



W-POLI ERD 45

PRODUCT DESCRIPTION

Polyurea-based primer/finish. High solids, low VOC content. Good color and gloss retention compared to conventional polyurethanes, extra-fast drying, and excellent adhesion to carbon steel. Applicable in a single high-build coat directly over the substrate, simplifying machinery and equipment painting.

RECOMMENDED USE

Recommended for painting metal structures, exterior of tanks, pipelines, and various equipment in pulp and paper, sugar ethanol, chemical and petrochemical industries, bridges, and machinery in general. For highly aggressive environments, such as C4 and C5 (ISO 12944-2), application over a specific primer is recommended.

CERTIFICATIONS AND APPROVALS

When supplied to comply with the ROHS Directive (Restriction of Certain Hazardous Substances), this product includes the letter R in its nomenclature description.

PACKAGING

Component A	3.6L Package containing 2.4L 20L Package containing 13.3L
Component B	1.5L Package containing 1.2L 4L Package containing 3.35L

CHARACTERISTICS

Color	RAL, Munsell, or according to the customer's standard.
Gloss	Gloss (>80 UB) W-POLI ERD 451 Semi-gloss (60 - 80 UB) W-POLI ERD 452
VOC content	177.33 g/l
Volume Solids	88 ± 2% (ISO 3233)
Shelf Life	24 months
Dry Film Thickness	150 µm - 250 µm
Dry Heat Resistance	Maximum temperature 120 °C. The product maintains its chemical properties up to a temperature of 120 °C, but from 60°C, color and gloss variations in the paint may occur.
Theoretical Coverage	4,40 m ² /l without dilution at a dry film thickness of 200 µm. Loss factors during application are not considered.

DRYING

Drying	<hr/>		
	10 °C	25 °C	35 °C
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	Touch	2 hours	70 min
Manipulation	10 hours	7 hours	6 hours
Final	240 hours	168 hours	168 hours
Recoat Drying	<hr/>		
	25 °C		
Minimum	90 min		
Maximum	10 days		

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.

The surface must be clean, dry, and free of contaminants. Completely remove oils, greases, and fats according to SSPC-SP1.



Remove accumulated dirt using a dry brush, clean dry cloth, compressed air blow, vacuum, or a combination of these. Remove soluble salts by washing with plenty of fresh water, preferably under low pressure (up to 5,000 psi), according to SSPC-SP12/NACE No. 5 standard.

Recommended Surface Profile

It is recommended a roughness profile between 40 and 85 micrometers.

Abrasive Blasting

Perform abrasive blasting to near-white metal, Sa 2½ grade, according to ISO 8501-1 visual standard (A Sa 2½, B Sa 2½, C Sa 2½, D Sa 2½), or according to SSPC-SP10/NACE No. 2, visual standard SSPC-VIS 1 (A SP10, B SP10, C SP10, D SP10, G1 SP10, G2 SP10, G3 SP10).

Inspect the freshly blasted surface, observing defects that may appear after treatment. Correct them by grinding, filling with welds and/or epoxy putty.

For areas near marine environments, wash with fresh water at low pressure (minimum 3,000 psi) before abrasive blasting. In some cases, repeat washing after blasting to remove soluble contaminants and perform a new abrasive blasting.

If oxidation occurs between the end of abrasive blasting and coating application, the surface must be blasted again until the specified visual standard is achieved.

Carbon Steel Surfaces

Hard surface layers (e.g., layers resulting from flame cutting) must be removed by grinding before starting abrasive blasting.

All welds must be inspected and, if necessary, repaired before completing abrasive blasting. Porosities, cavities, weld splatter, etc., must be repaired with proper mechanical treatment or welding repair. In other areas, round edges and sharp corners (r e 2 mm, ISO 8501-3).

Over Primer

The product must be applied over a specific primer. The primer must be clean, dry, and free of contaminants. The topcoat must be applied within the primer recoat interval. Consult the primer technical bulletin for correct application.

Respect the product recoat interval. If exceeded, perform light manual/mechanical sanding to break gloss and clean dust/residues for better adhesion between coats.

APPLICATION PREPARATION

Mixing	Homogenize the content of each component using mechanical or pneumatic stirring (A and B). Ensure no sediment remains at the bottom of the container. Add component B to component A in the indicated mixing ratio under stirring until completely homogenized, respecting the mixing ratio.
Mixing Ratio	By volume: 2 A x 1 B.
Thinner	PU DILUENT 5007
Alternative Thinners	PU 5003 Diluent - Recommended for temperatures below 25 °C. PU 5007 Diluent - Recommended for temperatures above 35 °C and baking cure. Thinner PU 5043 - For temperatures between 25°C and 35°C.
Dilution	Depending on the application method, dilute to a maximum of 15%.
Notes	The amount of Diluent may vary depending on the type of equipment used and environmental conditions during application. Only add Diluent after complete mixing of the other components. Do not dilute with solvents not allowed by local legislation, and do not exceed the indicated dilution percentage. Excessive dilution may affect film formation, appearance, and make it difficult to achieve the specified thickness.
Pot Life	1 h 30 min



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.

Induction Time

No induction time required.

In very hot locations, we recommend consulting WEG's Technical Department.

APPLICATION METHODS

Conventional Spray Gun

Spray gun: JGA 502/3 Devilbiss or equivalent
 Fluid nozzle: EX
 Air cap: 704
 Atomization pressure: 50 - 70 psi
 Tank pressure: 10 - 20 psi.

Airless Spray Gun

Airless: Use minimum pump 60:1
 Fluid pressure: 2000 - 3000 psi
 Hose: 1/4" inner diameter
 Nozzle: 0.015" - 0.021".

Roller

Use a short-haired, seamless wool or synthetic roller for epoxy paints.
 Recommended only for small areas or touch-ups. Use a low-pile seamless wool roller or synthetic roller for epoxy paints.
 For application with brush and/or roller, it may be necessary to apply two or more coats to achieve a uniform layer and the recommended film thickness.

Brush

Recommended only for small area touch-ups or "stripe coat" (screws, nuts, weld beads, sharp corners, and touch-ups).

Cleaning of the equipments:

PU DILUENT 5007

Notes

The data presented serves as a guide and similar equipment may be used.
 Changes in pressures and nozzle sizes may be necessary to improve spraying characteristics. Purge the compressed air line to avoid paint contamination.
 Do not allow catalyzed product to remain in contact with application equipment, as at temperatures above the indicated "pot life", the paint will show variation in flow and will harden, making cleaning difficult.
 Before application, ensure that the equipment and respective components are clean and in optimal condition.
 After mixing two-component products, if there are application stops and the pot life has been exceeded (paint shows variation in flow), it can no longer be re-thinned for later application.
 In spray application, overlap each gun pass by 50%, finishing with a cross pass. This technique avoids uncovered or unprotected areas and ensures proper aesthetic finish.
 Reinforce all sharp corners, gaps, and weld beads with a brush to avoid premature failures in these areas.
 Clean all equipment immediately after use.
 It is considered good practice to periodically wash the spraying equipment during the day. The cleaning frequency depends on the amount sprayed, temperature, and elapsed time, including all delays.

APPLICATION PERFORMANCE

Component B must be protected from ambient moisture. Once opened, it is recommended to use it in its entirety or as quickly as possible.



For coatings applied in coastal areas exposed to sea spray, it is recommended to wash with fresh water between coats to remove deposited impurities.

Light colors may require more than one coat to achieve uniform coverage.

Do not apply the product after the pot life has been exceeded.

Application must only be carried out with equipment that provides mechanical agitation during the entire application.

Uniform thickness in a single coat will be easier to achieve if the product is applied by airless spray. Other methods may require a higher number of passes and/or cross passes. Environmental and substrate conditions affect performance.

Before application, observe weather conditions: there must be no threat of rain or drizzle. Surface temperature must be at least 3°C above the dew point, and relative humidity should not exceed 85%. Adverse conditions may cause color variations and other characteristics. Consult WEG Technical Department.

Painting is recommended only if surface temperature is at least 3°C above the dew point.

Substrate temperature, climatic and environmental conditions during application and curing, as well as applied film thickness, may affect drying time.

Applying the product at relative humidity above 50% may accelerate drying and reduce mixture pot-life.

Paintings performed with varying application methods on the same project may result in differences in gloss and final appearance.

Product not recommended for internal tank painting.

Small variations in color, appearance, and gloss (more noticeable in dark colors), as well as delayed curing and performance compromise, may occur during high humidity, rainy days, cold locations, or when parts dry outdoors.

Under adverse weather conditions in indoor and/or outdoor environments with high relative humidity, rain or drizzle, low or very low temperatures, and excessively high temperatures, variations in color and other product characteristics may occur. Please consult WEG's Technical Department for more information.

SYSTEM COMPATIBILITY AND MAINTENANCE REPAINTING

The primer repainting interval must be respected for the application of the topcoat. If the maximum interval indicated is exceeded, manual/mechanical sanding with sandpaper to remove gloss is necessary. The primer surface must be dry and free of contaminants.

In situations where the nature of the primer is unknown, it is recommended to test the product's compatibility on a small area; it must be ensured that the original material is well adhered. All non-adhered paint must be removed; areas with corrosion or applications over aged paints must be treated according to technical guidance.

Direct application of the product over zinc-rich primers based on ethyl silicate, alkyd primers, coal tar-based paints, and other single-component primers is not recommended. When topcoat application over any of the above primers is required, we recommend applying a suitable intermediate product.

W-POLI ERD 451 can be applied directly over steel; however, in more aggressive environments classified according to ISO 12944, we recommend applying the product over LACKPOXI N 2630 for C4 environments and LACKPOXI N 1277 for C5 environments.

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.

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