



DURA-PLATE® 146 DW

EPOXY COATING FOR USE IN POTABLE WATER SUPPLY

Revised 07/2023 Issue 1

PRODUCT DESCRIPTION

A 2-pack epoxy coating with 100% volume solids.

Solvent free according to Protective Coatings Directive of German Paint Industry Association (VdL-RL 04).

- Suitable for potable water, many foodstuffs, chemicals, cleaning agents and disinfectants
- Very good adhesion to steel, stainless steel and aluminium
- Pinhole detection possible
- Contains no benzyl alcohol

RECOMMENDED USE

Can be used as a corrosion protection coating for painting steel, stainless steel and aluminium in direct contact with cargo.

It is predominantly used as an interior coating for tanks, containers, pipes (nominal diameter > 300 mm) and equipment used in potable water supply as well as in the food and beverage industry.

PRODUCT TECHNICAL DATA

Volume Solids: 100 ± 2% (ISO 3233-3)

Weight Solids: 100 ± 2%

VOC: 0 g/l determined practically in accordance with Protective Coatings Directive of German Paint Industry Association (VdL-RL 04).

0 g/l calculated from formulation to satisfy EC Solvent Emissions Directive.

0 g/kg calculated from formulation to satisfy EC Solvent Emissions Directive (UK).

Colours: Blue, beige, red brown
Finish: Glossy

Flash Point: Base: >101°C, Hardener: >101°C.

Cleaner/Thinner: Thinner E+B (for cleaning).
Clean spills, tools and spatters immediately with Thinner E+B.
Do not thin Dura-Plate® 146 DW

Pack Size: A two component material supplied in separate containers to be mixed prior to use:
12.6 kg (9.3 litre) and 6.3 kg (4.6 litre) units when mixed.
Volume will vary with colours and density.

Mixing Ratio: 100 parts base to 26 parts hardener by weight.
100 parts base to 39 parts hardener by volume.

Density: 1.35 kg/l (may vary with colours).

Shelf Life: 2 years from date of manufacture, stored in originally sealed containers in a cool and dry environment.

Recommended Application Methods:

Airless Spray, Brush and Roller

Typical Thickness:

	Recommended Spreading Rate Per Coat	
	Typical	Maximum Sag
Dry	400 µm	800 µm
Wet	400 µm	800 µm
Theoretical Consumption*	0.540 kg/m ² 0.400 l/m ²	
Theoretical Coverage*	1.85 m ² /kg 2.50 m ² /l	

* This figure makes no allowance for surface profile, uneven application, overspray or losses in containers and equipment.

Film thickness will vary depending on actual use and specification.

Pot Life:

+ 20°C	+ 30°C
20 min	10 min

Pot life is dependent on temperature and volume.



DURA-PLATE® 146 DW

EPOXY COATING FOR USE IN POTABLE WATER SUPPLY

Revised 07/2023 Issue 1

AVERAGE DRYING TIMES

For 300 - 800 µm Dry Film Thickness:

	+ 20°C
Dry to touch	10 hours
To Recoat	8 hours
Foot Traffic	18 hours

Maximum recoat time is 72 hours at 20°C. Prior to further applications all contamination must be removed. In the case of extended recoating times the surface must be sweep-blasted.

Overcoatability: With itself, others on enquiry.

Final cure: At + 20°C final hardness is achieved after 1 week.

The following periods should be observed for potable water tanks:

10 to 14 days at a substrate temperature of + 20°C.

Dura-Plate® 146 DW may only come into contact with potable water if it has been ascertained by testing that the coating is cured to the extent that it can not effect the potable water quality.

On putting the containers/plant components into operation, the DVGW directives (German Association for Gas and Water) governing cleaning and disinfection as well as the applicable potable water regulations, in particular §11 'List of treatment agents and disinfection procedures', must be observed.

These figures are given as a guide only. Factors such as air movement, film thickness and humidity must also be considered.

APPROVALS & ENDORSEMENTS

- Fulfills the requirements of the assessment basis/guideline of the German Federal Environment Agency (Umweltbundesamt UBA) for product hygiene suitability for drinking water according to system 1+ with external monitoring.
- Tested according to DVGW (German Association for Gas and Water) worksheet W 270 (growth of microorganisms in drinking water).
- Physiologically harmless (expert report by Eurofins Institute Nehring).
- Monitored by KIWA NL in accordance with BRL-K 759 as a certified coating for contact with drinking water.

SURFACE PREPARATION

Ensure surfaces to be coated are clean, dry and free from all surface contamination such as oil, grease, dirt and corrosion products to achieve satisfactory adhesion.

Removal of welding sputter, grinding of welding seams and welding seam overlaps in accordance with DIN EN 14879-1.

Steel surfaces shall be blast-cleaned to Sa 2½ according to ISO 8501-1 (ISO 12944-4).

Average surface profile Rz ≥ 50 µm.

Stainless steel and aluminium substrates shall be sweep-blasted according to ISO 12944-4 with a ferrite-free blasting abrasive.

Average surface profile Rz ≥ 50 µm

MIXING

Stir component A very thoroughly using a mechanical paint mixer (start slowly, then increase up to approx. 300 rpm). Add component B carefully and mix both components very thoroughly (including sides and bottom of the container). Mix for at least 3 minutes until a homogeneous mixture is achieved. We recommend to fill the mixed material into a clean container and mix again shortly as described above to avoid incorrect mixing. During mixing and handling of the materials always wear protective goggles, suitable gloves and other protective clothing.

Instruction on initial filling:

Before filling the coated tanks or pipes for the first time with potable water or foodstuffs, rinsing with water for at least 1 day.

APPLICATION CONDITIONS

Substrate temperature shall be above + 15°C and at least 3°C above the dew point.

Ambient air temperature shall be above + 15°C.

Material temperature shall be above + 15°C.

Relative air humidity shall be below 80%.

APPLICATION EQUIPMENT

The following is a guide. Changes in pressures and tip sizes may be needed for satisfactory application characteristics. Always purge spray equipment before use with listed cleaner.

Airless Spray

Unit: Efficient airless equipment

Tip Size: 0.48 – 0.58 mm (0.019 – 0.023 inch)

Fan Angle: 40° - 60°

Operating Pressure: min. 180 bar (2600 psi)

Spray hoses: Ø ¾ inch (10 mm), max. 20 m
+ 2 m with reduced Ø of ¼ inch (6 mm)

Direct suction without suction hose is recommended. Remove sieves. Material temperature at least + 20°C.

At low temperatures we recommend the insulation of the spray hose as well as the use of a continuous flow heater, particularly in case of long spray hoses.

The airless spray details given above are intended as a guide only.

Details such as fluid hose length and diameter, paint temperature and job shape and size all have an effect on the spray tip and operating pressure chosen. However, the operating pressure should be the lowest possible consistent satisfactory atomisation.

As conditions will vary from job to job, it is the applicators responsibility to ensure that the equipment in use has been set up to give the best results.

If in doubt consult Sherwin-Williams customer service.

Brush and Roller

- Any bubbles should be removed with a flat surface brush
- Several applications (usually 3) are necessary in order to reach the film thickness of 400 µm
- The substrate must be free of pores after the application of the first coat

Only mix the quantities which are to be applied in due time.

Consider the fast curing properties of Dura-Plate®-146 DW.

Repair

- Clean flaws or damaged areas, grind or sweep-blast overlapping areas to a matt finish and clean off all traces of dust
- Overcoat immediately afterwards



DURA-PLATE® 146 DW

EPOXY COATING FOR USE IN POTABLE WATER SUPPLY

Revised 07/2023 Issue 1

RECOMMENDED SYSTEMS

Steel, stainless steel and aluminium

Airless application:

1 x 400 µm Dura-Plate® 146 DW

Roller application:

3 x 150 µm Dura-Plate® 146 DW

Overcoatable with itself, observe overcoating intervals.

ADDITIONAL NOTES

Drying times, curing times and pot life should be considered as a guide only.

Epoxy Coatings - Tropical Use:

Dura-Plate® 146 DW at the time of mixing should not exceed a temperature of 20°C.

Chemical resistance:

Depending on the cargo, available upon request.

No long term resistance to ozone containing cargo.

Temperature resistance:

Dry heat up to approx. + 100°C

In case of higher temperatures consult Sherwin-Williams customer service.

Numerical values quoted for physical data may vary slightly from batch to batch.

HEALTH & SAFETY

Consult Product Health and Safety Data Sheet for information on safe storage, handling and application of this product.

WARRANTY

Whilst all statements made about our products (whether in this data sheet or otherwise) are correct and accurate to the best of our knowledge, we have no control over the quality or the condition of the substrate, the application conditions or the many other factors affecting your use and application of our product.

The appropriateness of the product under the actual conditions of application or intended use must be determined exclusively by you. The content of this document, and of any oral or written statements already made or to be made in relation to the subject matter of this document, including any suggestions as to appropriate products and any proposed application methods, technical details and other product information represent only test results or experience obtained under controlled or defined circumstances, and is therefore provided for general information purposes only.

Unless we agree specifically in writing to do so, we will not be liable to you for any loss or damage whether in contract, tort (including negligence), breach of statutory duty, misrepresentation, misstatement or otherwise, arising under or in connection with this document or such statements.

We disclaim any express or implied representations, warranties or guarantees (including any implied warranty of merchantability or fitness for a particular purpose), though nothing in this disclaimer excludes or limits our liability for death or personal injury arising from our negligence, or our fraud or fraudulent misrepresentation, or any other liability that cannot be excluded or limited by law.

All products supplied and technical advice given are subject to our Standard Terms and Conditions of Sale which you should request a copy of and review carefully.

This document may be modified and updated from time to time, and is uncontrolled once printed. It is the users responsibility to ensure they are using the most up to date version – this can be found at: www.sherwin-williams.com/protectiveEMEA.

If this datasheet has been translated, then it has been done using the English version as the source. In case of any queries, please refer to the master English version which can be found at: www.sherwin-williams.com/protectiveEMEA.