

TANK AND PIPE LININGS

COMPREHENSIVE GUIDE
FOR PROTECTIVE COATINGS





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Whatever the challenge, Sherwin-Williams is committed to providing tailor made specifications to fulfil your project requirements. With our global supply chain and skilled technical service network, we ensure that your assets will remain protected.

Our global footprint allows us to supply our lining solutions anywhere in the world, helping protect your investment from corrosion. With operations in over 100 countries, we are ready for wherever your next project takes you.

We understand choosing a linings supplier is often a complex decision.

That's why Sherwin-Williams supply linings suitable for a wide variety of applications, including:

- Internal lining for process vessels and piping
- Internal lining of above and below ground storage tanks
- External lining of buried tanks, vessels and equipment

We also provide a range of linings suitable for use onto concrete surfaces which protect against chemical, abrasion and impact attack. Specialised systems are available for applications where concrete movement is expected.

SHERWIN-WILLIAMS TANK AND PIPE LININGS PRODUCT PORTFOLIO

Tank linings are designed to withstand chemical resistance, high temperature and high pressure (HTHP), and mechanical abrasion. Sherwin-Williams linings are typically used for the bulk storage of crude and refined petrochemicals – but also may be used in oil process vessels and other aggressive immersion services.

Dependent upon the product being stored, the requirements and features of the tank lining varies. Sherwin-Williams tank lining products protect the surface of the tank itself and ensures that contamination of the product being stored is avoided. These solutions combine exceptional anticorrosive performance with effective chemical resistance.

TRUSTED TRACK RECORD

Sherwin-Williams have expert teams located throughout Europe who provide the highest level of service in selecting, specifying and applying the linings systems.

Our tank lining coatings have been applied through 16,000,000 litres of paint covering the equivalent of more than 3,000 soccer pitches.

Product	Volume ltr (since 2007)	Approximate area m ²	Soccer pitches
Nova-Plate® UHS	3,500,000	5,000,000	670
Dura-Plate® UHS	6,000,000	8,000,000	1,070
Phenicon® HS	6,000,000	12,000,000	1,600
Nova-Plate® 325	500,000	700,000	100



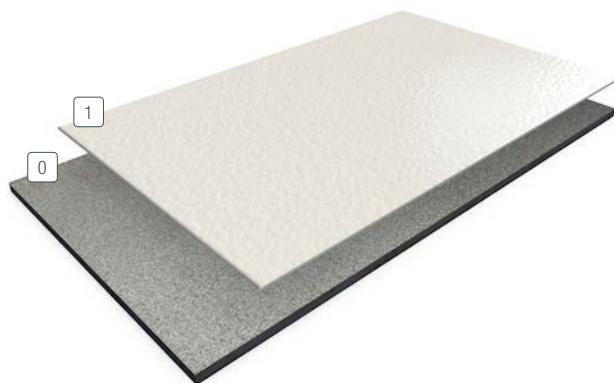
TANK AND PIPE LININGS

PRODUCT PORTFOLIO

Nova-Plate UHS

Versatile solvent-free epoxy novolac, focused on refineries and terminals

- 1 Lining:
Nova-Plate UHS @ 500µm dft
- 0 Carbon steel:
Blast clean to Sa2½
BS EN ISO 8501-1:2007



Key features	Coating system	Approvals	Typical use
<ul style="list-style-type: none"> Solvent-free novolac epoxy tank lining Chemical resistance Single coat application Robust and versatile to cope with crude, refined oil products Suitable for use under thermal insulation 	Typical specification: Grit blast Sa 2½ 1 x 500µm dft	<ul style="list-style-type: none"> Meets MIL-PRF-23236, Type VII, Class 5, 7, 13, 19, Grade C Norsok M501 System 7C (140°C) Exxon Mobil Shell DEP Oil tanking 	<ul style="list-style-type: none"> Refineries and terminals Crude Refined petrochemicals Ethanol Methanol

Dura-Plate UHS with Opti-Check Technology

High-performance, general-purpose solvent-free epoxy amine lining

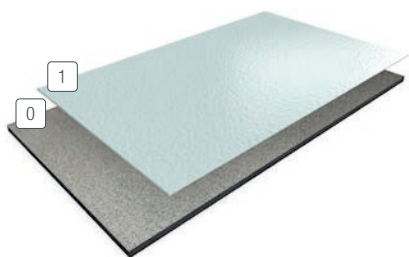
Option 1 without Opti-Check Technology

- 1 Lining:
Dura-Plate UHS @ 500µm dft
- 0 Carbon steel:
Blast clean to Sa2½
BS EN ISO 8501-1:2007



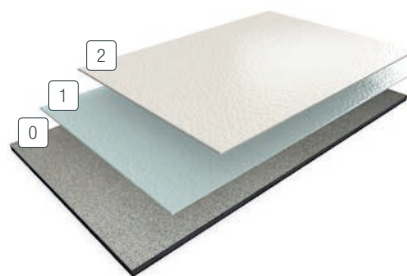
Option 2 with Opti-Check Technology

- 1 Lining:
Dura-Plate UHS direct mix with Opti-Check @ 500µm dft
- 0 Carbon steel:
Blast clean to Sa2½
BS EN ISO 8501-1:2007



Option 3 with Opti-Check Technology

- 2 Lining:
Dura-Plate UHS white @ 350-500µm dft
- 1 Lining:
Dura-Plate UHS primer with Opti-Check @ 150µm dft
- 0 Carbon steel:
Blast clean to Sa2½
BS EN ISO 8501-1:2007



Key features	Coating system	Approvals	Typical use
<ul style="list-style-type: none"> Fast curing to service in +/- 4 days Single-coat application Opti-Check™ Optically Activated Pigments (OAP) technology Enhanced edge retention properties Chemical and abrasion resistance Low odour, low VOC 	Typical specification: Grit blast Sa 2½ 1 x 500µm dft	<ul style="list-style-type: none"> Approvals: Meets MIL-PRF-23236, Type VII, Class 5, 7, 9 and 11, Grade C NSF approved to Standard 61 for potable water Complies with the performance requirements of EI Standard 1541 (2nd Edition) for aviation fuel storage and transport 	<ul style="list-style-type: none"> Refineries, terminals and pipelines, offshore Fuel tanks, nuclear industry Dedicated crude storage tanks and dedicated water ballast tanks Water and waste-water treatment plants and storage tanks

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PRODUCT PORTFOLIO

Phenicon HS with Opti-Check Technology

High-performance, high-solids epoxy novolac lining

- 2 Lining 2nd coat:
Phenicon HS white @ 125µm dft
- 1 Lining 1st coat:
Phenicon HS with Opti-Check @ 125µm dft
- 0 Carbon steel:
Blast clean to Sa2½
BS EN ISO 8501-1:2007



Key features	Coating system	Approvals	Typical use
<ul style="list-style-type: none"> Chemical resistance and cargo versatility Ease of application using standard airless spray equipment Cost effective Low-temperature curing agent available 	Typical specification: Grit blast Sa 2½ 2 x 125µm dft	Contact Sherwin-Williams for specific approvals	<ul style="list-style-type: none"> Crude Refined EtOH

Magnalux 41V2

High-performance novolac glass-flake vinyl ester

- 2 Lining 2nd coat:
Magnalux 41V2 @ 500µm dft
- 1 Lining 1st coat:
Magnalux 41V2 @ 500µm dft
- 0 Carbon steel:
Blast clean to Sa2½
BS EN ISO 8501-1:2007



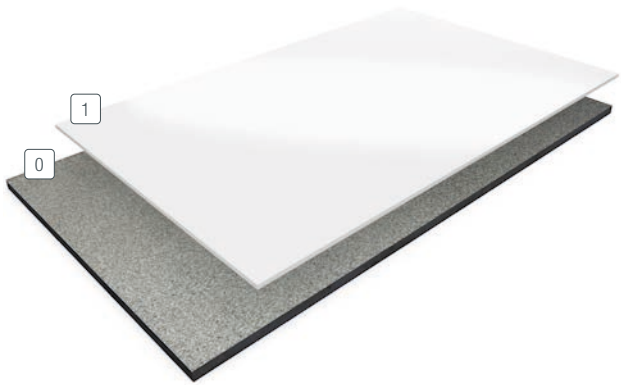
Key features	Coating system	Approvals	Typical use
Exceptional protection against: <ul style="list-style-type: none"> Aggressive chemicals Abrasion Elevated temperatures 	Typical specification: Grit blast Sa 2½ 2 x 500µm dft	Contact Sherwin-Williams for specific approvals	<ul style="list-style-type: none"> Storage of acidic materials, secondary containment and process vessels

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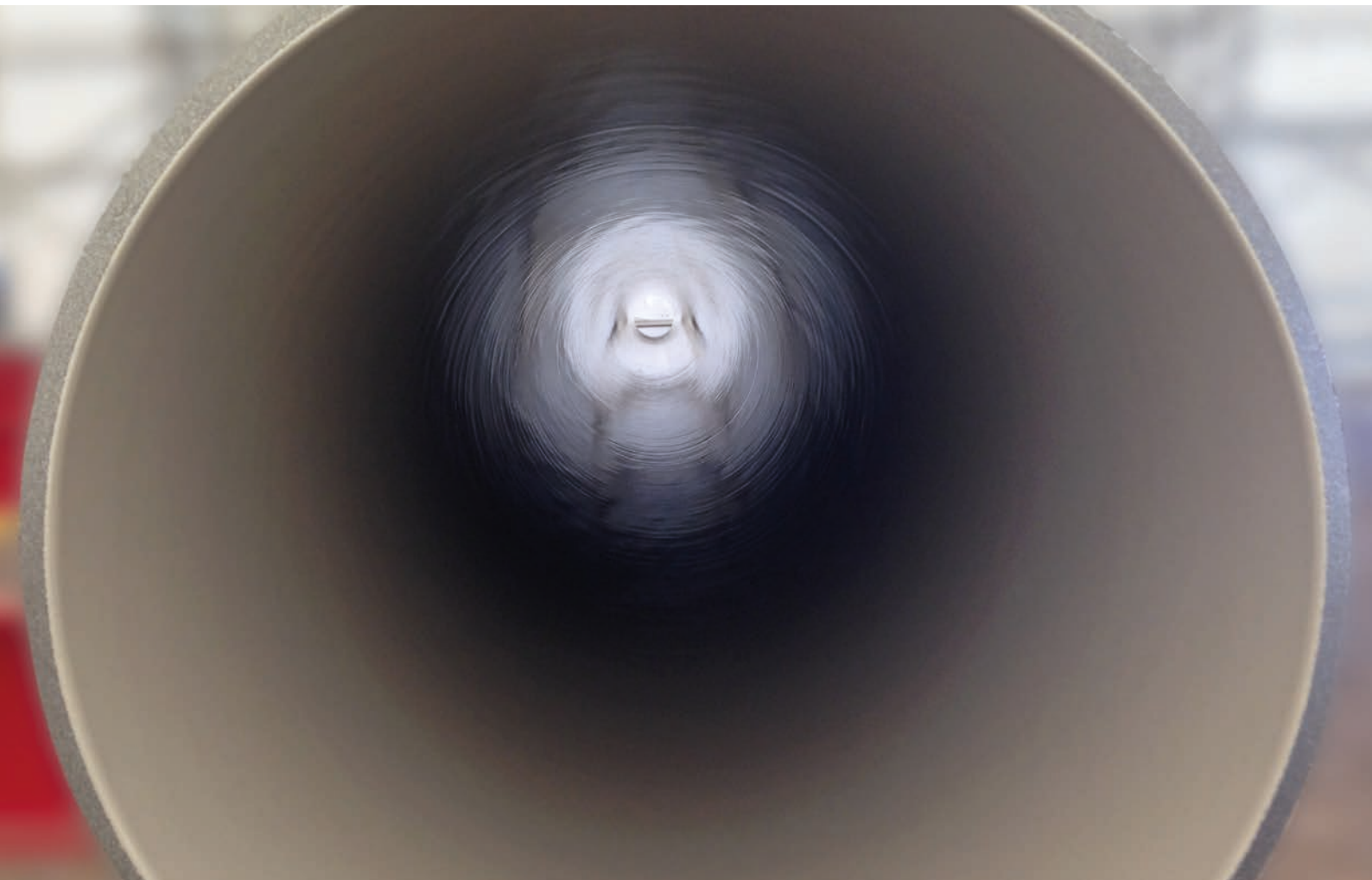
PRODUCT PORTFOLIO

Nova-Plate 325
High-temperature, high-pressure lining
for crude oil storage and processing

- 1 Lining:
Nova-Plate 325 @ 500µm dft
- 0 Carbon steel:
Blast clean to Sa2½
BS EN ISO 8501-1:2007



Key features	Coating system	Approvals	Typical use
<ul style="list-style-type: none"> • High-temperature, high-pressure tank lining (HTHP) • Extends service life • Single-coat application • Saves on downtime • Novolac technology • Can be used as both a high pressure tank and pipe lining 	Typical specification: Grit blast Sa 2½ 1 x 500µm dft	<ul style="list-style-type: none"> • Norsok M501 System 7C (180°C) • Shell DEP 	<ul style="list-style-type: none"> • Oil storage tanks up to 149°C • Secondary containment • Cathodic protection systems • Ethanol storage tanks • Tanks and vessels • Piping and valves



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PRODUCT PORTFOLIO

Opti-Check Technology with Optically Activated Pigments (OAP)

Using a fluorescing pigmentation that illuminates the coating for instant verification under ultraviolet light, allowing our linings to be inspected during application to efficiently identify and resolve missed areas. This helps create a continuous film and a high-quality finish with minimal downtime.

Opti-Check is available in a variety of tank lining products, allowing applicators to check the coating instantly for:

- Pinholes and holidays
- Uniform coverage
- Correct film thickness

The fluorescing technology significantly extends the service life of tank linings by illuminating the coating during application by using a portable ASTM E2501 approved light source.

Benefits

- Makes defects easy to identify allowing for faster and more thorough inspection
- Saves time and improves productivity of coating inspection
- Extends service life of coating by ensuring correct film thickness is achieved
- Helps correct application

Features

- Uses eye-safe appropriate UV light
- Quickly highlights defects, holidays and pinholes
- Highlights low film thicknesses during application
- Can be used to “verify” stripe coating

How it works



Pinholes are difficult to see under white light inspection.



Pinholes are easy to identify under UV light inspection. No flashlight glare.

Size and number of pinholes/holidays have been exaggerated for illustration purposes.

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THE SHERWIN-WILLIAMS DIFFERENCE

Sherwin-Williams Protective & Marine delivers world-class industry subject matter expertise, unparalleled technical and specification service, and unmatched regional commercial team support to our customers around the globe. Our broad portfolio of high-performance coatings and systems that excel at combating corrosion helps customers achieve smarter, time-tested asset protection. We serve a wide array of markets across our rapidly growing international distribution footprint, including oil and gas, water and wastewater, bridge and highway, steel fabrication, flooring, food and beverage, rail and power, marine and passive fire protection.

SHERWIN-WILLIAMS®

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