

PRECIDIUM™ 745D FSI

DESCRIPTION

Food production and processing facilities require an easy to clean sterile environment. In addition, the complex infrastructure needs to be protected from corrosion and damage caused by high humidity, and harsh cleaning products.

PRECIDIUM™ 745D FSI System is designed to provide both new and existing facilities with high-performance seamless protection against corrosion, water damage, staining and abrasion in the harshest of environments.

PRECIDIUM™ 745D FSI is a spray-applied membrane that can be used to create a seamless transition between different building materials. High elongation and tear resistance reduce the chance of cracking and peeling commonly encountered with epoxy finishes.

PRECIDIUM™ 745D FSI creates a permanent monolithic layer over walls, ceilings and floors to provide a watertight seal and eliminate areas where mold or bacteria can grow and multiply.

PRECIDIUM™ 745D FSI is a 100% solids, high-performance polyurea elastomer is ideally suited over steel, wood, concrete and gypsum board substrates. For colour stability and stain resistance, a top coat with **PRECIDIUM™ 1150D** is required.

FEATURES and BENEFITS

High Performance

- seamless waterproof membrane
- resistant to cracking or peeling under high-flex conditions
- remains flexible over wide temperature range
- non porous surface for ease of cleaning and resistance to bacterial and fungal development
- high moisture tolerance
- reduced life-cycle costs
- resistant to graffiti, chemicals and abrasion

100% Solids

- solvent-free, zero VOC
- cures without shrinkage
- low odour
- food safe
- environmental sustainability
- will not hydrolyze, leach or contaminate other materials

UV Resistance

- excellent retention of physical properties
- high durability for interior and exterior use

IDEAL USES

Seamless waterproofing of floors, walls and ceilings

- ~ cannabis production operations
- ~ food processing facilities
- ~ agricultural facilities

Interior/exterior applications requiring colour stability

- ~ brighten or change colour while improving aesthetic longevity and life-cycle costs

Interior/exterior applications prohibit water damage

- ~ prevent substrate deterioration, devaluation of structures, and interruption of occupancy

Surfaces requiring frequent cleaning/sterilization

- ~ food plants
- ~ commercial kitchens
- ~ hospitals and health care centres
- ~ cannabis operations
- ~ retail stores
- ~ schools

FSI MULTI-LAYER SYSTEM

Single-layer coatings such as our **ILLUSTRUM™**

M1155 FSI are finding a range of applications in many sectors, most notably where fast return-to-service is necessary. However, there are certain applications where the properties of a multi-layer system are much more robust, combining the attractive properties of several materials - each chosen to improve overall coating performance.

With our **PRECIDIUM™ 745D FSI System**, the **41P Epoxy Primer** is an interfacial bonding layer used to promote adhesion and prevent corrosion of the substrate. The **745D Membrane** provides an excellent monolithic water-proofing membrane to protect the substrate from water ingress and impact damage. The **1150D Top Coat** adds the benefit of UV colour stability and easier cleaning, with excellent stain and chemical resistance. Multiple layers do add additional installation time but the benefits of improved performance and longevity in harsher, high-humid, frequently-cleaned facilities make this multi-layer system the optimum choice.

FSI SYSTEM LAYERS

PRIMER: **PRECIDIUM™ 41P Epoxy Primer**
MEMBRANE: **PRECIDIUM™ 745D Membrane**
TOP COAT: **PRECIDIUM™ 1150D Top Coat**

For individual properties and application instructions refer to the Technical Data Sheets of each of the products that are included in this document.

PRECIDIUM™ 41-P Primer

DESCRIPTION

PRECIDIUM™ 41-P Waterborne Epoxy Primer is a two-component, corrosion inhibiting primer. This epoxy primer offers excellent corrosion resistance over properly prepared aluminum and steel substrates. **PRECIDIUM™ 41-P** was designed to be used with polyurethane or polyurea topcoats. It significantly improves adhesion and corrosion resistance of polyurea and polyurethane fast-set elastomers.

PROPERTIES

Mix Ratio v/v:	4 Parts Epoxy (Part A) 1 Part Hardener (Part B)
Pot life:	~ 2.5 hours ¹ (23°C)
Reducer:	Water, up to 5% by volume
Recommended DFT:	3-4 mils
Recoat Time:	Minimum - 30 minutes ² Maximum - 24 hours ² (Physical abrasion required if re-coat time is exceeded.)
Density, Part A:	1.41 kg/l
Density, Part B:	1.02 kg/l
Volume Solids:	45% +/- 0.5
Weight Solids:	58% +/- 0.5
Coating VOC:	74.3 g/l
Material VOC:	36.1 g/l

1. It is necessary to use the material within the stated time limit. The substrate temperature should not be below 12°C and the relative humidity not above 80%.
2. Using **PRECIDIUM™ 1150D** as topcoat at 23°C

STORAGE

Do not freeze or store below 5°C. Store in tightly sealed containers and avoid extreme temperatures to maintain product integrity.

AVAILABILITY

PRECIDIUM™ 41-P is packaged in a pail kit (totalling 5 gallons) and a gallon kit (totalling 1.25 gallons).

INSTRUCTIONS

Ensure both A and B components are mixed and homogeneous prior to use. Mix part "A" 4:1 by volume with part "B". Stir thoroughly. Up to 5% water may be added to reduce viscosity. Apply as required by spray, brush or roller. If spraying, apply one full wet coat using 45-55 PSI (conventional spray) at the gun. If a second coat is desired allow 10-15 minutes dry time between coats. Allow the final coat to dry a minimum of 30 minutes at 77° F before top coating. If primer has been left to dry over 24 hours, the surface must be abraded to achieve satisfactory adhesion.

NOTE: Never "DRY SPRAY" primers or the product will not sufficiently wet the substrate and corrosion performance will be compromised.

Clean all equipment immediately with water followed by Acetone or Methyl Ethyl Ketone (MEK). If product has begun to set, Acetone/MEK may be required to effectively clean equipment.

PRODUCT SAFETY

An SDS is available from Quantum Chemical.

OTHER

Recommendations for the use of our products are based on the specifications of this technical data and the test results published herein. Manufacturer and seller are not responsible for results where the product is used under any conditions outside those specified or beyond our control. The purchaser of this product must rely on his own judgement in determining suitability for his purpose, and in applying directions as to handling and use specified herein. Quantum Chemical makes no warranty, expressed or implied, except that if this product proves on inspection to be defective, Quantum Chemical will replace such quantity of the product proven to be defective or refund the purchase price of defective product. Labour costs and other consequential damages are hereby excluded. No representative or purported agent of Quantum Chemical has the authority to change this warranty. The information contained herein is subject to change without notice. If in doubt, contact your representative for current Technical Data Sheets (TDS).

PRECIDIUM™ 745D Membrane

DESCRIPTION

PRECIDIUM™ 745D is a 100% solids high-performance two-component polyurea elastomer that was formulated for primary and secondary containment applications. The improved green strength allows for better application in colder temperatures and quicker rolling and handling when used for geotextile liners. It has consistent spray properties over a wide temperature range and excellent resistance to a wide range of chemicals. This fast-set system is intended for use with plural component spray equipment with a mix ratio of 1 to 1.

FEATURES

- Excellent abrasion resistance even at high temperatures.
- Highly resistant to impact over wide temperature range.
- Resistant to cracking under high flex conditions.
- Remains flexible at low temperature.
- Excellent resistance to hydrocarbons and a wide range of chemicals.
- Can be tinted to a wide range of colors.
- Longer pot-life than **PRECIDIUM™ 650D**.

PROPERTIES

Volume Solids	100%
VOC	0
Density	1.10G/cc

Service Temperature -50°C to 200°C

	<u>Test Method</u>	<u>Result</u>
Durometer D Hardness	ASTM D2240	~40-55
Tensile Strength (Die C)	ASTM D412	2800 psi
Elongation (Die C)	ASTM D412	400%
Tear Strength (Die C)	ASTM D624	400 pli
Abrasion Resistance	ASTM D4060	1000 cycles
(CS-17 Wheel, 1000 g load)		0mg loss
(H-18 Wheel, 1000 g load)		140mg loss

Pot Life ~6 sec.

Tack Free ~12 sec.

Sprayed with a Graco E-10 proportioner, using a Fusion AP Gun with AR4242 mix module.

Results are for specific testing requirements; other conditions and equipment may result in different physical properties.

INSTRUCTIONS

For application use a regulated high-pressure proportioner (1:1) and spray gun system capable of producing a minimum of 2000-2500 psi (ie: Graco EXP2/HXP2/HXP3). Thoroughly mix RESIN for 45-60 minutes prior to use. To ensure adequate mixing is achieved, a Dynamix Series MMX Drum Mixer or similar is recommended. This will re-suspend and maintain product uniformity.

Mixer Specifications:

- Drive: Air Motor 3 hp (½ hp @ 300rpm)
- Mount: 2" Bung Mount (Aluminum)
- Shaft: Shaft Assy. 3/4" x 28" Long Shaft (304 SS)
- Two Impellers: Impeller Assembly Fixed 8" Diameter

Preheating RESIN may be necessary to achieve uniform mix. Check that no residue is left on bottom of drum after mixing to ensure performance of cured product. This is achieved using a band heater or recirculating the material through the machine with the heaters set to 140° F. Target RESIN temperature before spraying is 100° F or above.

Recommended Heat Settings:

Line/Pre-Heaters	150° - 160° F
Hose Heat	150° - 160° F

Recommended Pressure Settings: 2000-2500 psi

Recommended Gun: Fusion AP

Recommended Tip: AR4242/AW3939

Apply only to properly prepared substrate. Apply first coat

at less than 10 mil and allow to become tack free before continuing. Apply following coats at 20 mil per coat and allow surface to become tack free before application of subsequent coats. Spray with uniform motion and allow 50 to 75% overlap.

STORAGE

Store in a cool, dry place for product integrity. Store in tightly sealed containers to protect from moisture and foreign materials.

AVAILABILITY

PRECIDIUM™ 745D is packaged in 52.9 US gallon drums.

PRODUCT SAFETY

An SDS is available from Quantum Chemical.

PRECIDIUM™ LS1150D Top Coat

DESCRIPTION

PRECIDIUM™ LS1150D is a 0 VOC, aliphatic coating designed as an abrasion resistant top coat for polyurea and polyurethane systems or as a stand-alone product over properly prepared substrates. It is available in five standard colors (can be custom colored) and in optional non-skid finishes for a wide range of flooring and decking applications

FEATURES

- **Solvent Free** - zero VOC, no flammability issues, minimal environmental impact.
- **Aliphatic** - Excellent color and gloss retention.
- **Fast Cure** - High productivity.
- **Waterproof** - Excellent longevity in outdoor exposure.
- **Incidental Food Contact** – Food safe for use as a construction material on floors, walls, and ceilings in food processing facilities.

PROPERTIES

Finishes:	High Gloss, Non-Skid ¹ Semi-Gloss ²
Color:	Clear; many colors (RAL K5 Classic) available; can color-match (please select from the RAL color fans above)
Volume Solids:	100%
VOC:	0
Mix Ratio:	1:1 (Resin:ISO)
Service Temperature:	-40°C (-40° F) to 130°C (-266° F)
Durometer Hardness:	85A
Tensile Strength:	ASTM D412: 2500 psi
Elongation:	ASTM D412: 73%
Tear Strength:	ASTM D624: 320 pli
Pot Life:	15-25 minutes
Tack Free:	60 minutes*
Foot Traffic:	2 hours
Recoat:	1-18 hours
Working Temp:	up to 100°C/212° F
Incidental Contact:	up to 180°C/356° F
Clean Up:	Methyl Ethyl Ketone (Resin & ISO components)

*Drying time is temperature, humidity, and film thickness dependent. Thicker films will take longer to through-cure. High humidity shortens cure time.

IDEAL APPLICATIONS

- Top coat on deck coatings
- Garage floors
- Industrial, commercial flooring
- Food processing plants on walls, floors, and ceilings
- UV resistant overcoat (polyurea and polyurethane)

INSTRUCTIONS

The application details provide general procedures to be followed for all applications of this product.

Mixing: This is a two-component system. When mixing the material, use graduated plastic mixing containers. Each batch that is being mixed on a project, will require a new plastic mixing container, however, after the project is complete, the cured material can be pulled out of the containers and they can be reused.

High-solids blending is a difficult process and requires practice and experience. First, mix Resin thoroughly before use. Combine equal parts Resin and ISO by volume. If necessary, this product may be thinned using Xylene or Acetone.

Clean up immediately after use with MEK or Acetone.

Cure time is very dependent on temperature and humidity. In cold dry conditions the cure time will be significantly prolonged.

AVAILABILITY

PRECIDIUM™ LS-1150D is packaged in 2 or 10 gallon kits.

STORAGE

Store in a cool and dry place for product integrity. Store in tightly sealed containers to protect from moisture and foreign materials. Moisture contamination will result in significant reduction in pot-life.

PRODUCT SAFETY

An SDS is available from Quantum Chemical.