



DURA-PLATE® SW-501

EPOXY COATING FOR HYDRAULIC STEEL STRUCTURES

Revised 07/2023 Issue 1

PRODUCT DESCRIPTION

- A mechanically resistant 2-pack epoxy coating with 100% volume solids.
Solvent free according to Protective Coatings Directive of German Paint Industry Association (VdL-RL 04).
- Wide range of dry film thicknesses per coat from 200 - 1000 µm (nominal dry film thickness: 500 µm)
 - Tough, hard, abrasion and impact resistant
 - Solvent-free and tar-free
 - Suitable for cathodic protection systems
 - Norsok approved

RECOMMENDED USE

Can be used as a corrosion protection coating system for hydraulic steel structures (e.g. flood gates, steel sheet piles, etc.), where a mechanically resistant coating is required.

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:	Black, redbrown, approx. RAL 7032, approx. RAL 9002 Slight colour deviations are possible due to raw material characteristics. Dura-Plate SW-501 tends to chalking and yellowing if exposed to weathering. In case of higher requirements an additional Acrolon® topcoat is recommended.
Flash Point:	Base: > 101°C, Hardener: 114°C.
Cleaner/Thinner:	Cleaner 26 (for cleaning). Thoroughly clean tools and equipment immediately after use. Do not thin Dura-Plate® SW-501.
Pack Size:	A two component material supplied in separate containers to be mixed prior to use: 15 kg (10.7 litre) unit when mixed. Volume will vary with colours and density.
Mixing Ratio:	80 parts base to 20 parts hardener by weight. 2.5 parts base to 1 part hardener by volume.
Density:	1.4 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	500 µm	1000 µm
Wet	500 µm	1000 µm
Theoretical Consumption*	0.700 kg/m ² 0.500 l/m ²	
Theoretical Coverage*	1.43 m ² /kg 2.00 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
40 min	20 min

Pot life is dependent on temperature and volume.



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AVERAGE DRYING TIMES

For 500 µm Dry Film Thickness:

	+ 5°C	+ 23°C	+ 40°C	+ 80°C
Dry to handle (Drying Stage 6*)	48 hours	12 hours	3 hours	30 min
To Recoat	48 hours	12 hours	3 hours	30 min

*ISO 9117

Maximum recoat time is 3 months. Prior to further applications all contamination must be removed. In the case of extended recoating times consult Sherwin Williams customer service.

Final cure: 1 week at + 20°C, depending on film thickness and temperature. Material also cures under water.

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

APPROVALS & ENDORSEMENTS

- Tested and listed by the German Federal Waterways Engineering and Research Institute (BAW).
- Tested according to Norsok M-501, rev. 6, system no.7A and 7B.
- Tested and listed by RWE Power AG.

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.

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

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.

APPLICATION CONDITIONS

Substrate temperature shall be above 0°C and at least 3°C above the dew point.

Material temperature shall be above + 20°C.

Relative air humidity shall be below 85%.

The surface must be dry and free from ice.

Under unfavourable conditions, e.g. influence of high air humidity on the fresh coating, surface defects may occur. However, this will not effect the quality.

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 – 0.64 mm (0.019 – 0.025 inch)

Fan Angle: 40° - 80°

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)

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

- Possible on small areas or for stripe coatings
- We recommend to use Dura-Plate® Poicolor SW N for large areas



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RECOMMENDED SYSTEMS

Steel

1-2 x Dura-Plate® SW-501

In case of filigree constructions an additional application is recommended.

If necessary Zinc-Clad® R can be used as primer for steel, Macropoxy® EG-1 Plus can be used as primer for hot-dip galvanized or stainless steel.

ADDITIONAL NOTES

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

Epoxy Coatings - Tropical Use

Dura-Plate® SW-501 at the time of mixing should not exceed a temperature of 20°C - 30°C.

Chemical resistance:

Resistant to industrial and marine environments, fresh-, brackish- and salt water, neutral salts, mineral oil and heating oil, grease and oils, detergents etc.

Temperature resistance:

Dry heat up to approx. + 100°C.

Increased humid ambient temperature and warm water up to approx. + 40°C.

For significant differential of temperature gradient please 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.

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