

MasterSeal® Vehicular Traffic 2000 (Low VOC)

Polyurethane waterproofing, traffic-bearing membrane systems for vehicular areas

PACKAGING

- MasterSeal M 205
- 5-gallon (18.93 L) pails
- MasterSeal TC 275
- 4.78-gallon (18.1 L) unitized kit
- MasterSeal TC 295
- Part A: 1.75 gallons (6.62 L) in 6-gallon (22.71 L) pail
- Part B: 3.5-gallon (13.25 L) pail
- MasterSeal 941 Aggregate
- 50-lb (22.68 KG) bag
- MasterSeal 941DR Aggregate
- 50-lb (22.72 KG) bag
- MasterSeal 945 Aggregate
- 40-lb (18.14 KG) bag
- MasterSeal P 220
- 4-gallon (15.14 L) of material in 5-gallon (18.93 L) pails
- MasterSeal P222
- 5-gallon (18.93 L) pails

SHELF LIFE

When properly stored, MasterSeal products have the following shelf life:

MasterSeal M 205:	1 year
MasterSeal TC 275:	1.25 years
MasterSeal TC 295:	1 year
MasterSeal 941 Aggregate:	5 years
MasterSeal 941DR Aggregate:	5 years
MasterSeal 945 Aggregate:	5 years
MasterSeal P 220:	1 year
MasterSeal P 222:	1.5 years

STORAGE

Store in unopened containers in a cool, clean and dry area

YIELD

See application instructions.

COLOR

- TC 275: Grey, Charcoal & Black
- TC 295: Grey, Charcoal & Tint Base

DESCRIPTION

MasterSeal Vehicular Traffic 2000 Low VOC is a primerless system consisting of:

- MasterSeal M 205, a one-component, moisture-curing polyurethane
- MasterSeal TC 275 – a two-component fast curing aromatic polyurethane top coat with outstanding mechanical properties, including high tensile strength, and excellent tear and abrasion resistance.
- MasterSeal TC 295 – a high performance, two-component, aliphatic, polyaspartic-modified, high solids, polyurethane waterproofing coating for use as an intermediate or topcoat

For projects requiring aggregate, three options are available:

- MasterSeal 941, a silica sand aggregate
- MasterSeal 941DR, an aggregate free of respirable crystalline silica
- MasterSeal 945, an aggregate free of respirable crystalline silica for integrated top coats

For projects specifying primer, two choices are available:

- MasterSeal P 220, a two-component, waterborne epoxy primer and sealer
- MasterSeal P 222, a one-component, solvent-based primer and sealer

PRODUCT HIGHLIGHTS

- Primerless system reduces labor and material costs
- MasterSeal 941DR aggregate is free of respirable crystalline silica
- MasterSeal 945 aggregate is pre-mixed with MasterSeal top coats to reduce labor and material costs
- Meets EPA national requirements for VOC
- Fast turnaround reduces facility downtime
- Seamless waterproof membrane protects concrete from freeze/thaw damage; protects occupied areas below from water damage; has no seams that may result in leaks
- Excellent chloride resistance protects against chloride intrusion, extending the life of reinforced steel
- Excellent chemical resistance to protect against common parking deck chemicals including gasoline, diesel fuel, oil, alcohol, ethylene glycol, de-icing salt, bleach and cleaning agents
- Skid resistant for increased safety; offers excellent durability and superior abrasion resistance
- Versatile system can be used for interior or exterior applications, above grade and elevated concrete slabs

INDUSTRIES/APPLICATIONS

- Stadiums
- Parking Garages
- Commercial Construction
- Building and Restoration
- Plywood Decks

VOC CONTENT

MasterSeal components have the following g/L VOC contents less water and exempt solvents:

• MasterSeal P 220:	400 g/L
• MasterSeal P 222:	335 g/L
• MasterSeal M 205:	98 g/L
• MasterSeal TC 275 Part A:	71 g/L
• MasterSeal TC 275 Part B:	13 g/L
• MasterSeal TC 295 Part A:	20 g/L
• MasterSeal TC 295 Part B:	174 g/L

Technical Data

Composition

MasterSeal Traffic 2000 is a polyurethane waterproofing, traffic-bearing membrane system.

Compliances

- CSA S413
- ASTM C 957



SEALANT • WATERPROOFING & RESTORATION INSTITUTE

Issued to: BASF Corporation
Product: MasterSeal Traffic 2000

ASTM D 412: Tensile Strength of Top Coat
 MasterSeal TC 275 Top Coat: Tensile Strength: 2,600 psi;
 Elongation: 26%
 MasterSeal TC 295 Top Coat: Tensile Strength: 3,200 psi;
 Elongation: 410% Pass ✓

ASTM D 4541: Adhesion of Base Coat
 MasterSeal M 200 Base Coat
 Pull-off Adhesion: 400 psi + Pass ✓

ASTM D 4060: Abrasion Resistance of Top Coat
 MasterSeal TC 275 Top Coat: Abrasion Resistance:
 135 mgms loss – mgms loss/1,000 cycles
 MasterSeal TC 295 Top Coat: Abrasion Resistance:
 57 mgms loss – mgms loss/1,000 cycles Pass ✓

Validation Date: 3/1/18-2/28/23

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DECK COATING VALIDATION
www.swrionline.org

Test Data

PROPERTY	RESULTS			TEST METHOD
	M 205	TC 275	TC 295	
Solids,				ASTM D 1259
By weight, %	84	96	91	
By volume, %	81	93.5	91	
Viscosity, cps	4,000–9,000	1,600	2,500–4,000	ASTM D 2393

*Uncured material

PROPERTIES OF CURED MEMBRANES

PROPERTY	RESULTS			TEST METHOD
	M 205	TC 275	TC 295 PRE-PIGMENTED / TINT BASE	
Hardness, Shore A	60	–	94/90	ASTM D 2240
Hardness, Shore D	–	94	–	ASTM D 2240
Tensile strength, psi (MPa)	752 (5.2)	3000	3400/3000	ASTM D 412
Elongation, %	595	30	340/390	ASTM D 412
Adhesion in peel after water immersion, pli,				
Primed mortar	43	48	N/A	5
Plywood	34	26	N/A	5
Adhesion (Pull-off), psi				
Base Coat	300	N/A	N/A	ASTM D 4541

PROPERTY	RESULTS	TEST METHOD
Taber Abrasion resistance, mgms; CS-17 Wheel, 1,000 g load, 1,000 cycles Primer/Basecoat/275 Topcoat	100	ASTM D4060
Taber Abrasion resistance, mgms; CS-17 Wheel, 1,000 g load, 1,000 cycles Basecoat/275 intermediate/295 topcoat	47	ASTM D4060

MASTERSEAL AGGREGATES

PROPERTY	941 RESULTS	941DR RESULTS	945 RESULTS
Color	Gray	Green to Gray	Green to Gray
Compressive Strength	28,000 psi		
Hardness	6–6.5 Mohs	7 Mohs	7 Mohs
Specific Gravity	2.90 g/cc	3.3 g/cc	3.3 g/cc
Bulk Density	102 pcf	85 to 105 pcf	85 to 105 pcf

U.S. SIEVE SIZE	% RETAINED ON SIEVE		
#6			
#12	71	2–10	
#16	23	10–30	
20	2	20–35	
30	1	20–40	0–3
40	0	7–22	10–25

HOW TO APPLY

COLOR – MASTERSEAL TC 295 TINT BASE

1. All of the 40 standard colors from the MasterSeal Color Portfolio require the use of 2 MasterSeal 900 color packs per 5.25-gallon pail of MasterSeal TC 295 Tint Base.
2. A second aesthetic Top Coat of 10–15 wet mils (0.2–0.4 mm) is required with all Tint Base colors to achieve a uniform appearance.

MIXING – MASTERSEAL P 220 / P 222

1. Precondition material to a temperature of approximately 70 °F (21 °C).
2. Pre-mix material for 3 minutes before use.

MIXING – MASTERSEAL M 205

1. Precondition material to a temperature of approximately 70 °F (21 °C).
2. Pre-mix material for 3 minutes before use.

MIXING – MASTERSEAL TC 275 / 295 (PRE-PIGMENTED)

1. Precondition both A and B components to a temperature of approximately 70 °F (21 °C).
2. Add entire contents of Part A into Part B. Mix components with a slow-speed drill (400–600) rpm, for a minimum of 3 minutes. Scrape down sides and bottom of mixing vessel, then mix again for 2 minutes. Keep the mixing paddle submerged during mixing to avoid adding air into the mixture.

MIXING – TC 295 TINT BASE

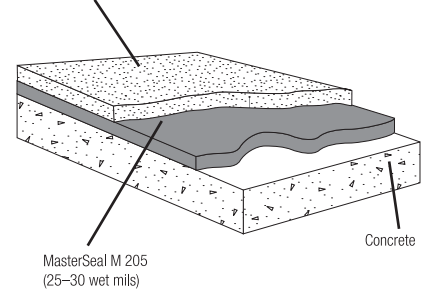
1. Precondition both A and B components to a temperature of approximately 70 °F (21 °C).
2. Add entire contents of Part B into Part A. Mix components with a slow-speed drill (400–600) rpm, for a minimum of 3 minutes.
3. Transfer entire contents of two (2) pigment cans into MasterSeal TC 295 Tint Base mixed kit. Use a spatula or knife to remove all the pigment from the container. The TC 295 Tint Base Top Coat requires two (2) MasterSeal 900 color packs per 5.25-gallon pail.
4. Scrape down sides and bottom of mixing vessel, then mix again for 2–3 minutes. Keep the mixing paddle submerged during mixing to avoid adding air into the mixture.
5. To ensure consistent color throughout the pail, pour contents into separate container and continue mixing until all Tint Base has dispersed.
6. When using multiple units, all units must be boxed to ensure color consistency.

APPLICATION

- All preparatory work must be completed before application begins. Be certain the substrate is clean, dry, stable, and properly profiled. Sealants and pre-striping should be properly cured. Apply the base, mid, and finish coats with a properly sized squeegee to arrive at the required mil thicknesses.
- The best method to ensure the proper wet film thickness is the use of a grid system. Divide the surface to be coated into grids and calculate the square footage of each. Refer to the specific system for coverage rates of each coat. For example, one pail of MasterSeal M 200 will cover an area approximately 300 ft² (28 m²), or a grid 30 by 10 ft (9 by 3 m) at 25 wet mils (0.6 mm). The mil thickness of all coats can also be verified by the use of a wet-mil thickness gauge. Coverage rates may vary depending on the texture of the substrate or coating below.
- Extend the curing time in cool or dry weather conditions. The surface of the base coat should have a slight tack. If the coating has been exposed for a prolonged period, consult Technical Service for recommendations.
- MasterSeal Vehicular Traffic 2000 Low VOC can be applied using several methods, depending upon the degree of traffic to which the system is exposed. In areas of extreme traffic (turning lanes, pay booths, entrances and exits), apply the Extra Heavy-Duty Traffic System. The following summary briefly describes each method. All coverage rates are approximate.

LIGHT TRAFFIC AND PARKING STALLS

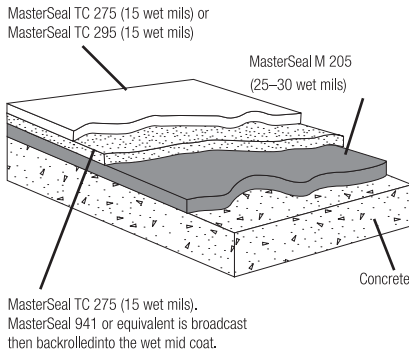
MasterSeal TC 275 (15 wet mils) or TC 295 (15 wet mils) with MasterSeal 941 or equivalent broadcast and backrolled into the wet top coat



LIGHT TO MEDIUM DUTY TRAFFIC SYSTEMS

1. Apply 25–30 wet mils (0.6–0.8 mm) (20–30 dry mils) of MasterSeal M 205 with a proper notched squeegee at the rate of approximately 50–60 ft²/gallon (1.5 m²/L). Immediately backroll to level base coat. Allow to cure overnight.
 2. Apply 15–20 wet mils (0.38–0.64 mm) of MasterSeal TC 275/295 Top Coat at the rate of approximately 80–100 ft²/gallon (2.4 m²/L).
- 3A. BROADCAST AND BACKROLL METHOD**
Immediately broadcast MasterSeal 941/941DR aggregate or equivalent 16–30 rounded silica sand at the rate of 10–15 lbs/100 ft² (0.5–0.75 kg/m²) into wet MasterSeal TC 275/295 and back roll to encapsulate.
- 3B. INTEGRATED AGGREGATE**
After mixing the top coat per instructions, pour half of the mixed material into a second pail. Add 20 lbs of MasterSeal 945 aggregate to one half of the mixed material (2.4 gallons of TC 275 and 2.63 gallons of TC 295). Mix for an additional 3 minutes for uniform consistency. Apply the topcoat at 20 wet mils or 80 sf/gallon with 1/8" notch squeegee. Fully saturate the roller. Backroll with 3/8" nap roller, roll in a crosshatch pattern for equal distribution of aggregate. Repeat for second half of top coat. For vehicular use, a second coat is required. Pail will need to be remixed for 2 minutes after 10 minutes of idle sitting to redistribute the aggregate.
4. Allow minimum curing time of 24–48 hours curing time before allowing vehicular traffic onto the coating. Existing environmental conditions effect the allowable time period.

HEAVY TRAFFIC



HEAVY-DUTY TRAFFIC SYSTEM

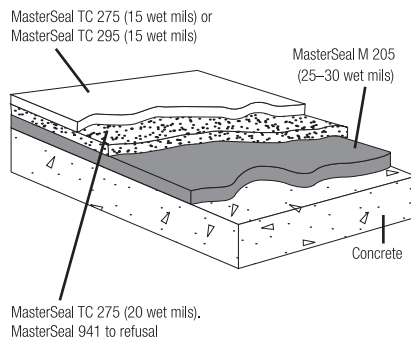
1. Apply 25–30 wet mils (0.6–0.8 mm) of MasterSeal M 205 with a proper notched squeegee at the rate of approximately 50–60 ft²/gallon (1.3–1.5 m²/L). Immediately backroll to level base coat. Allow to cure overnight.
 2. Apply 15 mils (0.4 mm) of MasterSeal TC 275/295 intermediate topcoat using a properly notched squeegee at the rate of approximately 100 ft²/gal. (2.5 m²/L). Immediately back roll to evenly level Topcoat. The next step, #3, can utilize either method described in 3A or 3B.
- 3A. AGGREGATE TO REFUSAL METHOD**
 Immediately broadcast MasterSeal 941/941DR aggregate or equivalent 16–30 mesh, rounded silica sand into the wet coating at the rate of 20–25 lbs per 100 ft² (1.0–1.25 kg/m²). Immediately after the aggregate broadcast and while the coating is still wet, blow any excess aggregate via a portable blower forward into the wet coating. Do not over apply aggregate; it is acceptable to have localized wet spots in the aggregate surface after completion of this method. This process requires coordination between all members in the work crew. The blower operator, wearing clean spiked shoes, should blow the excess aggregate forward towards the freshly applied and back rolled topcoat. In this method, the coating should not accept additional sand, minimal excess aggregate is on the surface, less aggregate is used and the textured appearance should be fairly uniform.
- 3B. BROADCAST AND BACKROLL METHOD**
 Immediately broadcast MasterSeal 941/941DR or equivalent 16–30 mesh, rounded silica sand into the wet coating and back roll to encapsulate the aggregate. Evenly broadcast aggregate at the rate of 10–15 lbs per 100 ft² (0.5–0.75 kg/m²).

3C. INTEGRATED AGGREGATE

The integrated MasterSeal 945 aggregate is NOT intended for use in heavy-duty traffic systems.

4. Remove all excess or loose aggregate by sweeping or vacuuming.
5. Ensure there is no moisture on the surface of the aggregate/membrane before application of topcoat. Apply 15–20 wet mils (0.38–0.64 mm) of MasterSeal TC 275/295 at the rate of 60–100 ft²/gal (1.5–2.5 m²/L) using a flat squeegee. Immediately back roll to evenly level top coat.
6. Immediately broadcast MasterSeal 941/941DR or equivalent at the rate of 3–5 lbs/100 ft² (0.15–0.25 kg/m²). Lightly backroll into top coat.
7. Allow minimum curing time of 24–48 hours before allowing vehicular traffic onto the coating. Existing environmental conditions effect the allowable time period.

EXTRA HEAVY-DUTY TRAFFIC SYSTEM



EXTRA HEAVY-DUTY SYSTEM

1. Apply 25–30 wet mils (0.6–0.8 mm) of MasterSeal M 205 with a proper notched squeegee at the rate of approximately 50–60 ft²/gallon (1.3–1.5 m²/L). Immediately back roll to level base coat. Allow to cure overnight.
 2. Apply 20–25 wet mils (0.51–0.64 mm) of MasterSeal TC 275/295 intermediate topcoat using a properly notched squeegee at the rate of approximately 60–80 ft²/gal. (1.5–2.0 m²/L). Immediately back roll to evenly level topcoat. The next step, #3, can utilize either method described in 3A or 3B.
- 3A. AGGREGATE TO REFUSAL METHOD**
 Immediately broadcast MasterSeal 941/941DR or equivalent 16–30 mesh, rounded silica sand into the wet coating at the rate of 25–35 lbs per 100 ft² (1.25–1.75 kg/m²). Immediately after the aggregate broadcast and while the coating

is still wet, blow any excess aggregate via a portable lower forward into the wet coating. Do not over apply aggregate; it is acceptable to have localized wet spots in the aggregate surface after completion of this method. This process requires coordination between all of the members in the work crew. The blower operator, wearing clean spiked shoes, should blow the excess aggregate forward towards the freshly applied and back rolled topcoat. In this method, the coating should not accept additional sand, minimal excess aggregate is on the surface, less aggregate is used and the textured appearance should be fairly uniform.

3B. BROADCAST AND BACKROLL METHOD

Immediately broadcast MasterSeal 941/941DR or equivalent 16–30 mesh rounded silica sand into the wet coating and back roll to encapsulate the aggregate. Evenly broadcast aggregate at the rate of 13–20 lbs per 100 ft² (0.83–1.0 kg/m²).

3C. INTEGRATED AGGREGATE

The integrated MasterSeal 945 aggregate is NOT intended for use in extra heavy-duty traffic systems.

4. Remove all excess or loose aggregate by sweeping or vacuuming.
5. Ensure there is no moisture on the surface of the aggregate/membrane before application of topcoat. Apply 15–20 wet mils (0.38–0.64 mm) of MasterSeal TC 275/295 at the rate of 80–100 ft²/gal (1.5–2.5 m²/L) using a flat squeegee. Immediately back roll to evenly level top coat.
6. Immediately broadcast MasterSeal 941/941DR or equivalent at the rate of 3–5 lbs/100 ft² (0.15–0.25 kg/m²). Lightly back roll into top coat.
7. Allow minimum curing time of 24–48 hours before allowing vehicular traffic onto the Technical Data Guide MasterSeal® Traffic 2000 coating. Existing environmental conditions effect the allowable time period.

IMPORTANT NOTE: All coverage rates are approximate and may vary due to the application technique used. Coverage rates are affected by substrate texture, choice and distribution of aggregate, environmental conditions and application methods and are not under the control of Master Builders Solutions. Ensure that an adequate amount of aggregate is utilized to achieve required slip resistance. Exterior applications must utilize MasterSeal TC 295 at the specified coverage rate of 15–20 wet mils.

CURING TIME

Allow curing time of 72 hours before vehicular use and 48 hours before pedestrian use. Extend the curing time in cool-weather conditions. To reduce the time period in which MasterSeal Vehicular Traffic 2000 Low VOC might be vulnerable to inclement weather or to reduce the time between coats, use MasterSeal 914.

FOR BEST PERFORMANCE

- Avoid whipping air into Tint Base.
- Mix pigment cans thoroughly into Tint Base.
- Always do a test area to assure acceptable color appearance and slip resistance.
- Do not apply MasterSeal TC 295 Tint Base heavier than the recommended 15–20 mil (0.38–0.51 mm) application.
- Colors exposed to direct sunlight may fade over a period of time. Darker colors potentially fade at an increased rate.
- Aggregate and substrate conditions may affect color and appearance.

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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