

MarvelCoat Premium M91

Technical Data Sheet



Product Description:

M91 is a 100% solids polyurethane-urea hybrid coating. M91 is an aromatic coating designed to be an elastomeric protective coating for all substrates, providing excellent chemical abrasion resistance. M91 can be sprayed through a dual cartridge spray system or high pressure spray equipment.

Unique Properties:

M91 combines the processing advantages of a poly urea with the economic performance of a polyurethane coating.

- High strength not found in most hybrids
- Meets USFDA Criteria - Incidental Food Contact Applications
- Improved low temperature flexibility
- Improved tensile and elongation properties
- Lower sensitivity to moisture during application
- Improved low temperature cure

Basic Uses:

- Truck Bedliner
- Secondary containment coating (provides a chemical resistant membrane over concrete and steel in approved tank farms
- Gasoline and chemical resistance for Styrofoam flotation
- Abrasion resistance over wood, metal and concrete
- Waterproofing wood and foamed plastics
- Water and chemical detergent resistance for concrete block and poured walls.
- Roofing

Applications:

MarvelCoat Premium is designed to be used in settings where fast cure time is required. Designed for use in high humidity environments, it can be applied directly to fabric, felt, concrete, wood, or steel given the proper substrate preparation. M91 can be built up to any thickness. A minimum of 50 mils in two passes is recommended for exterior applications. Lower film thicknesses are acceptable if a light-stable top-coat is used.

Storage and Handling:

Containers for both A and B components should be kept tightly closed to prevent moisture contamination. Do not reseal if contamination is suspected. Use of a dry nitrogen blanket for partial drums is recommended. Component B may be stored at ambient temperatures. Storage for Component A should be maintained between 77° F (25°C) and 95°F (35°C). For best results, this product should not be allowed to freeze, although it may be re-heated in a well ventilated oven for a period of time to re-liquefy solid particles. To avoid product degradation, product temperature during re-heating should not exceed 140°F (60°C). An additional note of caution is that exposure to temperatures over 400°F (204°C) can create excessive pressure potentially causing containers to rupture. Do not breathe aerosol or vapors and avoid contact with skin and eyes. Exposure to vapors of heated MDI can be dangerous. To heat product properly, use well ventilated convection ovens or other methods that distribute heat evenly. Avoid using drum heaters or other heat sources that may cause excessive local heating.

Typical Physical Properties		
Hardness, ASTM D-2240	Shore A	93-95
Hardness, ASTM D-2240	Shore D	55
Elongation, 25° C, ASTM D-412	%	290
Tensile Strength 25° C, ASTM D-412	PSI	2,500
Tear Strength, ASTM D-624	PLI	320
Theoretical coverage @ 62.5 mils (1.6 mm)	25 ft ² /gal	
Theoretical coverage @ 125 mils (3.2 mm)	13 ft ² /gal	
Water Absorption, 25 C° 30days	3%	
Application Requirements		
Application Method	high pressure system	
Minimum Temperature	°F	140
Minimum Working Pressure	PSI	2,000
Minimum Mix Time	min	25
Recoat Window	hours	12
Processing Characteristics		
Solids by Weight and Volume	%	100
Mix Ratio by Volume	1:1	
Gel-Free Time	sec	9
Tack-Free Time	sec	10 -12
Typical Properties Component A (ISO)		
Viscosity @ 25° C	mPa·s	800 - 1,000
Specific Gravity @ 25° C	1.10	
Weight @ 25° C	lbs/gal	9.17
Appearance @ 25°C:	liquid	
Typical Properties Component B (Resin)		
Viscosity @ 25° C	mPa·s	500 - 700
Specific Gravity @ 25°C:	1.02	
Weight @ 25° C	lbs/gal	8.5
Appearance @ 25°C:	Viscous liquid	

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Health and Safety Information:

Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling any of the products listed above. Before working with these products, it is your responsibility to read and become familiar with the available information on its hazards, proper use and handling. This is extremely important and cannot be overemphasized. Information is available in several forms, e.g. material safety data sheets and product labels. To obtain this information, contact your Marvel Industrial Coatings representative.

Consistent Testing and Maturation:

Our coatings are subjected to continuous physical property testing in an effort to continuously improve based on real data from field application. Please contact your Marvel Industrial Coatings representative for more information concerning upcoming or recent tests. Please note that application method, substrate preparation, and testing equipment and processes do have a large effect on the physical capabilities and strengths of the products.

SURFACE PREPARATION

In general, coating performance and adhesion are directly proportional to surface preparation. Most failures in the performance of surface coatings can be attributed to poor surface preparation. Polyurea coatings rely on the structural strength of the substrate to which they are applied. All surfaces must be free of dust, dirt, oil, grease, rust, corrosion and other contaminants. When coating substrates previously used, it is important to consider the possibility of substrate absorption, which may affect the adhesion of the coating system, regardless of the surface preparation. Marvel recognizes the potential for unique substrates from one project to another. The following information is for general reference, and for project-specific questions, contact Marvel Coatings.

Warranty:

The information herein is believed to be accurate and reliable as of the date of issuance, but is subject to change without prior notice. It is up to the User to contact Marvel Industrial Coatings, LLC. to verify the correctness prior to ordering or specifying this product. Marvel Industrial Coatings, LLC. warrants this product for merchantable quality only, does not warranty against unknown risks that may or may not be present, nor do we assume any responsibility for coverage, performance, or injuries resulting from the use of this product. No other warranty or guarantee of any kind is made by Marvel Industrial Coatings, LLC. expressed or implied, statutory, by operation or law, or otherwise, including marketability and fitness for a particular purpose. Failure to strictly adhere to recommended procedures shall relieve Marvel Industrial Coatings, LLC. of all liability with respect to the product or the use thereof. The buyer assumes all risks whatsoever as to the use of these products and the Buyer's exclusive remedy as to any breach of warranty or negligence claim shall be limited to the purchase price of the materials and agrees that any and all litigation proceedings shall be according to the laws of Texas and shall be filed in the County of Harris, TX. Each person, firm, or corporation engaged in the application installation, disposal or any other use of the any of these products shall carefully determine whether there is a potential hazard associated with such product in a specific usage, and utilize all appropriate precautionary and safety measures as outlined in Local, State and Federal regulations governing the use or disposal of these products or the construction and/or renovation of structures.