

9 | 09 67 23 Resinous Flooring

MasterTop[®] 1213 Metallic

High-build epoxy flooring system with an abrasion-resistant polyurethane topcoat

FORMERLY SELBACOAT™ III

YIELD

Primer: 100–200 ft²/gallon (2.5–5 m²/L)

Basecoat: 80–100 ft²/gallon
(1.9–2.4 m²/L)

Topcoat: 150–300 ft²/gallon (3.8–7.5 m²/L)

All coverage rates are approximate.
Coverage rates will vary with the desired texture and the porosity of the concrete.

PACKAGING

MasterTop GP 500 epoxy coatings:

5 gallon (18.9 L) pails

55 gallon (208 L) drums

MasterTop TC 421 UHW Polyurethane top coat:

5 gallon (18.9 L) pails

MasterTop TC 693 polyaspartic top coat:

Part A Clear - 5 gallons (18.93L) in 6-gallon pails

Part A Tint Base - 5-gallon (18.93L) pails Part B -

5-gallon (18.93L) pails.

MasterSeal 900 Color Paks (for use with

MasterTop TC 693 Tint Base):

1-pint (0.47L) cans

MasterTop PGM 600 - Metallic Color:

0.18 kgs/0.397 lbs (16 oz, 180 grams), Plastic jar with screw on lid 3.5 x 3.5" (36 over-packed into a 11-15/16 x 15 x 13-5/16

COLOR

Available in 8 standard colors and custom. Refer to the Master Builders Solutions Performance Flooring Color Guide for more information.

SHELF LIFE

MasterTop Epoxy coatings:

2 years when properly stored.

MasterTop TC 421 UHW Polyurethane topcoat:

1 year when properly stored.

MasterTop TC 693 Polyaspartic topcoat:

1 year when properly stored.

MasterTop PGM 600 - Metallic Pigment:

no shelf life when properly stored.

STORAGE

Store and transport in unopened containers in a clean, dry area. Protect from freezing.

VOC CONTENT

See MasterTop 1213 LEED Letter

DESCRIPTION

MasterTop 1213 Metallic is a flooring system consisting of a high solids epoxy base coat with an abrasion resistant polyurethane or polyaspartic finish. MasterTop 1213 Metallic is squeegee or roller applied to a thickness of 20 mils or greater. The MasterTop 1213 Metallic pigmented basecoat can have a slip resistant or smooth surface.

PRODUCT HIGHLIGHTS

- Polyurethane or polyaspartic topcoat for excellent abrasion resistance
- High solids for excellent resiliency and flexibility
- Resistant to a wide range of automotive and hydraulic fluids
- UV stabilizers for excellent color retention
- Textured finish options enable texture to be customized to meet the needs of each facility
- Wide in-service range for use in hot or cold environments

APPLICATIONS

- Areas subject to rubber-wheeled vehicles and heavy foot traffic
- Where a high level of abrasion and chemical resistance is required
- Commercial applications
- Automotive service areas
- Warehouses
- Laboratories
- Clean rooms

LOCATION

- Interior applications

SUBSTRATE

- Interior applications

TECHNICAL DATA

COMPOSITION

MasterTop 1213 Metallic is a high-solids epoxy system with a finish coat.

TEST DATA

PROPERTY	RESULTS	TEST METHODS
Salt spray , after 1,000 hrs	No effect	ASTM B 117
Accelerated weathering , after 2,000 hrs	No effect	ASTM D 822
Impact resistance , in/lb (kg/m)	140 (1.62)	ASTM D 2794
Impact resistance	No chipping, cracking or delamination	MIL-D-3134
Moisture vapor transmission , perms	0.01	MIL-D-3134
Fire resistance	Fire retardant	ASTM E 96
Abrasion resistance , g loss C-17 wheel, 1,000 cycles, 1,000 g load	0.031	ASTM D 4060
Adhesive strength , psi (MPa)	350 (2.5) (100% concrete failure)	ASTM D 4541
Surface flammability , Flame spread index	9.29	ASTM E 162
Smoke deposit, mg/ms	0.1	
NBS Class	1	
Coefficient of friction , Dry	0.74	ASTM D 2047
Wet	0.73	
	Meets slip resistant criteria	
Rate of burning	Self extinguishing over concrete	ASTM D 635
Oil absorption	Nil	MIL-D-3134
Operational service temperature range	20 to 200 °F (-7 to 93 °C)	
Water absorption	Nil	MIL-D-3134
Hardness , Shore D	75 – 85	ASTM D 2240
Heat resistance , at 158 °F (70 °C) for 5 hours	No flow, slip or softening	MIL-D-3134

CHEMICAL RESISTANCE

Full chemical resistance is achieved after curing for 7 days. For resistance to a specific chemical compound, consult the MasterTop Chemical Resistance Guideline.

HOW TO APPLY

SURFACE PREPARATION

1. Floors must be structurally sound and fully cured a minimum of 28 days. Test floor for vapor drive in accordance with ASTM D 4263, ASTM F 2170 or ASTM F 2420, ASTM F 2170 or ASTM F 2420.
2. Repair concrete as necessary.
3. Use a commercial degreaser to clean floors of oil, grease and other bond-inhibiting materials.
4. Remove curing and parting compounds and other surface hardeners and floor coatings in accordance with the manufacturer's instructions.
5. Mechanical surface profiling is the method of surface preparation for both new and existing floors. Mechanically profile the floor to CSP 3 (approximating medium-grit sandpaper) as described by the International Concrete Repair Institute. Do not use acid etching for surface preparation. Do not use any method that will fracture the concrete.
6. Apply a 100 sq ft / gallon (20 mils) test in an inconspicuous area that meets the owner's expectations for appearance, slip resistance and performance.

MIXING

1. Properly mix the components for this product in the following ratios:

Typical Properties

APPLICATION COMPONENTS	MIX RATIO BY VOLUME
Primer MasterTop GP 500 Part A / Part B / Silica flour, as needed for rough profiles.	2 to 1
Base Coat MasterTop GP 500 Part A / Part B	2 to 1
Topcoat MasterTop TC 693 Part A / Part B MasterTop TC 421 UHW Part A / Part B (optional part C)	1 to 1 4 to 1

2. Properly mix each component separately before mixing together to ensure uniform consistency.
3. Combine Parts A and B in a suitably sized container. Use the proper ratios of A and B; scrape the sides of the containers to ensure a complete reaction.
4. Mix properly for 3 minutes with a slow speed drill and Jiffy style mixing paddle at 350 rpm. Keep the paddle below the surface to avoid entrapping air. Do not mix by hand.

PRIMER AND TOPCOAT

APPLICATION INSTRUCTIONS

1. Add the silica flour to the mixed primer and mix thoroughly. Apply the primer at 50–200 ft²/gallon (1.25–5 m²/L). Allow to cure. Use sufficient silica flour to allow primer to cover rough profiles and fill in voids in surface (typically 1/2-gallon of silica flour per 1.5 gallons of mixed primer).
 2. Apply the mixed base coat at 80–100 sq ft/gallon (15–20 mils).
 3. If a slip-resistant surface is desired, broadcast quartz aggregate into the wet base coat to the point of rejection. Allow to cure. Sweep stone and vacuum the excess aggregate.
 4. Apply the mixed topcoat at approximately:
MasterTop TC 421 UHW at 450-550 ft²/gallon (4–6.5 m²/L).
MasterTop TC 693 at 200-300 ft²/gallon (5-7.4 m²/L).
- NOTE:** Various curing agents can be used to achieve desired application properties; refer to the MasterTop GP 500 product data sheets for more information.

PIGMENT

APPLICATION INSTRUCTIONS

MBS recommends consulting your floor coating system manufacturer regarding specific instructions, coating recommendations, and application methods. These application instructions are designed to be general guidelines that will vary depending on the specific coatings you choose.

FOR BEST RESULTS

Clear topcoat is recommended to fully seal the Metallic Color Pigments and provide a durable wearing surface.

STEP 1: Pigment Preparation

Best Practice - premix pigment in a Part A and let it dwell for 12–24 hours. In order to avoid unwanted streaking or comet trail effects, Metallic ColorPigments™ should be pre-mixed into the resin component of your coating system 24 hours prior to application, using proper mixing procedures to avoid adding air into the coating while mixing. After mixing is complete, let the mixture rest for at least 24 hours to allow the small pigment agglomerations to properly disperse in the resin.

After the dwell time - remix the part A and

pigment and strain (paint strainer) prior to adding Part B.

STEP 2: Surface Preparation

As with all high performance floor coating systems, MBS recommends mechanical surface preparation for optimal coating adhesion. In most cases, proper surface profiling can be achieved using a diamond grinder or shot-blaster.

STEP 3: Metallic ColorPigments™ Coat

After the primer/basecoat is fully cured, the metallic pigment coating can be applied. The Metallic ColorPigments™ packages are designed to be added to either 1, 2, 3 or 4 gallons of 100% solids epoxy coating, depending on the kit size. The recommended application rate is 80–100 sq ft per gallon (15-20 mils). This thickness will ensure the Metallic ColorPigments™ evenly coat the desired surface. Once the epoxy is applied, the pigments begin to shift and create the desired pearlescent patina effect.

STEP 4: Clear Topcoat

For enhanced durability, smooth texture, and a semi-gloss or matte finish, the dried Metallic ColorPigments™ coating surface can be lightly screened or sanded and a clear topcoat may be applied.

DRYING TIME

Primer: 12–24 hours
Basecoat: 12–24 hours
MasterTop TC 421 UHW: 12–24 hours
MasterTop TC 693: 4 hours
Topcoat: 12–24 hours
Drying times assume 70 °F (21 °C) and 50% relative humidity.

MAINTENANCE

Regular cleaning and maintenance will prolong the life of all polymer flooring systems, enhance their appearance and reduce any tendency to retain dirt. Refer to the MasterTop cleaning and maintenance guide for more information.

FOR BEST PERFORMANCE

- Precondition this product to 70 °F (21 °C) for 24 hours before using.
- Do not exceed the recommended recoat window of 24 hours; if in doubt, contact your Master Builders Solutions flooring specialist.

- Rapid temperature cycling can lead to premature failure of the product.
- Tailor application techniques and coverage rates to meet jobsite conditions.
- Use an effective moisture barrier for substrates on or below grade. If not present, contact your Master Builders Solutions representative for options.
- Substrates must be structurally sound, clean, dry and free of any foreign matter that could inhibit adhesion.
- Install this product at a substrate temperature between 50 and 85 °F (10 and 30 °C).
- Do not expose MasterTop 1213 to any chemicals until fully cured (7 days).
- The maximum in-service temperature of MasterTop 1213 Metallic is 170 °F (73 °C).
- Master Builders Solutions representatives or flooring specialists are available to assist you in the selection of the proper flooring 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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