

Technical Article for Textiles
Typical Materials, Processes and Applications for Use
for Low- or Surfactant-Free Fluoropolymer Coatings

Braided, Knitted, Woven, Nonwoven Fabrics, Wetlaid Ropes/Cords/Braid

The application of a low- or surfactant-free fluoropolymer coating to a web or rope/cord/braid is relatively simple. Various coating methods may be used, including bath dip, foam, padding, spray, knife, rotogravure, reverse roll or other methods typically used to apply a coating or treatment to fibers, pulp, tow, textiles, nonwoven fabrics, rope/cord/braid and similar textile industry products. These coatings may also be combined and applied as a mixture with various types of finishes, including spin finishes and/or dyes stuffs or pigments.

The objective of applying low- or surfactant-free fluoropolymer coatings and/or treatments onto fibers, yarn, webs (including woven and knitted textiles, nonwoven fabrics or wetlaid processes) or ropes/cord/braid, is to achieve an improved material and end product which will have better properties and significantly longer functional life than very low molecular weight fluorochemical treatments.

The applications listed below contain natural, metallic, ceramic, synthetic, synthetic made from natural resources fibers, yarns, tow and/or pulp.

Typically, the low- or surfactant-free fluoropolymer coatings or surface treatments will improve properties in the following areas:

- Abrasion Resistance
- Durability and Useful Life
- Elongation
- Flex and Flex Life
- Higher Hydrostatic Resistance
- Lubricity (Surface and Intra-Fiber, Yarn, and Fabric)
- Noise Reduction
- Soil Release/Resistance
- Stronger Web, Rope/Cord/Braid
- Stain Resistance
- Tear Resistance
- Temperature Resistance (High & Low)
- UV Resistance
- Washability
- Water Resistance or Repellency
- Wear Resistance
- Weathering

Market Segments and Application Examples for Low or Surfactant-Free Aqueous PTFE Dispersions.

Acoustics

- Automotive
- Aircraft (Interior & Engine)
- Ear Protectors
- Wall Damping

Architectural & Outdoor

- Awnings
- Party Tents
- Patio Furniture
- Pole Tentage & Air Tension Structures
- Umbrellas

Apparel: Dress, Casual, Sport, Work

- Coats
- Hats
- Hosiery/Socks
- Pants
- Rain/Cold/Parka/Ski/Work Wear
- Scarves/Ties
- Shirts/Blouses
- Shoes
- Skirts/Dresses
- Undergarments

Ballistics & Cut Resistance

- Automobile Explosive Resistance
- Blast Curtains
- Embroidered Uniform Patches
- Lumberjack Chaps
- Meat Cutters Gloves & Aprons
- Military & Law Enforcement Vests

Banners/Signs/Flags/Screens

- Advertisement/Outdoor Signs
- Backlit Signs
- Bunting/Pennants
- Embroidered Uniform Patches
- Flags
- Medal Ribbons
- Movie Screens

Belting (Polymeric Coated and Uncoated)

- Conveyor
- Copiers
- Machinery
- Transmission

Building & Construction

- Air Ducting
- Elevator Cable
- House Wrap
- Single Ply Membrane Roofing & BUR's
- Window Screens (Wire/PVC/Glass etc.)

Carpet, Carpet Tiles & Rugs

- Aircraft
- Hospital
- Hospitality
- Marine
- Office
- Residential

Closures and Attachment

- Hook & Loop (Velcro Type)
- Sewing Thread (Apparel and Industrial)

Clothing

- Bottoms (pants/skirts)
- Rainwear (outerwear/overcoats)
- Shirts
- Shoes (Dress, Casual and Athletic)
- Socks
- Suits
- Ties
- Tops (shirts/blouses)
- Undergarments

Coating Substrates

- Coated Fabrics
- Lamination
- Printing Blankets
- Reinforcement
- Sandpaper
- Screen Printing

Commercial Furnishings

- Carpet and Carpet Tile
- Office Panels
- Office Upholstery
- Wallcovering & Backing

Communications

- EMI Shielding
- Optic and Copper Cable
- Rip Cord

Curtains

- Blast Curtains
- Cubical (Medical)
- Shower
- Theater
- Welding Curtains

Environmental

- Oil Absorbent Pads
- Oil Booms and Draping
- Silt Fences

Fiberfil

- Comforters
- Duvet
- Garments (outwear insulation)
- Pillows
- Sleeping Bags

Filtration

- Baghouse Filters
- Cartridge Media
- Dewater Belting
- Press Cloths

Fishing & Aquaculture

- Aprons/Waders/Boots
- Fishing Line
- Fishing Net
- Foul Weather Gear (McIntosh)
- Waders

Food Processing

- Aprons, Hats & Gloves
- Conveyer Belting

Geotextiles

- Agriculture
- Asphalt Reinforcement
- Road Underlay
- Golf Course Greens Covers
- Pond Liners
- Soil Stabilization
- Sand Bags

Gloves

- Cold Temperature
- Foundry and Hot Metal
- Electrical Lineman
- Garden
- General Work Gloves

Home Furnishings

- Bed Covers
- Carpeting/Rugs
- Mattresses and Mattress Covers
- Upholstery
- Window Treatments

Inflatables

- Aerospace Escape Slides
- Boats (Life & Pleasure)
- Life Vests
- Sport Domes

Insulation (Electrical)

- Electrical Cable Tapes
- Fiber Optic Cable
- Wire Harnesses

Insulation

- Building/Homes
- Cold Weather Gear

Luggage

- Attaché & Briefcases
- Back Packs
- Sea Bags
- Suitcases
- Wallets

Marine

- Boat Tops
- Covers
- Cushions
- Ropes/Cords/Lanyards
- Sails

**Mechanical Rubber Goods
(Thermoset/Thermoplastic)**

- Bearings & Bearing Seals
- Conveyor Belts
- Diaphragms (gas meters/regulators/actuators etc.)
- Fire Hose
- Gaskets/Seals
- Rubber & Plastic Hose
- V-Belts

Medical

- Bandages/Gauze
- Drapes and Gowns
- Face Masks
- Heating Pads
- Incontinence Pads

Military & Defense

- Ballistic Vests & Helmets
- Battle Dress Uniform (BDU)
- Fuel/Water Containers
- Inflatable Mattress
- NBC Warfare Garments
- Parachutes
- Radomes
- Raingear
- Tents

Mining

- Anti-Static Work Wear
- Barrier Fabrics
- Brattice Cloth Ducting

Netting

- Bale Wrap
- Cargo Nets
- Falling Rock Nets
- Grass Catcher Bags
- Meat Wrap (Turkey/Ham)
- Nursery Shade Cloth
- Scaffolding Nets
- Tennis, Soccer and Badminton Nets

Packaging

- Bale Wrap
- Bulk & Powder Bags
- Casket Lining
- Food (Burlap Sacks/Onion Bags)
- Meat Tray Absorbent Pads
- Medical Lids

Paper

- Ink Jet
- Maps
- Wallpaper
- Waterproof
- Writing

Paper Machine Clothing

- Dryer Fabrics
- Forming Fabrics
- Press Felts

Pets & Equestrian

- Bedding
- Blankets
- Collars
- Reins

Printing and Impression

- Impression Ribbon
- Printing Blankets
- Screen Printing Screens

Protective Apparel

- Chemical Clothing
- Cleanroom Garments
- Fireman's Turnout Coats (Thermal)
- Lumbermen Chaps & Gloves
- Military Wear
- Race Car Driver Uniforms
- Rocket Fuel and Oil Handlers Suits

Safety & Security

- Cables
- Fire Hose
- Ropes/Cords/Braid
- Slings
- Webbing

Sports & Recreation

- Clothing
- Helmets
- Hunting Garments
- Kites/Gliders/Ultra-Lites/Balloons
- Wet Suits & Diving Suits
- Parachutes
- Sleeping Bags
- Tennis Ball Covers
- Tents
- Undergarments
- Uniforms & Shoes
- Waders

Tapes

- Electrical
- Measuring
- Pressure Sensitive
- Reinforced Tape (Duck Tape)

Tarpaulins

- Camouflage Covers
- Military
- Sport Fields
- Trucking

Transportation

- Airbags/Seat Belts
- Convertible Tops & Car Covers
- Upholstery/Headliners/Carpeting
- Tire Reinforcement

Wallpaper

- Hospital
- Hospitality
- Marine
- Office
- Residential

Writing Paper

- Firefighters
- Labels
- Medical Response
- Military Personnel
- Police

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