Ceilcote® 652 lining

Vinyl Ester

PRODUCT DESCRIPTION

Ceilcote 652 lining is a trowel applied heavy duty lining that protects steel and concrete in immersion service from strong chemicals. The lining is formulated from novolac vinyl ester resin, inerts fillers and fibreglass reinforcement.

It is a chemical resistant lining for most dilute inorganic acids and come concentrated acids such as hydrochloric and phosphoric.

INTENDED USES

Ceilcote 652 lining is typically used to provide a seamless durable lining to tanks and trenches,where additional chemical resistance is required.

Its excellent chemical resistance also makes it suitable for secondary containment.

PRACTICAL INFORMATION FOR CEILCOTE 652 LINING

Color
Gray

Gloss Level
Not applicable

Volume Solids
100% reactive

Typical Thickness

Basecoat:(Resin+Powder)
A single layer at 60 mils (1500microns) dry equivalent to 71 mils (1765microns) wet, with a theoretical coverage of 55 sq.ft/US gallon (1.27 sq.m/litre)
Laminate (Resin saturated reinforced mat):
Two layers at 32 mils (800microns) per layer with a theoretical coverage of 50 sq.ft/US gallon (1.34 sq.m/litre) per layer. A Surface veil is pressed into surplus resin.
Topcoat:(Resin only)
Two layers at 6 mils (150microns) dry equivalent to 7mils (176microns) wet, with a theoretical coverage of 200 sq.ft/US gallon (5 sq.m/litre) per layer.

Practical Coverage
23 sq.ft/US gallon at 60 mils d.f.t and 85% volume solids
0.60 m²/litre at 1500 microns d.f.t and 85% volume solids
(see Page 3 Product Characteristics)

Method of Application
Trowel, Brush, Roller

Drying Time

			Overcoating Interval with recommended topcoats	
Temperature	**Touch Dry**	**Hard Dry**	*Minimum*	*Maximum*
50°F (10°C)	60 minutes	7 hours	12 hours	7 days[1]
59°F (15°C)	45 minutes	6 hours	8 hours	7 days[1]
77°F (25°C)	45 minutes	3 hours	4 hours	7 days[1]
95°F (35°C)	30 minutes	2 hours	3 hours	7 days[1]

[1] When surface temperatures exceed 95ºF (35ºC) or are exposed to direct sunlight, overcoating should take place as soon as the coating may be walked on, in order to avoid intercoat adhesion issues.

REGULATORY DATA

Flash Point (Typical) Part A 93°F (34°C)

Product Weight 8.7 lb/gal (1.04 kg/l)

VOC 1.76 lb/gal (212 g/lt) EPA Method 24

66 g/kg EU Solvent Emissions Directive (Council Directive 2010/75/EC)

Coating hazard marker GB 30981.2-S-Pb≤1000-NC Qualified for GB 30981.2-2025

See Product Characteristics section for further details

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SURFACE PREPARATION

All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application, all steel surfaces should be assessed and treated in accordance with ISO 8504:2000.

Oil or grease should be removed in accordance with SSPC-SP1 Solvent Cleaning.

Steel Substrates

For immersion service or service in humid conditions or elevated temperatures, this product should be applied to surfaces which have been prepared by abrasive blast cleaning to Sa3 (ISO 8501-1:2007), SSPC SP5 or NACE #1. For dry environments, abrasive blast cleaning to Sa2½ (ISO 8501-1:2007), SSPC SP10 or NACE #2 will be suitable. A minimum surface profile of 3 mils (75 microns) is required.

Concrete Substrates

Concrete should be well cured prior to priming with the appropriate primer. The concrete surface should be dry and pass the plastic sheet test (ASTM D4263). All surfaces should be clean, dry and free from curing compounds, release agents, trowelling compounds, surface hardeners, efflorescence, grease, oil, dirt, old coatings and loose or disintegrating concrete. All concrete surfaces must also be abrasive blast cleaned to provide a roughened surface and remove laitance. The surface tensile strength (ASTM 4541) as prepared should be at least 300 psi (2MPa). Refer to the Concrete Surface Preparation Guidelines for more information.

APPLICATION

Mixing

Ceilcote 652 lining must always be mixed and applied in accordance with the detailed Application Guidelines for the subsequent system.
The resin component of this material is supplied in two containers as a unit. Always mix a complete unit in the proportions supplied. Once the material has been mixed it must be used within the working pot life specified.

(1) Agitate Part A, then combine the entire contents of Part A and Part B and mix thoroughly with a power agitator.
(2) Part C, the powder component, should be slowly added to the thoroughly mixed Part A and Part B whilst stirring with a power agitator. See Product Characteristics Section for details of quantities required.

Mix Ratio

1 gallon Part A : 2½oz Part B (1 litre Part A : 20ml Part B)

Working Pot Life

50°F (10°C)	59°F (15°C)	77°F (25°C)	95°F (35°C)
60 minutes	50 minutes	30 minutes	15 minutes

Airless Spray

Not suitable

Brush

Recommended — Use for application of resin saturant and smoothing liquid

Roller

Recommended — Use for application of resin saturant and smoothing liquid

Trowel

Recommended — Use for application of basecoat

Thinner

DO NOT THIN

Cleaner

Ceilcote T-410 Solvent (or MEK)

Work Stoppages

Once units of paint have been mixed they should not be resealed and it is advised that after prolonged stoppages work recommences with freshly mixed units.

Clean Up

Clean all equipment immediately after use with T-410 Solvent.

All surplus materials and empty containers should be disposed of in accordance with appropriate regional regulations/legislation.

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PRODUCT CHARACTERISTICS

The detailed Application Guidelines for the relevant Ceilcote system should always be consulted prior to use.

The exact specification with regards to dry film thickness and number of coats will be provided by International Protective Coatings prior to application start up.

Although Ceilcote 652 lining is 100% reactive, depending on the application conditions, the practical volume solids may be lower. International Protective Coatings suggest a value of 85% for estimating spreading rates, dry thickness and coverage.

Surface temperature must always be a minimum of 5°F (3°C) above dew point. Ensure adequate ventilation is provided throughout application and curing. Dehumidification (DH) air conditioning and/or heating equipment may be necessary to control environmental conditions.

For all application steps, the surface temperature, air temperature and material temperature should be between 50ºF (10ºC) and 110ºF (43ºC)

Powder Grades
The required grade and quantity of powder per gallon (and litre) of mixed resin is as follows:

S-1 Powder 22-26lb/gal (2.6-3.1kg/l). Powder is added to both basecoat only.

Application
1. Using a trowel, apply 40-80 mils (1000-2000 microns) of basecoat (target 60 mils, 1500 microns).
2. Apply the mat reinforcement by pressing into into the basecoat, leaving no wrinkles or hollows and apply resin saturant until the reinforcement is translucent.
3. Apply a 2nd layer of mat reinforcement in the same way as per step 2.
4. Apply a surface veil into the surplus resin from steps 2 and 3. Allow to cure.
5. Apply two layers of topcoat at 6mils (150microns) per layer. (The use of a thin film curing aid may be required for the 2nd coat)

Where the overcoating interval is exceeded, confirm recoatability by wiping with styrene monomer. If the surface becomes 'tacky', adhesion is acceptable. If not softened by styrene, the surface must be sweep blasted or mechanically abraded to provide a non-glossy, abraded surface. Primed surface must be dry and free of foreign matter at time of lining, coating or flooring application.

Following correct installation, Ceilcote 652 lining may be returned to service after the following intervals:

50ºF (10ºC): 48 hours
70ºF (20ºC): 24 hours
90ºF (35ºC): 16 hours

Ceilcote 652 lining is not intended to be used as a cosmetic finish and color stability will not be achievable.

Note: VOC values are typical and are provided for guidance purpose only. These may be subject to variation depending on factors such as differences in color and normal manufacturing tolerances.

Low molecular weight reactive additives, which will form part of the film during normal ambient cure conditions, will also affect VOC values determined using EPA Method 24.

SYSTEMS COMPATIBILITY

Ceilcote 652 lining should always be applied over correctly prepared primed substrates. Suitable primers are:

Ceilcote 380 Primer

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ADDITIONAL INFORMATION

Further information regarding industry standards, terms and abbreviations used in this data sheet can be found in the following documents available at www.international-pc.com:

- Definitions & Abbreviations
- Surface Preparation
- Paint Application
- Theoretical & Practical Coverage

Individual copies of these information sections are available upon request.

SAFETY PRECAUTIONS

This product is intended for use only by professional applicators in industrial situations.
All work involving the application and use of this product should be performed in compliance with all relevant national Health, Safety and Environmental standards, regulations and legislation.

Proper ventilation must be provided during application and afterwards during drying (Refer to product datasheets for typical drying times) to keep solvent concentrations within safe limits and prevent fires and explosions. Forced extraction will be required in confined spaces. Ventilation and/or respiratory personal protective equipment (airfed hoods or appropriate cartridge masks) must be provided during application and drying. Take precautions to avoid skin and eye contact (overalls, gloves, goggles, masks, barrier cream, etc).

Before use, obtain, read and then follow the advice given on the Material Safety Data Sheets (Base and Curing Agent if two-pack) and the Health and Safety section of the Coatings Applications Procedures for this product.

In the event that welding or flame cutting is performed on metal coated with this product, dust and fumes will be emitted which will require the use of appropriate personal protective equipment and adequate local exhaust ventilation.

The detailed safety measures are dependent on application methods and the work environment. If you do not fully understand these warnings and instructions or if you cannot strictly comply with them, do not use the product and consult International Protective Coatings.

PACK SIZE

Unit Size	Part A		Part B	
	Vol	Pack	Vol	Pack
15 liter	14.71 liter	20 liter	0.29 liter	0.7 liter
5 US gal	5 US gal	5 US gal	12.5 fl oz	1 US pint

For availability of other pack sizes, contact AkzoNobel.

SHIPPING WEIGHT (TYPICAL)

Unit Size	Part A	Part B
15 liter	17.06 kg	0.39 kg
5 US gal	47.8 lb	1 lb

Powder component is typically supplied in 50lb or 20kg units depending upon supply location. Contact International Protective Coatings for further details.

STORAGE

Shelf Life	6 months at 68ºF (20°C). Subject to re-inspection thereafter. Store in dry, shaded conditions away from sources of heat and ignition. During storage and shipment, Ceilcote 652 lining initiator must not be exposed to temperatures exceeding 30°C (90° F). Refrigeration recommended. Best practice would be to hold Parts A and B in separate stores.

Disclaimer

The information in this data sheet is not intended to be exhaustive; any person using the product for any purpose other than that specifically recommended in this data sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at their own risk. All advice given or statements made about the product (whether in this data sheet or otherwise) is correct to the best of our knowledge but we have no control over the quality or the condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing to do so, we do not accept any liability at all for the performance of the product or for (subject to the maximum extent permitted by law) any loss or damage arising out of the use of the product. We hereby disclaim any warranties or representations, express or implied, by operation of law or otherwise, including, without limitation, any implied warranty of merchantability or fitness for a particular purpose. All products supplied and technical advice given are subject to our Conditions of Sale. You should request a copy of this document and review it carefully. The information contained in this data sheet is liable to modification from time to time in the light of experience and our policy of continuous development. It is the user's responsibility to check with their local representative that this data sheet is current prior to using the product.

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