

High Temperature Silicone

PRODUCT DESCRIPTION

A single component, high temperature coating, based on a moisture curing silicone binder.

The moisture curing crosslinking mechanism allows multiple coats to be applied without heat curing. Suitable for temperatures up to 540°C (1004°F).

INTENDED USES

For the protection of steel from corrosion on areas including flare stacks, chimneys, exhausts, vents and pipework, at temperatures up to 540°C (1004°F).

Where maximum corrosion protection is required, application should be over a zinc silicate primer (e.g. Interzinc 22).

PRACTICAL INFORMATION FOR INTERTHERM 50

Colour	Aluminium, Black
Gloss Level	Not applicable
Volume Solids	45%
Typical Thickness	25 microns (1 mils) dry equivalent to 56 microns (2.2 mils) wet
Theoretical Coverage	18 m ² /litre at 25 microns d.f.t and stated volume solids 722 sq.ft/US gallon at 1 mils d.f.t and stated volume solids
Practical Coverage	Allow appropriate loss factors
Method of Application	Air Spray, Brush, Roller
Drying Time	

Temperature	Touch Dry	Hard Dry	Overcoating Interval with recommended topcoats	
			Minimum	Maximum
5°C (41°F)	90 minutes	5 hours	24 hours	Extended ¹
15°C (59°F)	60 minutes	3 hours	16 hours	Extended ¹
25°C (77°F)	30 minutes	2 hours	12 hours	Extended ¹
40°C (104°F)	15 minutes	1 hour	6 hours	Extended ¹

¹ See International Protective Coatings Definitions and Abbreviations

REGULATORY DATA

Flash Point (Typical)	25°C (77°F)		
Product Weight	1.13 kg/l (9.4 lb/gal)		
VOC	4.13 lb/gal (495 g/l) 509 g/kg	EPA Method 24 EU Solvent Emissions Directive (Council Directive 2010/75/EU)	
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 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.

Abrasive Blast Cleaning

Abrasive blast clean to Sa2½ (ISO 8501-1:2007) or SSPC-SP6. If oxidation has occurred between blasting and application of Intertherm 50, the surface should be reblasted to the specified visual standard.

Surface defects revealed by the blast cleaning process should be ground, filled, or treated in the appropriate manner.

A surface profile of 25-50 microns (1-2 mils) is recommended.

Hand or Power Tool Preparation

Any coatings present on the surface must be removed prior to the application of Intertherm 50.

Hand or power tool clean to a minimum St3 (ISO 8501-1:2007) or SSPC-SP3.

Note, all scale must be removed and areas which cannot be prepared adequately by chipping or needle gun should be spot blasted to a minimum standard of Sa2½ (ISO 8501-1:2007) or SSPC-SP6. Typically this would apply to C or D grade rusting in this standard.

Primed Surfaces

Intertherm 50 is suitable for application to unweathered steelwork freshly coated with zinc silicate shop primers.

If the zinc shop primer shows extensive or widely scattered breakdown, or excessive zinc corrosion products, overall sweep blasting will be necessary. Other types of shop primer are not suitable for overcoating and will require complete removal by abrasive blast cleaning.

Weld seams and damaged areas should be blast cleaned to Sa2½ (ISO 8501-1:2007) or SSPC-SP6.

Aluminium Metal Spray

Metal sprayed surfaces should be fresh, clean and free from moisture or surface contamination.

APPLICATION

Mixing	This material is a one component coating and should always be mixed thoroughly with a power agitator before application.	
Mix Ratio	Not applicable	
Airless Spray	Not recommended	
Air Spray (Pressure Pot)	Recommended	Gun DeVilbiss MBC or JGA Air Cap 704 or 765 Fluid Tip E
Air Spray (Conventional)	Recommended	Use suitable proprietary equipment
Brush	Suitable - small areas only	Typically 15-20 microns (0.6-0.8 mils) can be achieved
Roller	Suitable - small areas only	Typically 15-20 microns (0.6-0.8 mils) can be achieved
Thinner	International GTA007	Do not thin more than allowed by local environmental legislation
Cleaner	International GTA007	Choice of cleaner maybe subject to local legislation. Please consult your local representative for specific advice.
Work Stoppages	Do not allow material to remain in hoses, gun or spray equipment. Thoroughly flush all equipment with International GTA007. Partially filled containers may show surface skinning and/or a viscosity increase of the material after storage.	
Clean Up	Clean all equipment immediately after use with International GTA007. It is good working practice to periodically flush out spray equipment during the course of the working day. Frequency of cleaning will depend upon amount sprayed, temperature and elapsed time, including any delays.	
	All surplus materials and empty containers should be disposed of in accordance with appropriate regional regulations/legislation.	

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PRODUCT CHARACTERISTICS

Intertherm 50 is moisture curing, and does not evolve water vapour during the heat curing mechanism as with standard silicones. Application at thicknesses of 25 microns (1 mil) are therefore possible rather than normal thicknesses of 15 microns (0.6 mil).

Maximum thickness which can be applied in a single coat without subsequent blistering on heating is 40 microns (1.6 mil).

Up to 3 coats at a maximum of 25 microns (1 mil) per coat can be applied without the requirement of heating between coats. This provides maximum corrosion protection when it is not possible to use a zinc silicate priming system.

Intertherm 50 is available in an aluminium or black version. It is recommended that the aluminium version is always used where possible due to its superior performance. The black version should only be used for specialist applications / requirements. For further information contact International Protective Coatings.

Intertherm 50 Aluminium version is suitable for the protection of abrasive blast cleaned steel operating at continuous dry temperatures up to 540°C (1004°F). However, the maximum service temperature over hand prepared substrates is 400°C (752°F).

Intertherm 50 Black version is suitable for the protection of abrasive blast cleaned steel operating at continuous dry temperatures up to 400°C (752°F). However, the maximum service temperature over hand prepared substrates is 300°C (572°F).

When using in high heat service over inorganic zinc primer, the products should be applied in strict accordance with film thickness specifications, since application of excessive thicknesses may cause blistering. Determine that the inorganic zinc primer is thoroughly cured prior to application of the high heat coating by following the curing instructions given on the relevant product data sheet.

When using a zinc silicate primer to obtain maximum corrosion resistance the recommended thickness of zinc silicate is 50 microns (2 mils) dry film thickness to ensure maximum surface strength for any subsequent temperature cycling and to avoid flaking of topcoats.

It is preferable to overcoat zinc silicate before weathering but in cases where this is not possible then the zinc silicate surface should be clean and free of zinc corrosion products.

In corrosive environments, the use of Intertherm 50 Black directly over zinc silicate primer can lead to a marked colour change from black to grey due to the 'salting' of the underlying primer. This colour change can be significantly reduced by first sealing the zinc silicate primer with a single coat of Intertherm 50 Aluminium prior to the application of Intertherm 50 Black. The maximum dry temperature resistance of this system is 400°C (752°F).

Intertherm 50 is not suitable for exposure in acid or alkaline environments.

Intertherm 50 Aluminium version has the following specification approvals:

- BS5493 (1977) : CP7
- Shell Specification DEP 40.48.00.30 Gen. Chapter VI (h)

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 colour 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

This specialist coating is only compatible with a very limited number of products. Suitable primers are:

Interzinc 22
Interzinc 2280

Suitable topcoats are:

Intertherm 50

For other suitable primers, consult International Protective Coatings.

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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 in accordance with the advice given on this sheet, the Safety Data Sheet and the container(s), and should not be used without reference to the Safety Data Sheet (SDS).

All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

In the event 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.

If in doubt regarding the suitability of use of this product, consult AkzoNobel for further advice.

PACK SIZE	Unit Size		
		Vol	Pack
	10 litre	6 litre	10 litre
	5 US gal	5 US gal	5 US gal

For availability of other pack sizes, contact AkzoNobel.

SHIPPING WEIGHT (TYPICAL)	Unit Size	
	10 litre	8.2 kg
	5 US gal	50.5 lb

STORAGE	Shelf Life	
		12 months minimum at 25°C (77°F). Subject to re-inspection thereafter. Store in dry, shaded conditions away from sources of heat and ignition.

Important Note

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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