

TECHNICAL DATA SHEET

Maxguard® U255PW is a two-component polyurea elastomer, 100% solids, no VOC's. This reactive, two-component elastomeric system is based on amine-terminated resins and a MDI (diphenylmethane diisocyanate) prepolymer. The membranes resulting from the reactions have properties which are exceptionally suited to perform as durable protective coatings. Upon application, the two-components quickly react, turning into a high-quality, seamless membrane which is immediately resistant to water and can be walked on after application, while being resistant to cracks and breaks during expansion and contraction.

Maxguard U255PW can be used as an inner lining within potable water tanks or pipes. It can be sprayed on steel, concrete, foam, plastic, etc. With its fast reactivity, the product can be applied to horizontal and vertical substrates.

Common Uses: Potable Water Tanks (Volume: 50,000 gallon and greater)

PHYSICAL PROPERTIES			
Tensile Strength	2500 - 3000 psi	17.2 - 20.7 Mpa	ASTM D 412 C
Elongation	300 - 400%		ASTM D 412 C
Shore D Hardness	50 - 55		ASTM D 2240
Tear Resistance	350 - 400 pli		ASTM D 624

LIQUID COMPONENT PROPERTIES*		
PROPERTY	MAXGUARD U255PWA	MAXGUARD U255PWB
Color	Transparent, yellow	Transparent, pale yellow to amber
Viscosity @ 77°F (25°C)	1000 - 1400 cps	100 - 400 cps
Specific Gravity @ 77°F (25°C)	1.09 - 1.15	0.95 - 1.05
Shelf Life of unopened drum properly stored	6 months	6 months
Storage Temperature	59 - 86°F (15 - 30°C)	59 - 86°F (15 - 30°C)
Mixing Ratio (volume)	1:1	1:1

*See SDS for more information.

REACTIVITY PROFILE	
Gel Time	8 - 11 seconds @ 77°F (25°C)
Light Traffic	3 - 4 hours @ 70°F (21°C) (cure time will be longer at lower temperatures)
Cure Time	24 hours @ 70°F (21°C) (cure time will be longer at lower temperatures)
Final Cure Time @ Final Cure Temperature	7 days @ 23°C (73°F)

COATING APPLICATION

Maxguard® U255PW is applied as a single-layer, seamless membrane using the usual mobile, high pressure, 1:1 in volume, mixing and spraying equipment for two component systems with a short reaction time. Please follow the spray equipment manufacturer's safe operation guidelines.

TRANSFER PUMPS - Use 2:1 or 1:1 double acting transfer pumps assuring equal pressure is delivered from both sides to the proportioner. Contact the Demilec Technical Service Department for further recommendations.

PROPORTIONER - Use only fixed ratio (one-to-one), volumetric positive displacement pumps connected to a common drive.



PRIMARY HEATERS – The primary heaters should be resistance controlled, either direct contact heating rods, or mass block, or a combination of direct heating contact rods and mass block (hybrid heater). The primary heaters should be controlled through independent controllers, separated from the hose heat to ensure an accurate setpoint temperature. Maxguard U255PW may not be consistently sprayed in conformance with the written specification if the combination of the proportioner’s pumping capacity, the primary heat capability and spray gun discharge rate (mixing chamber size) is out of balance. Contact the Demilec Technical Service Department for further guidance.

HEATED HOSE – Demilec recommends the use of heated spray hoses rated at \pm 2000 psi. Use moisture resistant hoses specifically designed for isocyanate. The heated spray hose should be able to maintain temperatures up to 190°F (88°C) and should be heated using an electrical element with an independent temperature sensor. The heated hose should also be adjusted and monitored separately from the A and B primary heaters, and should be capable of maintaining the temperature from the A and B primary heaters all the way to the spray gun.

In preparation for spraying, an off-target test spray should be performed to verify the processing pressure, primary heater and hose temperature settings. One proven method of applying this system is to spray perpendicular (90 degree angle) to the substrate, holding the gun more than 3 feet away from the substrate. However, every applicator should determine the method best suited for their application.

PROCESSING PARAMETERS	
Recommended Thickness	40 - 60 mils
Coverage Rate	27 sq. ft. at 60 mils thick, per 1 gallon of system (iso and resin)
Number of Coats	1
Dew Point	Substrate temperature must be 5°F (3°C) above dew point and rising before coating application
Maximum Ambient Relative Humidity	80 %
Processing Setpoint Temperature (Primary Heater & Hose Heat)	160°F (70°C)
Processing Setpoint Pressure	2000 – 2500 psi
Substrate & Ambient Temperature	> 23°F (> -5°C)

*It is the sole responsibility of the applicator to process and apply Maxguard U255PW within specification.

If in doubt about the substrate temperature or surface conditions, a trial application should be conducted to check product quality and spray performance. Please consult the Demilec Technical Service Department for further assistance.

CHEMICAL STORAGE

All components of Maxguard systems are packaged in closed-head metal drums or totes. Store the B-side resin and A-side isocyanates at temperatures between 59°F (15°C) and 86°F (30°C). Keep dry and keep from freezing. Keep away from direct sunlight. Remove the transfer pumps and tightly close the bungs of the A-side and B-side drums after use. See the SDS’s of the A-side and B-side for additional product information.

General Requirements: Equipment must be capable of delivering the proper ratio (1:1 by volume) of isocyanate and resin at adequate temperatures and spray pressures. Substrate must also be free of moisture (dew or frost), grease, oil, solvents and other materials that would adversely affect adhesion of the product. This product must not be used when the continuous service temperature of the substrate or product is below -10°F (-23°C) or above 140°F (60°C).

For further technical information concerning this system, please visit: www.nsf.org / Search Certified Products & Systems / Water and Wastewater / Drinking Water Components / Demilec

Disclaimer: The information herein is to assist customers in determining whether our products are suitable for their applications. We request that customers inspect and test our products before use and satisfy themselves as to contents and suitability. Nothing herein shall constitute a warranty, expressed or implied, including any warranty of merchantability or fitness, nor is protection from any law or patent inferred. All patent rights are reserved. The product is combustible and must be protected in accordance with applicable codes. Protect from direct flame and spark contact, around hot work for example. The exclusive remedy for all proven claims is replacement of our materials.