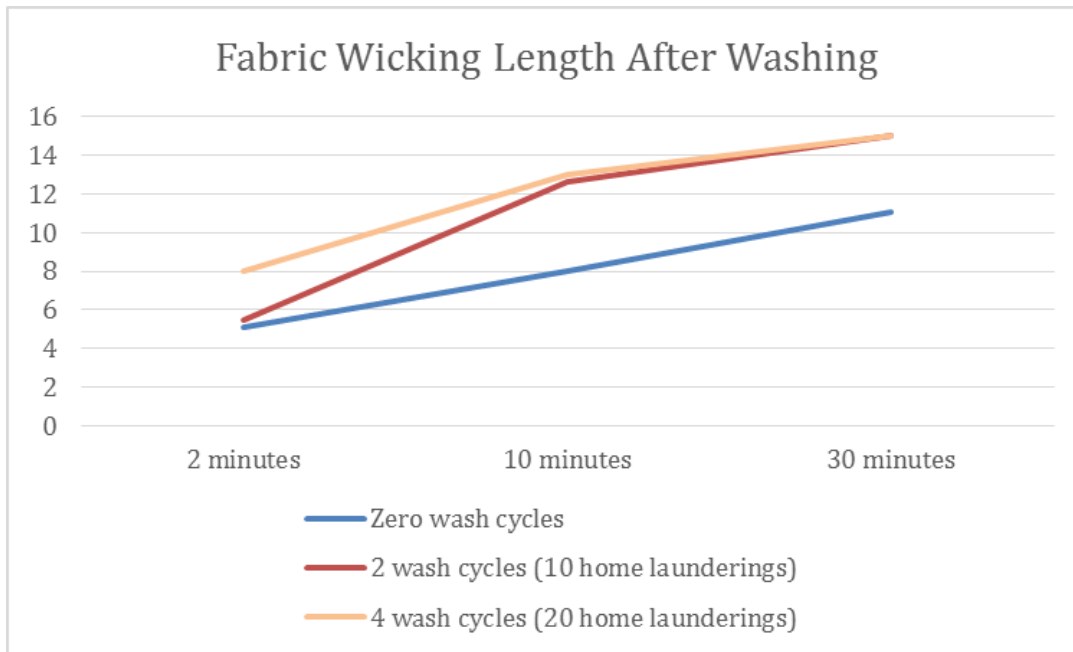
Printed with Permax™ 4399 Coating



Unprinted Control



Thermal imaging after a 20-minute workout indicates approximately 20°F/12°C cooler temperature on the polyester t-shirt coated with Permax™ 4399 vs the uncoated control



Permax™ 4399 has excellent wash durability and retains its wicking performance after repeated launderings

TYPICAL APPLICATIONS

- Sports apparel
- Work wear
- Technical textiles
- Military apparel
- Bedding
- Under garments

PHYSICAL CHARACTERISTICS*

Appearance	Milky White Emulsion
Solids, Weight (%)	38.5 – 42.0
Density, Pounds/Gallon	8.0 – 9.5
Brookfield Viscosity, (cps)	22,000 – 24,000 (Spindle #6 @20rpm)
pH	8.0 – 9.5
Freeze/Thaw Stability	Protect from Freezing
Thermal Stability	Pass
Mechanical Stability	Pass

* Property values represent typical results only and are not to be considered specifications.

SHELF LIFE/STORAGE

Lubrizol recommends retesting the quality 90 days after the date of manufacture. Store unopened containers indoors at temperatures between 45° & 95° F.

IMPORTANT: This product may develop a film of liquid on the top if left unused for a period of time. The product is fully useable if reconstituted by gentle stirring.

All equipment should be washed with water before the product dries.

REGULATORY STATUS

Please see the product's current safety data sheet, SDS, for regulatory information. You can request an SDS at www.lubrizolcoatings.com.

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