TECHNICAL DATA SHEET

W-THANE DF 446

PRODUCT DESCRIPTION

Aliphatic acrylic polyurethane primer/finish with excellent durability.

RECOMMENDED USE

Recommended for painting machinery, vehicle bodies, and equipment requiring natural weathering resistance, offering excellent adhesion on carbon steel, aluminum, and galvanized steel.

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 3.11L 20L Package containing 17.15L
Component B	0.5L Package containing 0.5L 4L Package containing 2.85L

CHARACTERISTICS

Color	According to customer standard. RAL and Munsell chart.
Gloss	Semi-Gloss
VOC content	610.80 g/l
Volume Solids	52 ± 2% (ISO 3233)
Shelf Life	12 months
Dry Film Thickness	75 µm - 125 µm
Dry Heat Resistance	Maximum temperature 100 °C. The product maintains its chemical properties up to a temperature of 100 °C, but from 60°C, color and gloss variations in the paint may occur.
Theoretical Coverage	5,20 m2/l without dilution at a dry film thickness of 100 µm. Loss factors during application are not considered.

DRYING

Drying

	10 °C	25 °C	35 °C
Touch	4 hours	2 hours	1 hour
Manipulation	24 hours	6 hours	4 hours
Final	300 hours	240 hours	168 hours

Recoat Drying

	10 °C	25 °C	35 °C
Minimum	24 hours	8 hours	5 hours
Maximum	48 hours	48 hours	48 hours

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.

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Degreasing
Completely remove oils and greases by applying a degreasing product or according to the solvent cleaning method. Whenever cleaning surfaces with cloths, replace them to avoid saturation. Do not use cotton waste or colored cloths.

Recommended Surface Profile
It is recommended a roughness profile between 40 and 60 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.

Maintenance and Repair
NOTE: Respect the recoating interval for subsequent coat application. If exceeded, perform light manual/mechanical sanding to break the previous coat gloss, followed by dust and residue cleaning to ensure better adhesion between paint layers.

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).

Non-Ferrous and Electro-Galvanized Surfaces
Remove all dirt and grease from the surface using clean cloths soaked in Cleaning Solvent according to SSPC SP1. Avoid using rags or colored cloths during cleaning.

Perform a "light sanding" using 180-grit sandpaper to promote roughness. Whenever possible, make cross-hatch scratches (horizontal and vertical). Clean the surface again with cloths soaked in solvent, changing them frequently.

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: 6 A x 1 B.
Thinner	PU DILUENT 5008
Dilution	Depending on the application method, dilute to a maximum of 5%.
Notes	Dilute according to recommendation. Only add the thinner after the A + B components are completely mixed. Excessive thinning of the paint may affect film formation, appearance, and make it difficult to achieve the specified thickness. 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

4 h

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

Wait 15 to 20 minutes before application.

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.

Cleaning of the equipments:

PU DILUENT 5008

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

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.

For optimal application properties, the paint temperature should be between 21°C and 27°C before mixing and application.

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.

Polyurethane systems (components A and B) are sensitive to relative humidity, which may cause defects in the dry film and reduction in pot life. After use, keep containers closed and protected.

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

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.

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.

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