

POLYPROOF MAX HI 55

PRODUCT DESCRIPTION

POLYPROOF MAX HI 55 is a pure polyurea membrane designed to provide outstanding chemical resistance and extreme abrasion resistance, ensuring complete substrate waterproofing. Its dense and flexible structure provides robust protection against damage caused by handling, transportation, installation, or operation, including severe impacts and abrasive wear. After curing, it forms a continuous, seamless barrier with superior impact resistance, making it the ideal solution for coating equipment used in industries operating under critical conditions, such as chemical, food processing, port, petrochemical, mining, steel, and other sectors requiring durability and high performance in extreme environments.

RECOMMENDED USE

Recommended as a structural reinforcement barrier and for submerged applications, as well as a lining for tanks used to store chemical liquids or products with a high solids content. It can be applied to containment basins subject to leaks, buried pipelines, or pipelines exposed to abrasion, even in environments with high humidity or aggressive chemical agents. It is also suitable for the rehabilitation of concrete tanks affected by leakage or substrate movement, providing improved load sliding, long-term protection for steel structures, and coatings designed for blast mitigation.

CERTIFICATIONS AND APPROVALS

C5H system certified in accordance with ISO 12944-6:2018.

Im2 and Im3 continuous immersion system (saltwater, freshwater, and soil), with Very High (VH) durability, certified in accordance with ISO 12944-6:2018.

Carbon dioxide permeability determined in accordance with UNE-EN 1062-6:2003.

PACKAGING

Component A	Packaging of 200L with 196kg.
Component B	Packaging: 200 L container with 220 kg of product.
Component C	Packaging containing 4 kg.

CHARACTERISTICS

Color	Non-pigmented (beige shade)
Volume Solids	99 ± 1% (ISO 3233)
Shelf Life	12 months
Dry Film Thickness	800 µm - 10.000 µm
Dielectric Strength	29.3 kV/mm
Theoretical Coverage	Consumption of 1 kg/m ² , applied without dilution, to achieve a dry film thickness of 1,000 micrometers (1.0 mm). Application loss factors are not considered.
Impact	217 lbf/po
Note	As specified in the project requirements. For waterproofing, the recommended minimum thickness is 2,000 µm. Continuous operating temperature: up to 80 °C Maximum peak temperature: up to 120 °C, intermittent. Normally, the specified thickness is achieved in a single coat. If reapplication is required, it is recommended that it be carried out immediately after the first application. In any case, no more than 2 hours should elapse between applications. When a primer is used, the specified recoating intervals between the primer and the polyurea application must be respected. Refer to the technical data sheet of the primer used or contact the POLYPROOF HI 55 Technical Department.

DRYING

Drying

25 °C

Touch

2 min

Manipulation

1 hour

Final

24 hours

Recoat Drying

25 °C

Minimum

-

Maximum

2 hours

PHYSICOCHEMICAL CHARACTERISTICS

Adhesion (ASTM D 4541)

Concrete: 2.5 MPa

Steel: # 8 MPa

Tensile Strength (ASTM D 412)

25,0 MPa

Taber Abrasion Resistance CS-17 (ASTM D 4060)

13 mg

Shore A Hardness (ASTM D 2240)

55

Elongation (ASTM D 412)

450 %

Tear Resistance (ASTM D 624)

100,0 N/mm²

PRODUCT	CONCENTRATION (%)	TEMPERATURE	GRADUATION	PRODUCT	CONCENTRATION (%)	TEMPERATURE	GRADUATION
WATER	-	176 °F	R	AMMONIA	-	176 °F	R
SALT WATER	SATURATED	176 °F	R	DIESEL	-	176 °F	R
XYLENE	-	176 °F	L	HYDROCHLORIC ACID	37%	176 °F	L
ETHYL ACETATE	-	176 °F	L	ENGINE OIL	-	176 °F	L
ISOPROPYL ALCOHOL	-	176 °F	L	PETROLEUM	-	68/140 °F	R
SODIUM HYDROXIDE	50%	176 °F	R	SULFAMIC ACID	85%	140 °F	R
HYDROGEN PEROXIDE	33%	77 °F	R	OLEIC ACID	-	176 °F	L
SULFURIC ACID	10%	176 °F	R	GLYCERIN	-	176 °F	R
SULFURIC ACID	30%	176 °F	R	KEROSENE	-	176 °F	R
SODIUM HYPOCHLORITE	-	176 °F	R				
				Graduation: R - Resistant L - Limited resistance			
For more details regarding chemical resistance, consult WEG's technical department.							

SURFACE PREPARATION

Standard Surface Preparation

The performance of this product is related to the degree of surface preparation. In case of doubts, for more information, consult WEG's Technical Department.

Carbon Steel Surfaces

The surface must be clean and free from any contaminants. Completely remove oil, grease and other contaminants in accordance with SSPC-SP 1 or ABNT NBR 15185.

Perform abrasive blasting to Near-White Metal, in accordance with Sa 2½ of ISO 8501-1 (A Sa 2½, B Sa 2½, C Sa 2½ and D Sa 2½) or SSPC-SP 10/NACE No. 2, visual standard SSPC-VIS 1.

The surface shall be prepared by abrasive blasting to Sa 2½, achieving a minimum surface profile of 80 µm.

If coating application is required more than 8 hours after blasting, evaluate the environmental exposure conditions of the blasted surface and apply W-POXI ONP 415 primer.



Hot-Dip Galvanized Surfaces

Wash the substrate with clean running water to remove soluble salts resulting from the galvanizing process before abrasive blasting. Use a non-woven abrasive pad made of synthetic fibers bonded with resin impregnated with abrasive mineral during this process.

It is recommended to apply the coating over surfaces prepared by Brush-Off blast cleaning (Sa 1) or in accordance with NACE No. 8/SSPC-SP 7, achieving a surface profile between 20 and 25 µm.

Use non-metallic abrasives such as sintered bauxite, aluminum oxide, sponge media or other inert abrasives.

For small areas, surface oil and grease may initially be removed using clean cloths soaked with cleaning thinner in accordance with SSPC-SP 1. Then lightly sand the surface using 100-grit sandpaper, preferably producing a cross-hatch pattern (horizontal and vertical). Clean the surface again with cloths soaked in thinner, replacing them frequently. Avoid using waste cloths or colored rags during cleaning.

Note: Hot-dip galvanized carbon steel intended for painting shall not undergo passivation treatment, as this may impair coating performance.

If a primer has been previously applied, the specified recoat intervals between the primer and the polyurea application shall be observed.

For maintenance of small areas, prepare the surface in accordance with SSPC-SP 11, using power tools and achieving a minimum surface profile of 40 µm.

Concrete Surfaces

he performance of this product is directly related to the degree of surface preparation. The surface must be clean, sound, free from any contaminants, completely dry, and have sufficient surface roughness to ensure proper adhesion of the coating system.

The substrate must be completely clean and free from contaminants such as oil, grease, silicone, dust, and loose materials. Any surface irregularities must be removed before application. The coating must not be applied over floors contaminated with release agents, cement laitance, grease stains, or other residues. All accumulated dust must be removed to ensure a suitable surface for coating application.

The surface must be mechanically prepared to achieve a profile between CSP 3 and CSP 4, in accordance with the recommendations of the International Concrete Repair Institute (ICRI).

Check the presence of moisture in the concrete in accordance with ASTM D 4263. Before application, the concrete must have a maximum residual moisture content of 4%.

The product must be applied over the specific primer W-POLI HSS 455, POLYPROOF SEALER 100, or POLYPROOF SEALER HIDRO. If the concrete has a residual moisture content above 4%, use POLYPROOF SEALER HIDRO, which allows application to substrates with residual moisture content of up to 8%.

APPLICATION PREPARATION		
	Mixing	Mechanically mix Component B for 2 minutes. Circulating the material only for heating purposes is not considered mixing and may cause problems during and after application. Add the pigment to Component B.
	Mixing Ratio	By weight: 100 A x 1.12 B.
	Pot Life	6 seg The shelf life of the mixture is reduced as the ambient temperature increases. The pot-life test of the mixture is carried out according to ABNT NBR 15742; however, different volumes of paint prepared at once, combined with varying ambient and paint temperatures, will affect the mixture's shelf life, potentially resulting in outcomes different from those stated in this technical bulletin.
APPLICATION METHODS		
	Other application methods	POLYPROOF MAX HI 55 shall be applied exclusively using suitable hot plural-component spray equipment operated by experienced professional applicators.



At ambient temperatures below 20 °C, the pumps shall be preheated using heating belts set between 30 and 40 °C. Component B shall be thoroughly agitated before application and periodically during use to prevent sedimentation of its chemical components. The pigment shall always be incorporated into Component B using a mechanical mixer.

The pumps for Components A and B shall be equipped with desiccant dryers, and the compressed air supply shall be provided through a suitable air dryer.

Primary heaters shall be set between 65 and 70 °C and may be adjusted in the field according to ambient conditions, mixing module size, and specific application requirements. Adequate heating is essential, as insufficient heat may impair mixing and the final physical properties of the coating.

The hose heaters shall be set to 70 °C, with field adjustments permitted according to ambient conditions and mixing module characteristics.

For optimum results, the spray pressure (not static pressure) shall be at least 155 bar.

For complete substrate preparation and repair procedures, consult your WEG Paints technical representative.

Equipment cleaning: To preserve the condition of the spray equipment (spray gun, seals, and related components), cleaning with solvents is not recommended. Component A shall be completely cleaned after use to prevent material curing inside hoses and equipment components.

APPLICATION PERFORMANCE

For optimum product performance, follow the recommendations below.

The substrate temperature shall be between 5 °C and 40 °C. Under all conditions, the surface temperature must remain at least 3 °C above the dew point to prevent condensation.

Note: Under normal conditions (25 °C and 50% relative humidity), the membrane becomes resistant to light rain after 5 minutes and can withstand light foot traffic after 1 hour. It achieves more than 90% of its final properties within 24 hours.

SAFETY PRECAUTIONS

Product developed for industrial use intended for handling by qualified professionals. Carefully read all information contained in the SDS of this product, available at: www.weg.net.

Store in a covered and well-ventilated place. Keep the container tightly closed and away from sources of heat or ignition.

Use only in well-ventilated areas, avoiding the accumulation of flammable vapors. Keep the product away from heat and sources of ignition.

Do not inhale mists/vapors/aerosols generated during handling and/or application. Use protective gloves/protective clothing/eye protection/face protection.

Empty containers and materials with paint residues must be disposed of according to current legislation. Take care of the environment.

NOTE

The information contained in this technical bulletin is based on the experience and knowledge acquired in the field by WEG's technical team.

In the event of using the product without prior consultation with WEG regarding its suitability for the purpose for which the customer intends to use it, the customer acknowledges that the use will be at their own exclusive responsibility, and WEG is not liable for the behavior, safety, suitability, or durability of the product.

Some information mentioned in this bulletin is only an estimate and may vary due to factors beyond the manufacturer's control. Therefore, WEG does not guarantee and assumes no responsibility for performance, efficiency, or any material or personal damages resulting from the incorrect use of the products in question or from the information contained in this Technical Bulletin.

The information contained in this technical bulletin is subject to periodic modifications, without prior notice, due to our policy of continuous improvement and evolution of our products and services, providing quality solutions to meet the needs of our customers.