

MasterSeal® Vehicular Traffic 2900

Fast curing methyl methacrylate / polyurethane waterproofing, traffic-bearing membrane system for vehicular areas

PACKAGING

- MasterSeal P 280FS:
4.5-Gal (17L) pail; 49-Gal (185.5L) drum
- MasterSeal P 281 FS:
4.5-Gal (17L) pail
- MasterSeal M 290FS:
4.5-Gal (17L) pail
- MasterSeal TC 297FS:
4.5-Gal (17L) pail; 53.5-Gal (202.5L) drum
- MasterSeal TC 299FS:
4.5-Gal (17L) pail; 50-Gal (189L) drum
- MasterTop PGM 155:
Lb (4.5KG) pail
- MasterSeal 908FS:
4.5-Gal (17L) pail
- MasterSeal 918FS:
2.5-Lb (1.1kg) bottle, 4 per case; 50-Lb (22.68kg) carton

SHELF LIFE

- MasterSeal P 280FS: 2 years
- MasterSeal P 281 FS: 2 years
- MasterSeal M 290FS: 1 year
- MasterSeal TC 297FS: 2 years
- MasterSeal TC 299FS: 2 years
- MasterTop PGM 155: 5 years
- MasterSeal 908FS: 1 year
- MasterSeal 918FS: 1 year

STORAGE

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

YIELD

All resins require the addition of an initiator, powder hardener and/or pigment. See preferred MasterSeal Deck Coating Solution for total system yield.

COLORS

For color options, see MasterSeal Fast Cure Color Brochure

DESCRIPTION

MasterSeal Vehicular Traffic 2900 is a fluid-applied polyurethane-modified methyl methacrylate waterproofing system. The rapid cure characteristic of the system allows for full system cure within a single day – minimizing facility down time. MasterSeal Vehicular Traffic 2900 bridges cracks at low temperatures and can be opened to traffic in just one hour after final application.

MasterSeal Vehicular Traffic 2900 is composed of:

- MasterSeal P 280FS – an MMA solvent-free, two-component, 100% reactive, low viscosity primer
- MasterSeal P 281FS - an MMA solvent-free, two component, 100% reactive, high viscosity low VOC primer
- MasterSeal M 290FS – a polyurethane-modified methyl methacrylate (PMMA) waterproofing base coat
- MasterSeal TC 297FS – an MMA solvent-free, two-component, 100% reactive intermediate coat
- MasterSeal TC 299FS – an MMA solvent-free, two-component, 100% reactive pigmentable top coat
- MasterTop PGM 155 – a powder pigment
- MasterSeal 918FS – a powder hardener
- MasterSeal 908FS – a primer additive

PRODUCT HIGHLIGHTS

- Blend of polyurethane and methyl methacrylate technologies provides extreme durability and abrasion resistance while maintaining crack-bridging properties
- Rapid cure allows for quick installation with minimal facility downtime
- Low temperature cure extends application season
- Seamless, impervious coating that is easy to clean and maintain
- Flexible system that withstands temperature swings
- MasterEmaco S6000 repair mortar can be applied at temperatures down to 14 °F (-10 °C) to meet a wide range of application and timing requirements

INDUSTRIES/SECTORS


- Stadiums
- Parking Garages
- Plaza Decks
- Loading Docks
- Garbage Rooms
- Commercial Construction
- Building and Restoration

VOC CONTENT

- MasterSeal and MasterTop components have the following g/L VOC contents less water and exempt solvents:
- MasterSeal P 280FS – 198 g/L
- MasterSeal P 281FS - 34 g/L
- MasterSeal M 290FS – 87 g/L
- MasterSeal TC 297FS – 14 g/L
- MasterSeal TC 299FS – 54 g/L
- MasterTop PGM 155 – 0 g/L
- MasterSeal 918FS – 0 g/L
- MasterSeal 908FS – 77 g/L

Compliances

- CSA S413
- ASTM C957



SEALANT WATERPROOFING & RESTORATION INSTITUTE

Issued to: Master Builders Solutions
Product: MasterSeal 2900

ASTM D 412: Tensile Strength of Top Coat
MasterSeal TC 297FS Top Coat:
Tensile Strength: 1,778 psi / Elongation: 149% **Pass ✓**
MasterSeal TC 299FS Top Coat:
Tensile Strength: 1,092 psi / Elongation: 38% **Pass ✓**

ASTM D 4541: Adhesion of Base Coat
MasterSeal P 280FS and MasterSeal M 290FS
Pull-off Adhesion: 404 psi **Pass ✓**

ASTM D 4060: Abrasion Resistance of Top Coat
MasterSeal TC 297 FS Top Coat: Abrasion Resistance: **Pass ✓**
71 mgms loss – mgms loss/1,000 cycles
MasterSeal TC 299 FS Top Coat: Abrasion Resistance:
45 mgms loss – mgms loss/1,000 cycles

Validation Date: 10/24/22-10/23/27

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DECK COATING VALIDATION
www.swrionline.org

Test Data

PROPERTY	MASTERSEAL P 280FS/908FS	MASTERSEAL P 281FS/908FS	MASTERSEAL M 290FS	MASTERSEAL TC 297FS	MASTERSEAL TC 299FS	TEST METHOD
% Solids	100	100	100	100	100	ASTM D 1259
Crack Bridging, Base Coat	–	–	Pass	–	–	ASTM C 1305
Crack Bridging, System				Pass		ASTM C 957
System Adhesion, psi				>500		ASTM D 4541
Tensile Strength, psi (MPa)	3500 (24.13)	4250 (29.3)	1600 (11)	1350 (9.31)	1050 (7.24)	ASTM D 412
Elongation, %	1.3	3	1324	140	34	ASTM D 412
Hardness, Shore A	–	–	70	61	89	ASTM D 2250
Taber Abrasion Resistance, mgms	–	–	–	–	179 mg	ASTM D 4060
Electrical Resistivity, ohm/cm	Volume: 2.5 x 10 ¹⁵ Surface: 8 x 10 ¹²	–	–	–	Volume: 10 ¹⁴	ASTM D 257
Water Absorption, %/24 hours	<0.1	<0.1	–	–	0.04	ASTM D 570

HOW TO APPLY

Surface Preparation

Concrete

1. Concrete must be fully cured (28 days), structurally sound, clean and dry (ASTM D 4263). All concrete surfaces (new and old) must be shot blasted to remove previous coatings, laitance and all miscellaneous surface contamination and to provide profile for proper adhesion. Abrasive shot blasting must occur after concrete repair has taken place. Acid-etching is not permitted. Proper profile should be a minimum of ICRI CSP3 (as described in ICRI document 310.2R - 2013.) For balconies and other pedestrian areas with limited space or access for shot-blasting, alternative mechanical methods can be used to achieve the recommended surface profile.

2. Repair voids and delaminated areas with MasterEmaco S6000 refer to TDG for specific instructions.

When time permits, MasterEmaco 1060, 1060DR or 1060EX may be used for repair purposes. Wait 24 hours before applying MasterSeal Vehicular Traffic 2900 system.

- Prime with MasterSeal 281FS/908FS before applying MasterEmaco S6000. Measure 3 quarts of resin and 1 quart of MasterSeal 908FS into pail and add proper amount of powder hardener. See mixing chart below. Mix with drill mixer for 30 seconds or until the powder hardener is completely dissolved.
- Apply primer at approximately 100 ft² (9.3 m²) per mixed gallon.
- Measure, add, and mix the MasterEmaco S6000 Resin, Powder Component, and necessary aggregate (if required) in the proportions recommended below. Use mixture to repair any damaged concrete, or to slope any areas as needed.
- Once cured, material must be re-primed before topping system is applied.
- Proceed with application as usual.
- All units must be within the specified pot life.

OVERLAY THICKNESS	AGGREGATE EXTENSION			Per Batch of S6000	CUBIC FEET	
	% BY WEIGHT	GRAIN SIZE	WEIGHT IN POUNDS			
¼"	–	–	–	–	12.5	0.26
½"	10%	1/16 – 1/8"	4	1 – ¼ quarts 2 – ½ quarts	7.2	0.30
¾"	25%	1/16 – 1/8"	8	2 – ½ quarts	5.3	0.33
1"	50%	3/16 – 3/8"	15	5 quarts	4.4	0.37
1-½"	75%	3/16 – 3/8"	25	2 gallons	3.5	0.44
2"	100%	¼ – ¾"	35	2.5 gallons	2.3	0.50
≥ 3"	125%	¼ – ¾"	44	3 gallons	2.2	0.55

*Square feet per batch of MasterEmaco S6000

SURFACE PRE-STRIPPING AND DETAILING

- For non-moving joints and cracks less than 1/16" (1.6 mm) wide, Apply 6" pre-stripe with MasterSeal P 280FS / 908FS or P 281FS/908FS using a short-nap roller, must be applied to fill and overlap the joint or crack 3" (76 mm) on each side. Just before application of MasterSeal P 280FS/908FS or P 281FS/908FS, remove all dust, dirt and contaminants. Allow Primer to dry tack-free. On the same day, apply a 4" pre-stripe with 25 mils of MasterSeal M 290FS. MasterSeal M 290FS must be applied to fill and overlap the joint or crack 2" (51 mm) on each side. Feather the edges.
NOTE: For non-moving joints and cracks, prime the crack before applying MasterSeal M 290FS at 25 mils using a notched trowel - for faster detailing.
- Dynamic cracks and joints over 1/16" (1.6 mm) wide must be routed to a minimum of 1/4 by 1/4" (6 by 6 mm) and cleaned. Install bond breaker tape to prevent adhesion to bottom of joint. Prime joint faces only with MasterSeal P 173 and fill with MasterSeal SL 2™ or NP2™. For joints deeper than ¼" (6 mm), use appropriate backer rod. For cracks, sealant should be flush with the adjacent surface. For expansion joints, sealant should be slightly concave.
- Sealed joints 1" (25 mm) wide or less can be coated over with the MasterSeal Traffic system. NOTE: SYSTEM IS NOT TO BE APPLIED ON PLYWOOD
Expansion joints exceeding 1" (25 mm) wide, including the primary wide expansion-joint system, are not to be coated so they can perform independently of the deck coating system.
- Form a sealant cant into the corner at the junction of all horizontal and vertical surfaces (wall sections, curbs, columns) by priming with MasterSeal P 173 and applying a 1" (25 mm) wide bead of MasterSeal NP 2. Tool to form a 45° cant. Apply masking tape to the vertical surfaces 4–5" (102–127 mm) above the sealant cant to provide a clean termination of the vertical detail coat. After the sealant has cured, prime with MasterSeal P 280FS/908FS or P 281FS/908FS at 100 SF/gallon. Apply 25 wet mils (0.64 mm) of MasterSeal M 290FS over the cured cant up to the masking tape and 4" (102 mm) onto deck surface.

NOTE: For a non-moving cant bead, MasterTop 100PAS can be used for rapid cure.

- Where the coating system will be terminated and no wall, joint, or other appropriate break exists, cut a 1/8 by 1/8" (3 by 3 mm) keyway into the concrete. Fill and coat keyway during application of MasterSeal M 290FS.

COLOR

- MasterSeal TC 297FS
Mix 3 oz of MasterTop SRS PGM 155 pigment for every one (1) gallon of resin
- MasterSeal M 290FS
Comes pre-tinted grey
- MasterSeal TC 299FS
Mix 6 oz of MasterTop SRS PGM 155 pigment for every one (1) gallon of resin

MIXING

- MasterSeal P 280FS/908FS or P 281FS/908FS
Measure 3 quarts of resin and 1 quart of MasterSeal 908FS into pail, blend, and add proper amount of powder hardener. See mixing chart below. Mix with drill mixer for 30 seconds or until the powder hardener is completely dissolved.
- MasterSeal M 290FS
Pre-Mix until uniform (1-2 minutes). Measure the desire amount of resin and add proper amount of powder hardener. See mixing chart below. Mix with drill mixer for 3 minutes.
- MasterSeal TC 297FS
Measure the desire amount of resin and 3 oz of PGM 155 pigment per gallon of resin. Mix for 2-3 minutes. Add proper amount of powder hardener and mix for an additional 45 sec - 1 minute. See mixing chart below.
- MasterSeal TC 299FS
Measure the desire amount of resin and 6 oz of pigment per gallon of resin. Mix for 2-3 minutes. Add proper amount of powder hardener and mix for an additional 45 seconds to 1 minute. See mixing chart below.

Note: After mixing, apply immediately. You will have 7 – 15 minutes of working time, dependent on temperature.

Mixing Chart

required amount of MasterSeal 918FS (in volume ounces) for one gallon resin, based on temperature

°F	°C	MasterSeal P 280FS with MasterSeal 908FS	MasterSeal P 281FS with MasterSeal 908FS	MasterSeal M 290FS	MasterSeal TC 297FS	MasterSeal TC 299FS
°30	°-1	6	14.5	8	11	7
°33	°1	5.5	14	8	11	6.5
°35	°2	5.5	13.5	7.5	11	6
°40	°4	5.25	13	7	11	5.5
°45	°7	5	12.5	6.5	9	5
°50	°10	4.5	11.5	6	8.5	4.5
°55	°13	4.25	10	6	7.5	4
°60	°16	4	9	5	6.5	3.5
°65	°18	3.5	8	5	5.5	3.25
°70	°21	3.25	7	4.5	4.5	3
°76	°24	3	6	4.5	4	2.5
°80	°27	2.75	5.5	4.5	3	2.5
°85	°29	2.5	5	4.5	2.5	2.25
°90	°32	2.25	4.5	4.5	2	2

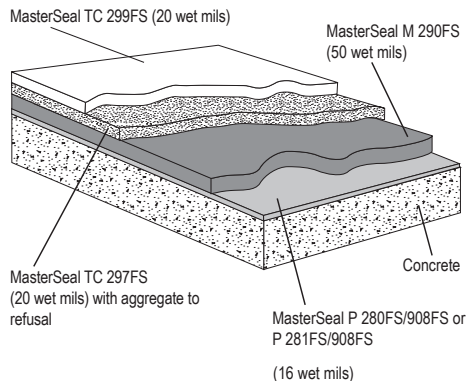
*Test results obtained under laboratory conditions. Reasonable variations can be expected.

HOW TO APPLY

The MasterSeal 2900 System is a multiple component system that utilizes a methyl-methacrylate (MMA) resin. It is critical that the instructions listed in the Safety Data Sheet and on the product label for every component of the system be read, understood and followed.

MMA resins are flammable liquids in their uncured state. Smoking, open flames or sparks should not be permitted during the handling of the product. Explosion safe ventilation must be used during the application to minimize vapor collection in the installation area and to improve overall air quality for the crew. All foodstuffs must be removed during installation of the system.

HEAVY-DUTY SYSTEM



HEAVY-DUTY TRAFFIC SYSTEM

1. Apply the properly mixed MasterSeal P 280FS/908FS or P 281FS/908FS resin to the properly repaired concrete, for recoat application only use MasterSeal P 281FS/908FS as a primer. Apply at approximately 100 ft² (9.3 m²) per mixed gallon or about 16 mils. Allow primer to cure tack-free to an even, satin-like gloss and re-prime any dry spots.

2. Apply the properly mixed MasterSeal M 290FS at 32 ft² (3 m²) per gallon or 50 mils, using a notched tool (or trowel). Material may not be completely tack free upon cure. Backroll the MasterSeal M 290 FS only if necessary, to aid in leveling. If performed, backroll must be done immediately.

3. Apply the properly mixed MasterSeal TC 297FS at 80 ft² (7.4 m²) per gallon, at 20 wet mils, using a squeegee and backroll method.

4. Immediately broadcast with the appropriate well graded 16–30 mesh aggregate into the wet coating to refusal at the rate of 20–30 lbs per 100 ft² (1.0–1.5 kg/m²). Remove excess aggregate after cure.

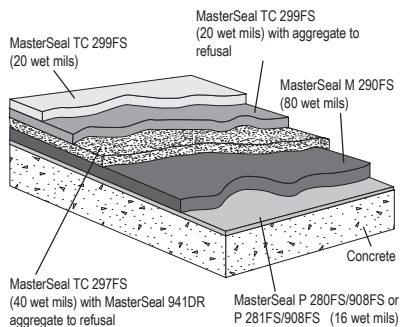
NOTE: Larger and angular aggregates can be used for a more aggressive texture. This will impact coverage rate of MasterSeal TC 299FS.

5. Apply the properly mixed MasterSeal TC 299FS at 80 ft² (7.4 m²) per gallon, Apply at 20 wet mils using squeegee and backroll method.

All components of the MasterSeal Traffic 2900 system fully cure in approximately one hour when properly installed.

Note: Aggregate selected must be well graded with minimum fines. Fines can inhibit wax formation and proper curing.

EXTRA HEAVY-DUTY SYSTEM



EXTRA HEAVY-DUTY TRAFFIC SYSTEM

1. Apply the properly mixed MasterSeal P 280FS/908FS or P281FS/908FS resin to the properly repaired concrete, for recoat application only use MasterSeal P281FS/908FS as a primer. Apply at approximately 100 ft² (9.3 m²) per mixed gallon or about 16 mils. Allow primer to cure tack-free to an even, satin-like gloss and re-prime any dry spots.
2. Apply the properly mixed MasterSeal M 290FS at 20 ft² (1.9 m²) per gallon or 80 mils, using a notched tool (or trowel). Material may not be completely tack free upon cure. Backroll the MasterSeal M 290 FS only if necessary, to aid in leveling. If performed, backroll must be done immediately.
3. Apply the properly mixed MasterSeal TC 297FS at 40 ft² (3.7 m²) per gallon, apply at 40 wet mils using a squeegee and backroll method.
4. Immediately broadcast with the appropriate well graded 16–30 mesh aggregate into the wet coating to refusal at the rate of 20–30 lbs per 100 ft² (1.0–1.5 kg/m²). Remove excess aggregate after cure. **NOTE:** Larger and angular aggregates can be used for a more aggressive texture. This will impact coverage rate of MasterSeal TC 299FS.
5. Apply the properly mixed MasterSeal TC 299FS at 80 ft² (7.4 m²) per gallon, Apply at a 20 wet mils thickness using a squeegee and backroll method.
6. Immediately broadcast with the appropriate well graded 16–30 mesh aggregate into the wet coating to refusal at the rate of 20–30 lbs per 100 ft² (1.0–1.5 kg/m²). Remove excess aggregate after cure. **NOTE:** Larger and angular aggregates can be used for a more aggressive texture. This will impact coverage rate of MasterSeal TC 299FS.
Note: Aggregate selected must be well graded with minimum fines. Fines can inhibit wax formation and proper curing.

7. Apply the properly mixed MasterSeal TC 299FS at 80 ft² (7.4 m²) per gallon, rolling on at a 20 mil thickness using a squeegee.
8. All components of the MasterSeal Traffic 2900 system fully cure in approximately one hour when properly installed.

MOCK-UP

1. Provide mockup of at least 100 ft² (9.3 m²) to include surface profile, sealant joint, crack, flashing and juncture details and allow for evaluation of slip resistance and appearance.
2. Install mockup with specified coating types and with other components noted.
3. Locate where directed by architect.
4. Mockup may remain as part of work if acceptable to architect.

CLEAN UP

Clean tools with MasterTop SRS 100CLN, an MMA solvent. Other solvents such as xylene or acetone may also be used. Collect and dispose of all site waste.

CURING TIME

Most of the components of the MasterSeal Traffic 2900 system fully cure within one hour when properly installed. As an exception MasterSeal M 290FS will cure within one to one and a half hour. Extend the curing time in cool-weather conditions.

MAINTENANCE

See MasterSeal Traffic maintenance technical bulletin.

Regular cleaning and maintenance will prolong the life of all polymer coating systems, enhance their appearance and reduce any tendency to retain dirt.

FOR BEST PERFORMANCE

- If vapor drive is present or suspected, please consult with your local Master Builders Solutions representative prior to system application.
- Not for use in areas exposed to strong solvents (consult Technical Service).
- Protect or remove food items prior to application to avoid any possible contamination.
- Proper air flow is critical to curing MMA materials. The use of fans is mandatory where air flow is restricted.
- Minimum application temperature is 30 °F (-1 °C).

- Do not apply to concrete that is outgassing.
- Warm temperatures will shorten working time; plan work accordingly.
- Concrete should have a minimum compressive strength of 3,000 psi (21 MPa) and be cured for a minimum of 28 days.
- Do not apply MasterSeal Vehicular Traffic 2900 to concrete slabs on grade, unvented metal pan decks or split slab applications with a waterproofing membrane between slabs. Contact Technical Services. Be sure to allow for movement in the deck by the proper design and use of expansion and control joints.
- Select the proper type and amount of aggregate to achieve desired slip resistance.
- Contact Technical Service when substrates are over 90 °F (32 °C) or under 30 °F (-1 °C) or when applying to decks containing between slab membranes.
- 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 coverage chart to determine the quantity of coating needed for each grid to arrive at the required mil thicknesses.
- Avoid application when inclement weather is present or imminent.
- Do not apply to damp, wet, or contaminated surfaces.
- Not suitable for use where chained or metalstudded tires will be used.
- Proper application is the responsibility of the user. Field visits by personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.
- CAD & PDF deck coatings details are available for download from our website, Customer Support can direct you to the site.
- On steep ramps in excess of 15%, contact your local representative. Do not use self-leveling grade product on slopes greater than 15%. Do not coat over expansion joints.

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.mbcc.sika.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

LIMITED WARRANTY NOTICE

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