Benjamin Moore & Co.
INDUSTRIAL MAINTENANCE COATINGS

M41
Fast Dry Epoxy Floor Sealer / Finish

Features

- Low VOC
- Low odor
- Low viscosity
- Easy to apply
- Quick recoat time
- Very good abrasion resistance
- Can be reduced with water
- Moisture tolerant

General Properties

This sealer/finish performs two roles: as a penetrating sealer and as a high performance finish coat. This product is formulated to tolerate some moisture in the substrate, such as areas that are slow in drying. This product when used as a finish coat will protect wood or concrete surfaces against water, oil, greasy soils, salts, and many chemicals. If this product is to be used as the total system, two or more coats should be applied.

Recommended For:

- Animal housing
- Battery charging areas
- Beverage plants
- Correctional facilities
- Dairies
- Food processing
- Laboratories
- Loading docks
- Locker rooms
- Meat & poultry plants
- Pickling and plating rooms
- Power generating plants
- Ramps
- Showers
- Sugar refineries
- Textile plants
- Traffic aisles
- Waste treatment plants

Limitations:

- Do not apply to wet surfaces. All excessive water must be removed using an industrial wet & dry vacuum
- For proper cure, the substrate, material (both parts A & B), and air temperatures must range between 55° F and 90° F — preferably 70° F to 75° F — prior to and during application. High humidity will retard drying
- Substrate must be free of curing membranes and hardening components, or any foreign material that would be detrimental to coating adhesion
- Product will not dry clear if applied heavily or if puddling occurs

Product Information

Mixing Instructions:

This two-component product is mixed as a 2 to 1 ratio by volume of components "A" to "B." First, mix each component separately until uniform, then combine components "A" & "B" and mix thoroughly (5 minutes) or until homogeneous. For best results, use a spiral mixing blade in a variable speed (400-600 rpm) electric drill. Place the spiral mixing blade at the bottom of the container before turning on the mixer. This will help avoid inducting air into the material. Inducted air will cause "bubbles" in the coating when applied. Gently move the mixer head up to the surface while running. Do not remove the head while it is still spinning.

This product has a workable pot life of 20 minutes at 70° F. Applying the material immediately after mixing will provide best results.

Note: Higher air and mixture temperatures will decrease the pot life and working time.

Colors:

MUST BE MIXED WITH M41 CATALYST

—Standard: M41-00 Clear

— Tint Bases: None

—Special Colors: None

Certification:

Formulated without lead, mercury, or chromates.

Does not contain any ozone-depleting substances, either Class I or Class II.

Technical Data		***Clear***
Generic Type		Waterborne Amine Epoxy
Pigment Type		Clear
Volume Solids (mixed as recommended)		51%
Theoretical Coverage		325 Sq. Ft. @ 2.5 mils
Film Thickness	– Wet	3.9 - 5.9 mils
	– Dry	2.0 - 3.0 mils
Dry Time @ 70˚ F	– To Touch	3 Hours
	– To Recoat	5 Hours
Dries By		Chemical Cure
Dry Heat Resistance	– Intermittent	240˚ F
Viscosity @ 70˚ F (mixed as recommended)		80 - 90 KU
Flash Point (Seta)		Mixed, > 200˚ F
60˚ Specular Gloss	– Semi-Gloss	50%
Surface Temperature At Application	– Min.	55˚ F
	– Max.	90˚ F
Surface must be dry and at least 5˚ above the dew point.		
Reduction	– Brush	Do not thin
	– Roller	Do not thin
	– Spray	Do not thin
Clean Up Thinner		Clean Water followed by M94
Mixing Ratio (by volume)		2:1
Induction Time @ 70˚ F		None following 3 minute mixing
Pot Life @ 70˚ F		20 minutes
Weight Per Gallon (mixed as recommended)		8.4 lbs
Storage Temperature	– Min.	50˚ F
	– Max.	80˚ F

Volatile Organic Compounds (VOC)

**Mixed, Unthinned	Grams/Liter	145
	Lbs./Gal.	1.21

*** Contact Benjamin Moore & Co. for actual levels, which may or may not be substantially less than stated.*

TDSM41C

M41 Fast Dry Epoxy Floor Sealer/Finish

Surface Preparation

Surface preparation is the most critical portion of any successful flooring system application. All substrates must be properly prepared using the following information. Keep in mind — "There are no shortcuts to a successful floor coating system."

Concrete

Present conditions

- Slabs on ground or grade must have an efficient vapor barrier, necessary to prevent moisture vapor transmission
- Proper jointing will minimize cracking which could transmit through the coating system
- Concrete must be a minimum of 30 days old before applying floor systems
- Remove all oil, grease, or fats using Oil & Grease Emulsifier (M83)
- Remove all curing compounds, hardeners, sealers, and laitances using portable shot blast cleaning systems
- Test for moisture following ASTM D-4253 Plastic Sheet Test. Tape down a clear piece of plastic to the concrete floor for 24 hours. If moisture collects or slab has darkened, the moisture/vapor transmission is too high for coating
- All unsound concrete must be repaired or replaced prior to coating application
- Cracks should be repaired prior to coating application
- Expansion joints are treated after the coating is applied
- New concrete should be water cured. Do not use curing compounds, hardeners, or sealing compounds on new concrete that is to be coated

Mechanical preparation vs. acid etching

Epoxy floor coatings ideally bond to concrete that has a rough, sandpaper finish. This can be achieved either by mechanical methods or by acid etching. Some factors that can affect this decision are:

- Ecological restrictions involved with waste removal which could prohibit the use of acids or other chemical methods.
- Acid etching works best in preparing surfaces for thin film coating systems.

Oil, grease, and fat removal

- Remove all oil, grease, and fat by scrubbing floor with a solution of one part Oil & Grease Emulsifier (M83) mixed with 6 parts water and applied at a rate of 100 square feet per gallon of solution.
- When surface is clean rinse well with water and pick up all rinse water using industrial wet/dry vacuum.

Acid etching

- Dilute one part Concrete Pretreatment & Etch (M85) with three parts water. Always add acid to water; never add water to acid. Workers should wear safety glasses, rubber gloves, and boots.
- This solution is best applied by plastic garden weed sprayer. Apply at a rate of 100 square feet per gallon of solution.
- Scrub the acid into the concrete using stiff bristle broom to remove loose concrete and laitance. Pay particular attention to areas that did not bubble. They may need mechanical abrading and additional acid etching.
- When acid stops bubbling (approximately 15 minutes) rinse thoroughly with water solution of one part Oil & Grease Emulsifier (M83) mixed with 25 parts water. This leaves the floor with an alkaline pH instead of an acid pH. Do not allow the floor to dry before thorough rising because salts formed by the acid reaction may cause adhesion problems to the floor coating.
- Vacuum entire floor using heavy duty wet/dry vacuum to remove all water plus any residue from the laitance removal, out of the pores or voids of the floor.

Mechanical preparation

- Remove existing coatings, curing compounds, hardeners, sealer, laitance, and other foreign matter by using mechanical methods such as sand blasting, vacuum blasting, scarifiers, Rotopeen, or vacuum shotblasting.
- This operation should expose clean, sound, opened and roughened surfaces for the floor coating system to adhere to.

WARNING! If you scrape, sand or remove old paint, you may release lead dust. **LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE.** Wear a NIOSH-approved respirator to control lead exposure. Carefully clean up with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead.

Application Instructions

Used as a Prime Coat

All new or uncoated concrete or wood surfaces should receive one coat of Fast Dry Epoxy Floor Sealer/Finish (M41) applied by squeegee, roller, spray,* or brush at a spread rate of 325 square feet per gallon. This sealer/finish will tolerate some moisture on the surface. When one coat is applied it serves as a penetrating sealer that will form the foundation necessary to support the high build top coat system. May be used as a clear finish for protection against water, oil, greasy soils, salts, and many chemicals by applying a second and/or third coat at 325 square feet per gallon.
CAUTION: When applying the product, avoid puddling. Transfer any puddled material by rerolling to disperse excess material. Puddling will cause the product to not dry clear.

Used as a Finish Coat

Apply the finish coat at a rate of 300 square feet per gallon using a squeegee. For best results pour the mixed material onto the floor in "ribbons," then spread with a 24" squeegee and lightly back roll using a 3/8" phenolic core lint free roller. Place the roller at the beginning of each work area and pull it to you.
CAUTION: When applying the product, avoid puddling. Transfer any puddled material by rerolling to disperse excess material.

* *While Fast Dry Epoxy Floor Sealer/Finish (M41) may be applied by spray, it is mandatory to use dual component airless spray equipment which mixes the two components of the product* ***at the spray head****. Do not attempt to spray either product in conventional air or airless spray equipment using premixed product.*

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Physical Properties Data

Test	Test Method	Results
Compressive Strength	ASTM C-579	9680 psi
Flexural Strength	ASTM C-580	8210 psi
Elongation	ASTM C-638	0.50%
Tensile Strength	ASTM C-307	8,800 psi
Hardness	ASTM D-2240	80
Bond Strength	ASTM D-4541	600 psi
Water Absorption	ASTM C-413	0.21%
Coefficient of Friction	ASTM D-2047	0.6
Flammability	ASTM D-635	self-extinguishing
Abrasion Resistance (Taber test)	ASTM D-4060	0.05 g
Impact Resistance	ASTM D-2794	> 60 in-lbs
Heat Resistance		140˚ F (60˚ C)

Note: All tests run in triplicate. Above values are the average results.

Environmental, Health & Safety Information

WARNING! COMBUSTIBLE LIQUID AND VAPOR. EYE AND SKIN IRRITANT. MAY CAUSE ALLERGIC SKIN REACTION. **Contains epoxy resin, benzyl alcohol and glycol ethers.** VAPOR OR LIQUID CAN CAUSE IRRITATION OF SKIN, EYES, NOSE AND THROAT. EXPOSURE MAY CAUSE ALLERGIC REACTION - MAY SENSITIZE SKIN. LONG TERM EXPOSURE IN THE ABSENCE OF RECOMMENDED HYGIENE PRACTICES MAY SENSITIZE SKIN, A CONDITION WHICH MAY NOT APPEAR UNTIL MANY EXPOSURES HAVE OCCURRED. HARMFUL IF INHALED. MAY AFFECT THE BRAIN OR NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA.

IMPORTANT: Designed to be mixed from two components. Mixture will have hazards of all components. Before opening packages, read all warning labels. Follow all precautions.

NOTICE: Repeated and prolonged exposure to solvents may lead to permanent brain and nervous system damage. Eye watering, headaches, nausea, dizziness and loss of coordination are signs that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. To avoid breathing vapors or spray mist, open window and doors or use other means to ensure fresh air entry during application and drying.

Keep away from heat and flame. Use only with adequate ventilation. Do not breathe vapors, spray mist or sanding dust. Do not get in eyes or on skin.

WEAR A PROPERLY FITTED VAPOR/PARTICULATE RESPIRATOR APPROVED BY NIOSH FOR USE WITH PAINTS, eye protection, gloves, and protective clothing during application (or sanding) and until all vapors and spray mist are exhausted. In confined places or in situation where continuous spray operations are typical, or if proper respirator fit is not possible, wear a positive-pressure, supplied air respirator approved by NIOSH. In all cases, follow respirator manufacturer's directions. Do not permit anyone without protection in the painting area. Close container after each use.

FIRST AID: If affected by inhalation of vapors or spray mist, remove to fresh air. In case of eye contact, flush immediately with plenty of water for at least 15 minutes and call a physician; for skin, wash thoroughly with soap and water. In case of ingestion - DO NOT INDUCE VOMITING, get medical help immediately.

IN CASE OF: **FIRE –** Use foam, CO_2, dry chemical or water fog.
SPILL – Absorb with inert material and dispose of as specified below.

USE COMPLETELY OR DISPOSE OF PROPERLY. This product contains organic solvents which may cause adverse effects to the environment if handled improperly. Disposal of wastes containing either organic solvents or free-liquids in landfills is prohibited. Dry, empty containers may be recycled in a can recycling program. **Local disposal requirements vary; consult your sanitation department or state-designated environmental agency on disposal options.**

FOR PROFESSIONAL USE ONLY KEEP OUT OF REACH OF CHILDREN
Refer to Material Safety Data Sheet available from your retailer for further safety and handling information.

Warranty & Limitation of Sellers Liability

All statements made on any product label, product manual, product data sheets, technical data charts or specification charts contained herein, are accurate to the best of our knowledge. The products and information are intended for use by persons having skill and know-how in the industry at their own discretion and risk. Benjamin Moore & Co. warrants only that its coatings represented herein meet the formulation standards of Benjamin Moore & Co. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY THE SELLER, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OR LAW, OR OTHERWISE INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Workmanship, weather, construction equipment, quality of other materials and other variables affecting the results are beyond our control. No agent, employee or representative of seller has any authority to bind seller to any affirmation, representation or warranty except as stated above.

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