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Chemical Resistant
Flooring

MasterTop® TC 421 UHW

High Solids Urethane Top Coat for MasterTop Flooring Systems

YIELD

1.25 Gallon Kit: 550–700 sq ft
(450–550 sq ft/working gallon)

PACKAGING

Unit Size Kits: 4:1 ratio

- 1.5 Gallon Kit
 - Part A – Resin (1 gal),
 - Part B – Hardener (1 quart)
 - Part C - (1 quart) *optional
- 6 Gallon Kit: 5:1 ratio
 - Part A – Resin (5 gal),
 - Part B – Hardener (1 gal)
 - Part C - (1 gal) *optional

SHELF LIFE

1 year when properly stored

STORAGE

Store and transport in unopened containers in a clean, dry area. Protect from freezing within 65 °F (18 °C) and 90 °F (32 °C).

VOC CONTENT

VOC, 7.2 g/L

DESCRIPTION

MasterTop TC 421 UHW is a clear, high solids, moisture cured, ultra high wear urethane top coat for MasterTop coating systems. Improved abrasion and slip resistance can be achieved with aluminum oxide. Satin finish is also achieved by the addition of aluminum oxide.

PRODUCT HIGHLIGHTS

- Environmentally and user-friendly
- Lasts twice as long as standard urethanes; up to four times as long as standard epoxies
- UV stable
- Resists Skydro®, jet fuels and other industrial chemicals

APPLICATIONS

- As a topcoat for MasterTop flooring systems
- Hangar floor
- Automotive Manufacturing
- Mechanical Room
- Assembly / production
- Packaging
- Clean Room / lab
- Floors exposed to heavy traffic, or harsh chemicals
- Industrial shop floors

LOCATION

- Interior

SUBSTRATES

- Select MasterTop flooring systems new or existing coatings. Do not applied directly to concrete.

TEST DATA HEADER

COMPOSITION

MasterTop TC 421 UHW is a three-component aliphatic polyurethane.

Test Data

PROPERTY	RESULTS	TEST METHODS
Flammability	182 mm/min	ASTM D 903
Resistance to Yellowing As measured using ASTM D2244 after 1000 consecutive hours UV exposure in QUV	<10 increase of yellow units (CIE Lab Δb) if pigmented topcoat	ASTM G 154
Dry Film Thickness , mils (microns)	3.0 (76.2) 1 coat	
Tensile Strength , psi [MPa] (resin only)	6,250 (43.09)	ASTM D 2370
Percent Elongation (resin only)	6	ASTM D 2370
König Hardness 3 mil , (76.2 micron) film (resin only)	171.3	ASTM D 4366
VOC g/L	2	ASTM D 7668-12
Coefficient of friction		ASTM D 2047
Dry	0.63	
Wet	0.94	
Abrasion Resistance Taber Abraser CS-17 Taber Abrasion Wheel , 1,000 gram load, 1,000 revolutions	18 mg/loss	ASTM D 4060
Water Absorption , 24-hour immersion	0.2% weight increase	ASTM C 413

Results are based on conditions at 77 °F (25 °C)

CHEMICAL RESISTANCE PROPERTIES

Mastertop TC 421 UHW Clear	1 Day	7 Days	Mastertop TC 421 UHW Clear	1 Day	7 Days
Acids, Inorganic			Solvents (Chlorinated)		
10% Hydrochloric Acid	R	R	Methylene Chloride	NR	NR
30% Hydrochloric Acid (Muriatic)	R	R	Solvents (Ketones & Esters)		
10% Nitric Acid	R	R	Methyl Ethyl Ketone (MEK)	R	R
50% Phosphoric Acid	R	C	Propylene Glycol Methyl Ether Acetate (PMA)	R	R
37% Sulfuric Acid (Battery Acid)	R	R	Miscellaneous Chemicals		
Acids, Organic			20% Ammonium Nitrate	R	R
10% Acetic Acid	R	R	Brake Fluid	R	R
10% Citric Acid	R	R	Bleach	R	R
Oleic Acid	R	R	Motor Oil (SAE 30)	R	R
Alkalies			Skydrol® 500B	R	R
10% Ammonium Hydroxide	R	R	Skydrol® LD4	R	R
50% Sodium Hydroxide	R	R	20% Sodium Chloride	R	R
Solvents (Alcohols)			1% Tide® Laundry Soap	R	R
Ethylene Glycol (Antifreeze)	R	R	10% Trisodium Phosphate	R	R
Isopropyl Alcohol	R	R	Coffee	R	R
Methanol	R	R	Coke®	R	R
Solvents (Aliphatic)			Ketchup	R	R
d-Limonene	R	R	Mustard	C	C
Jet Fuel – JP-4	R	R	Red Wine	R	C
Gasoline	R	R	3M™ DuraPrep™	C	NR
Mineral Spirits	R	R	Purdue Betadine Solution	C	C
Solvents (Aromatic)			Registered trademarks: Tide® of Proctor and Gamble, Skydrol® of Solutia, Inc. Coke® of Coca-Cola Company and 3M™ DuraPrep™.		
Xylene	R	R			

ASTM D 1308 Test Method 3.1.1 spot test, covered. Results are based on 1-day and 7-day. Coating cured 2 weeks prior to testing.

Legend:

R – Recommended. NR – Not recommended

C – Conditional

NOTE: Reduced chemical resistance and staining is possible in pigmented versions of the system.

PRELIMINARY FLOOR INSPECTIONS

1. CHECK THE TEMPERATURE AND HUMIDITY: Floor temperature and materials should be between 65 °F (18 °C) and 90 °F (32 °C). Humidity must be less than 80%. **DO NOT** coat unless floor temperature is more than five degrees over the current, local dew point.
2. Ensure the installed MasterTop flooring system is within its recoat window. If the recoat window has been exceeded, thoroughly abrade with #80 grit abrasives and solvent wipe clean the floor surface to ensure a good bond with MasterTop 421 UHW.

HOW TO APPLY

MIXING

1. **Premix part A for 3 minutes using a Jiffy® mixer blade** with slow speed drill. **Potlife:** Mix only enough material which can be used in a two-hour period.
NOTE: Part A is moisture sensitive. Any unused product should be resealed and used as soon as possible.
2. **For satin finish, pour Part C into Part A while mixing. Continue to mix and add part B. Mix for 3 minutes** using a Jiffy® mixer blade and slow speed drill. Pour into application tray.

APPLICATION

1. **APPLY** MasterTop TC 421 UHW at the rate of 500 ft²/gallon (46.45 m²/3.78 litres) with a 3/8" nap roller. For proper appearance and development of physical properties, it is crucial that material is not applied above or below this rate. Dip the roller in the coating and lightly roll out excess in the application tray. Apply two 8–10 foot (2.4–3.0 meters) long paths on the floor, making one stroke left to right and one right to left. Reload the roller and apply two more paths adjacent to the first pair. Reload roller and apply a third pair adjacent to the second.
2. **Spread the material** evenly with V-shaped cross passes. **Make sure the floor has just enough coating to cover evenly.** Excess material could cause the floor to blister, especially in high humidity. Insufficient material will cause the floor to look non-uniform.
3. **Level the area** with straight passes to the perpendicular to the initial application. This will reduce the appearance of roller marks.

4. Agitate the material in the tray occasionally to limit settling of the Part C.

DRYING TIME

Allow coating to dry 24 hours at 75 °F (24 °C), 50% relative humidity before opening to light traffic. Allow more time at low temperatures, low humidity or for heavier traffic. Full properties develop after 14 days.

Load Ratio

PRODUCT DESCRIPTION	PIGMENT LOADS
MTop PGM 1000 White 1,932KG IP31	4 oz/ gallon
MTop PGM 1000 Lt Gry 1,842KG IP31	4 oz/ gallon
MTop PGM 1000 Md Gry 1,95KG IP31	4 oz/ gallon
MTop PGM 1000 Btshp Gr 1,733KG IP31	2 oz/ gallon
Mtop PGM 1000 Tan 1,896KG IP31	1 oz/ gallon
MTop PGM 1000 Charcoal 1,501KG IP31	1 oz/ gallon
MTop PGM 1000 Deep Blue 1,102KG IP31	1/1.5 oz/gal
MTop PGM 1000 Black 0,907KG IP31	2 oz/ gallon
MTop PGM 1000 Bright Green 1,687KG IP31	1 oz/ gallon
MTop PGM 1000 Safety Red 0,957KG IP31	6 oz/ gallon
MTop PGM 1000 Safety Yellow 0,907KG IP31*	8 oz/ gallon

* Apply over white

FOR BEST PERFORMANCE

- Do not exceed a recoat window of 18 - 24 hours. If in doubt, call your Master Builders Solutions representative or flooring specialist.
- Precondition this product to 70 °F (21 °C) for 24 hours before using.
- In-service temperature range is 0 to 170 °F (-18–76 °C).
- Install this product at a substrate temperature of 65 to 90 °F (18 to 32 °C).
- The architect and owner should address joint details with the contractor before the job starts.
- Do not expose MasterTop TC 421 UHW to any chemicals until fully cured (7 days minimum).
- Master Builders Solutions representatives and flooring specialists are available to assist you in the selection of the proper coating system. Call 1-800-243-6739 for in-house and field technical assistance.
- Make certain the most current versions of product data sheet and SDS are being used; visit www.master-builders-solutions.com/en-us to verify the most current versions.

- Proper application is the responsibility of the user. Field visits by Master Builders Solutions personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

HEALTH, SAFETY AND ENVIRONMENTAL

Read, understand and follow all Safety Data Sheets and product label information for this product prior to use. The SDS can be obtained by visiting www.master-builders-solutions.com/en-us, e-mailing your request to mbsbscst@mbcc-group.com or calling +1 (800) 433-9517. Use only as directed.

IN CASE OF EMERGENCY: Call CHEMTEL +1 (800) 255-3924 or if outside the US or Canada, +1 (813) 248-0585.

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