

Intertherm 50

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 mil) dry equivalent to 56 microns (2.2 mils) wet
Theoretical Coverage 18.0 m²/litre at 25 microns d.f.t and stated volume solids
 722 sq.ft/US gallon at 1 mil 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	
			<i>Minimum</i>	<i>Maximum</i>
5°C (41°F)	90 minutes	5 hours	24 hours	Extended*
15°C (59°F)	60 minutes	3 hours	16 hours	Extended*
25°C (77°F)	30 minutes	2 hours	12 hours	Extended*
40°C (104°F)	15 minutes	1 hour	6 hours	Extended*

* See International Protective Coatings Definitions & Abbreviations

Regulatory Data

Flash Point 25°C (77°F)
Product Weight 1.13 kg/l (9.43 lb/gal)
VOC 490 g/l UK - PG6/23(92), Appendix 3
 4.12 lb/gal (495 g/l) USA - EPA Method 24

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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 8504:1992. Oil or grease should be removed in accordance with SSPC-SP1 solvent cleaning.

Abrasive Blast Cleaning

Abrasive blast clean to a minimum of Sa2½ (ISO 8501-1:1988) 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 8501-1:1988) 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 8501-1:1988) 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 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 8501-1:1988) 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		
Working Pot Life	Not applicable		
Airless Spray	Not recommended		
Air Spray (Pressure Pot)	Recommended	Gun Air Cap Fluid Tip	DeVilbiss MBC or JGA 704 or 765 E
Air Spray (Conventional)	Recommended	Use suitable proprietary equipment	
Brush	Suitable Small areas	Typically 15-20 microns (0.6-0.8 mils) can be achieved	
Roller	Suitable Small areas	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		
Work Stoppages	Do not allow material to remain in hoses, gun or spray equipment. Thoroughly flush all equipment with International GTA007. 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 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 high heat coatings 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)

Systems Compatibility

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

Interzinc 12
Interzinc 22

Suitable topcoat is:

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 sections of the International Protective Coatings data manual:

- 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 Material Safety Data Sheet and the container(s), and should not be used without reference to the Material Safety Data Sheet (MSDS) which International Protective Coatings has provided to its customers.

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 International Protective Coatings for further advice.

Pack Size	5 litre unit	Intertherm 50	5 litres in a 5 litre container
	5 gallon unit	Intertherm 50	5 gallons in a 5 gallon container
For availability of other pack sizes contact International Protective Coatings			
Shipping Weight	U.N. Shipping No. 1263		
	5 litre unit	6.2 kg	(13.6 lb)
	5 gallon unit	22.9 kg	(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.		

Disclaimer

The information given in this sheet is not intended to be exhaustive and any person using the product for any purpose other than that specifically recommended in this sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. Any warranty, if given, or specific Terms & Conditions of Sale are contained in International's Terms & Conditions of Sale, a copy of which can be obtained on request. Whilst we endeavour to ensure that all advice we give about the product (whether in this sheet or otherwise) is correct we have no control over either the quality or 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 whatsoever or howsoever arising for the performance of the product or for any loss or damage (other than death or personal injury resulting from our negligence) arising out of the use of the product. The information contained in this sheet is liable to modification from time to time in the light of experience and our policy of continuous product development.

It is the user's responsibility to check that this sheet is current prior to using the product. Issue date: 07/07/2002

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International Protective Coatings

Worldwide Availability

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