Related Bulletins:
- Technical Data Sheet
- Installation Procedures

Master Builders, Inc.
Membrane Products
SPECIFICATION BULLETIN

Division 07100

KELMAR T.E. SYSTEM
Membrane Traffic Coating

NOTE TO SPECIFIER

The specification information below is intended for use by architects, engineers or other specifiers in defining the criteria needed to install this traffic deck coating system.

1. This document has been prepared to assist specifiers in the preparation of specifications for the installation of Master Builders Technologies traffic deck coating system *KELMAR.*

   KELMAR T.E. System is a multi-layered, polymer system intended for use in traffic bearing installations such as parking garages.

2. This document was prepared to be included as part of a complete specification for new construction or can be used as a stand-alone document for existing structures.

3. There are several areas in this document that, at the discretion of the specifier, will require values to be inserted, as appropriate for the type of placement being specified. Physical properties for *KELMAR T.E.* System are listed in Appendix A.

4. *KELMAR T.E.* System can be specified and installed in a variety of exposures, depending on its intended use.

   Questions regarding the selection, installation or intended use of Master Builders Technologies *KELMAR T.E.* System should be directed to Master Builders Technologies or Master Builders Technologies' Certified Contractor.

1.0 GENERAL

1.1 SCOPE

The contractor shall furnish all materials, tools, equipment, appliances, transportation, labor and supervision required during the preparation and installation process.

Master Builders Technologies

1.2 PRE-QUALIFICATION

.1 Material to be applied as a membrane, traffic bearing deck coating must possess a Class A Rating as in accordance with ASTM E 84.

.2 Contractor and his installer(s) shall have satisfactorily completed a program of instruction in proper methods of preparation of the substrate, patching of spalled and delaminated areas, crack and joint repair and traffic deck coating installation. The applicator shall have in writing, a certificate of approval from the manufacturer.

.3 Contractor(s) seeking approval of substitute materials shall have a minimum of five (5) years experience installing this type of surfacing in similar size projects. They must also submit their request in writing to the Architect/Engineer at least seven (7) days before closing of bids.

Include samples; testing laboratory regarding conformity with specifications; and list of completed successful installations, including phone number of responsible person to contact, to enable accurate appraisal of the system. Bidders shall be notified of acceptable substitute materials by written addendum or amendment.

1.3 APPLICABLE STANDARDS AND TEST METHODS

Please refer to appendix A for standards and test methods used in their results.

1.4 PROJECT/SITE CONDITIONS

.1 Minimum concrete surface and ambient temperature of 55°F (12°C) for 48 hours before, during, and after installation, or until cured.

.2 Adequate ventilation and clean water supply required during installation.

.3 Substrate requirements (see Appendix B).

1.5 WARRANTY

.1 Contractor shall submit a one-year, limited warranty against improper workmanship and defective materials (from date of use or completion, whichever comes first).

.2 The owner will follow the maintenance guidelines as set forth by the National Parking Association (NPA) in the Parking Garage Maintenance Manual and will notify Master Builders Technologies within thirty (30) days of any defect.

2.0 PRODUCTS

2.1 ACCEPTABLE MANUFACTURER

.1 Master Builders, Inc., 23700 Chagrin Blvd., Cleveland, OH 44122-5554 (216-831-5500).

.2 Master Builders Technologies Ltd., 3637 Weston Road, Toronto, Ontario, Canada, M9L 1W1 (416) 741-3830 or (800) 387-5862.

2.2 MATERIALS

.1 Traffic coating and membrane shall be Master Builders Technologies *KELMAR T.E.* System, meeting or surpassing physical property requirements as listed in Appendix A.

3.0 EXECUTION

3.1 INSPECTION

.1 Before starting work, ensure environmental and site conditions are suitable for application and curing.

.2 Inspect surface for acceptability of levelness, texture, moisture content, pitch to drains, etc.

.3 Any and all deficiencies shall be reported, in writing, to specifying engineer, and copy sent to material manufacturer. Service must be approved by the manufacturer or certified contractor prior to application of membrane.

3.2 PREPARATION

.1 Surface must be clean and sound, which in all cases, requires some form of preparation. Substrate must be prepared in accordance with manufacturer's printed instructions.

.2 Effectively remove concrete laitance by steel-shot or grit blasting (acid etching is not an acceptable method of surface preparation).

.3 Pre-fill surface irregularities, holes and cracks per manufacturer's recommendation.

3.3 PROTECTION

.1 Advise owner/operator and trades that unfinished surface is to remain free from traffic, and that fixtures, fittings and finishing are not to be installed, until waterproof traffic coating is completed.

.2 Protect adjacent surfaces from damage resulting from work of this trade. If necessary, mask and/or cover adjacent surfaces, fixtures, equipment, etc., by suitable means.

.3 Traffic control — no individuals are permitted in areas during application and until surface has cured and has been approved for traffic by the applicator and the manufacturer.

3.4 INSTALLATION/APPLICATION

.1 Prime entire surface with recommended primer.

.2 Install elastomeric membrane at a total minimum dry film thickness of twenty (20) mils over suspended intermediate slabs.

.3 Install elastomeric membrane at an approximate height of three (3) to four (4) inches (75 to 100 mm) to columns, curbs and walls, or as directed by specifying authority.

a. ***Exposure 1*** — Parking stalls:
Apply epoxy wear course surfacing to a total dry film thickness of 18 mils minimum.

b. ***Exposure 2*** — Level traffic aisles and ramps:
Apply epoxy wear course surfacing to a total dry film thickness of 27 mils minimum.

c. ***Exposure 3*** — For steep ramps, areas adjacent to cashiers, helix ramps, disposal bin, storage areas, etc.:
Apply epoxy wear course surfacing in multiple coats to a total dry film thickness of 54 mils minimum.

d. ***Exposure 4*** — Heavy traffic in shipping and receiving areas:
Apply epoxy wear course surfacing in multiple coats to a total dry film thickness of 80 mils minimum.

.4 Apply epoxy wear course surfacing and manufacturer-approved aggregate (i.e. sized, washed, dried and bagged), having a minimum hardness of six (6) on the Moh Scale, at the recommended coverage. This coat may not be required on surfaces not exposed to vehicular or pedestrian traffic.

.5 Epoxy surfacing to be applied as a total system according to exposure codes and nominal thicknesses, as recommended by the manufacturer and specifier.

KELMAR® T.E. SYSTEM
Membrane Traffic Coating

APPENDIX A
PHYSICAL PROPERTIES FOR KELMAR T.E. SYSTEM

Property	Test Method	Test Results	*M	**FS
Tensile Strength	ASTM D 412	1,160 psi	X	
Tensile Elongation	ASTM D 412 @ 70°F (21°C)	600%	X	
Adhesion to Concrete (prepared)	ASTM D 903 (Peel)	17 pli with .3 kg/mm width	X	
Adhesion to Plywood	ASTM D 903 (Peel)	20 to 30 pli .36-.54 kg/mm width	X	
Adhesion of Epoxy to Membrane	Elcometer	315 psi		
Water Vapor Transmission	ASTM D 1653, E 96 Method 2	.35 perms .88 Metric perms	X	
Test for Surface Burning Characteristics	ASTM E 84 Class 1 or A Flame Spread: 25	Flame Spread: 14 Fuel Contribution: 0		X
Chloride Ion	W.J.E. 840055	No significant increase @ 1" penetrating depth		X
Low Temperature	ASTM C 957 (4.4)	No Failure after 10 cycles		X
Adhesion in Peel	ASTM C 957 (4.5)	Min. 15 to 17 pli after water immersion on concrete		X
Weathering Resistance and Recovery from Elongation	ASTM C 957 (4.7)	After Exposure, min. tensile retention 90%, min. elongation retention 95%, recovery 100%		X
Adhesion to Concrete	Elcometer	300-350 psi		X
Tensile Strength	ASTM D 412	1600 psi		X
Water Absorption	ASTM D 570	0.7%		X
Impact Resistance	Gardner Test	160 in/lb		X
Abrasion Resistance	ASTM C 501	.069 gm/1000 cycles		X
Tear Strength	ASTM D 1004	350 pli	X	
Hardness, Shore D	ASTM D 2240	71		X

***M** = Membrane
****FS** = Full System

Membrane Traffic Coating

APPENDIX B
GENERAL SUBSTRATE REQUIREMENTS
to Section 07100

CONCRETE — Section 03300

1. Concrete to receive membrane traffic coating should be designed and installed to prevent random cracking and deflection. Provide sufficient control and expansion joints.

2. Concrete should be air-entrained as established by **ASTM C 260**, and properly cured in accordance with **ACI** recommendations, to meet structural requirements.

3. Concrete shall have a steel trowel finish.

4. Concrete shall be free from metallic fibers.

5. Concrete design and placement shall ensure proper slope to drains, etc.

6. Allow concrete to cure twenty-eight (28) days minimum before applying membrane traffic coating. For concrete patches, the minimum cure time will vary depending on the depth of the patch, temperature, water-cement ratio, etc.

7. Concrete to be clean, sound (minimum compressive strength of 3,000 psi/20 MPa), 3% maximum moisture content by mass.

8. Concrete to be free from curing compounds, membrane curing agents, metallic hardeners, or foreign matter.

9. Lightweight and insulating concrete not recommended under the *KELMAR T.E.* System; consult the manufacturer.

MASTER BUILDERS, INC.

United States
23700 Chagrin Blvd.
Cleveland, OH 44122
800-MBT-9990
Fax 216-831-6910

Canada
3637 Weston Road
Toronto, Ontario M9L 1W1
800-387-5862
Fax 416-741-7925

Mexico
Blvd. M. Avila Camacho 80, 3er Piso
53390 Naucalpan, Mexico
011-525-557-5544
Fax 011-525-395-7903

Printed in USA 896
te-spec.pm5
#I601