Intertherm® 7050

Syntactic Insulation

PRODUCT DESCRIPTION

Intertherm 7050 is a high performance thermal insulation system based on a solvent free, 100% solids, epoxy syntactic foam.

Designed to provide both thermal insulation and corrosion protection in its own right and also when used as part of the Chartek fireproofing system.

Suitable for use at continuous operating temperatures from -40°C (-40°F) up to +120°C (+248°F).

Application techniques include spray, trowel and moulding/casting.

Intertherm 7050 is impervious to moisture and is extremely resilient to damage and chemical spills.

INTENDED USES

Thermal Insulation: To provide thermal insulation of pipes, ductwork, vessels and equipment operating at temperatures between -40°C (-40°F) and +120°C (+248°F) for either heat conservation or personnel protection.

Fire Protection: Intertherm 7050 may also be used as an underlayment or overlayment for International Protective Coatings' Chartek fireproofing systems, allowing Chartek's use on substrates operating between 80° C (176°F) and 120°C (248°F) or to provide protection to Chartek from external heat sources.

Preventing Corrosion Under Insulation: In addition to its insulation properties, Intertherm 7050 provides excellent long term corrosion protection thereby removing corrosion under insulation (CUI) concerns associated with traditional insulation systems. Requiring no external cladding, its high compressive and impact strength provides tremendous durability, eliminating the problem of damage to insulation from foot traffic and accidental loads.

Thermal Shock Protection: Tested and proven in cryogenic spills to prevent the effects of low temperature embrittlement of steel or thermal shock cracking/spalling of concrete. When used with Chartek fireproofing systems Intertherm 7050 can be used to provide combined thermal shock and fire protection from incidents such as spills and ruptures at LNG processing and storage facilities.

Not to be used in areas where only 'non-combustible' materials are permitted.

PRACTICAL INFORMATION FOR INTERTHERM 7050

Colour	Pale pink when mixed (Part A - Pink; Part B - White)
Gloss Level	Not applicable
Volume Solids	100%
Typical Thickness	Dependent on insulation and anti-corrosive requirements. Typically 5 - 50 mm (0.2 - 2.0 inches)
Density	Nominal: 0.57g/cm^3 (36 lb/cu.ft.) Note: Final density depends on method of application and may vary. Typically, spray density will be up to 7% above nominal
Method of Application	Trowel, Hot Twin Feed Airless Spray

Drying Time

			Overcoating interval with self	
Temperature	**Touch Dry**	**Hard Dry**	*Minimum*	*Maximum*
10°C (50°F)	4 hours	30 hours	4 hours	48 hours
15°C (59°F)	2 hours	12 hours	2 hours	48 hours
25°C (77°F)	1 hour	6 hours	2 hours	48 hours
40°C (104°F)	1 hour	4 hours	1 hour	24 hours

Dry times determined at 25 mm (1.0 inch) dry film thickness. For extended overcoating intervals please consult International Protective Coatings.

REGULATORY DATA

Flash Point (Typical) Part A >106°C (223°F); Part B >106°C (223°F); Mixed >106°C (223°F)

VOC	0.00 lb/gal (0 g/lt) 0 g/kg	EPA Method 24 EU Solvent Emissions Directive (Council Directive 2010/75/EU)

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

See Product Characteristics section for further details

Syntactic Insulation

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 8504:2019.

Abrasive Blast Cleaning
Abrasive blast cleaning to Sa2½ (ISO 8501-1:2007) or SSPC-SP10 is the preferred method of surface preparation, however commercial blast cleaning to Sa2 (ISO 8501-1:2007) or SSPC-SP6 is acceptable when a suitable primer is used. Intertherm 7050 may be applied directly to the blast cleaned substrate or over an approved anti-corrosive primer. If oxidation has occurred between blasting and application of primer or Intertherm 7050, 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 sharp, angular surface profile of 50-75 microns (2-3 mils) is recommended.

Primed Surfaces
Intertherm 7050 can be applied over approved anti-corrosive primers. The primer surface should be dry and free from all contamination and Intertherm 7050 must be applied within the overcoating intervals specified (consult the relevant product data sheet).

Areas of breakdown, damage etc., should be prepared to the specified standard (e.g. Sa2½ (ISO 8501-1:2007) or SSPC-SP10 Abrasive Blasting, or SSPC-SP11, Power Tool Cleaning) and patch primed prior to the application of Intertherm 7050

For surfaces abrasive blast cleaned to Sa2½ (ISO 8501-1:2007) or SSPC-SP10, the preferred primer for high temperature service is Intertherm 228 applied at a dry film thickness of 75-100 microns (3-4 mils).

For surfaces abrasive blast cleaned to Sa2 (ISO 8501-1:2007) or SSPC-SP6 or power tool cleaned to SSPC-SP11, the preferred primer for high temperature service is Interplus 256 applied to a dry film thickness of 150-200 microns (6-8 mils).

APPLICATION

Mixing

Hand Application
Individual components must be stored at 21-32°C (70-90°F) for 24 hours prior to mixing.
Material is supplied in two containers as a unit. Always mix a complete unit in the proportions supplied. Once the unit has been mixed it must be used within the working pot life specified.

(1) Agitate Base (Part A) with a power agitator.
(2) Agitate Curing Agent (Part B) with a power agitator.
(3) Combine entire contents of Curing Agent (Part B) with Base (Part A) and mix thoroughly with power agitator.

Plural Component Spray Application
Consult Intertherm 7050 Application Manual

Mix Ratio
Always mix full units.

Working Pot Life

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

Plural Component Airless Spray
Recommended
Consult Intertherm 7050 Application Manual

Trowel
Recommended
Application is carried out using standard plastering techniques.
The first coat should be hand trowelled to 3-6 mm (⅛-¼ inch) thickness to ensure full wetting of the substrate.
The final surface should be rollered to remove trowel marks and high spots and achieve a uniform thickness.
Use short nap rollers dampened with International GTA123.
When the required total film thickness cannot be reached in one shift, the Intertherm 7050 surface should be scratched to provide a key for subsequent coats.

Thinner
DO NOT THIN

Cleaner
International GTA822

Work Stoppages
Do not allow material to remain in hoses, gun or spray equipment. Thoroughly flush all equipment with International GTA822. 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 GTA822. It is good working practice to periodically clean equipment during the course of the working day. Frequency of cleaning will depend upon amount used, temperature and elapsed time, including any delays.

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

PRODUCT CHARACTERISTICS

The following conditions shall apply (or be generated) throughout the application:

Minimum Air Temperature	10°C (50°F) - Recommended
Maximum Humidity	85 %
Surface Temperature	A minimum of 3°C (5°F) above dew point of surrounding air.

General

All surfaces to be coated should be clean and dry at all times. Intertherm 7050 may be applied when the surrounding air temperature is at a minimum of 5°C (41°F) as long as the surface temperature is at least 3°C (5° F) above the dew point temperature.
In these conditions curing will be extended and there is the possibility of amine bloom forming on the Intertherm 7050 surface that may adversely affect the adhesion of subsequent coatings. If an amine bloom is formed, it should be removed by solvent wipe.

Application

Application by moulding or casting is also recommended for Intertherm 7050. It may be dispensed into moulds, e.g. pipe half shells, using modified plural component application equipment. Please consult the Intertherm 7050 Application Manual for further information.
Maximum film build in one coat is best attained by plural component airless spray. When applying by trowel or other methods, it may be necessary to apply multiple coats to achieve the total specified system dry film thickness.
Where high thicknesses are to be applied (typically over 40-50 mm (1.6-2.0 inches) depending on environmental conditions) the coating should be applied in two stages, allowing the first stage to cure before the second is applied. This is to prevent excessive heat building up due to the exothermic reaction that occurs during cure. For further advice please contact International Protective Coatings.

Equipment

Only equipment qualified by AkzoNobel shall be used as detailed in the Intertherm 7050 Application Guidelines and by the AkzoNobel Technical Service Representative.

Alternative Surface Preparation

International Protective Coatings' procedures are also developed and available under certain project specific circumstances for wet blasting, needle gunning and ultra high pressure water blasting - Seek specific advice from International Protective Coatings.

Operating Notes

The maximum operating temperature for Intertherm 7050 is 120°C (248°F).
In common with all epoxies, Intertherm 7050 will chalk and discolour on exterior exposure. However, these phenomena are not detrimental to anti-corrosive or insulation performance.
Where a durable cosmetic finish or reduced surface spread of flame is required, overcoat with recommended topcoats.

Epoxy Wrap System

For severe service conditions requiring a more durable outer layer over the Intertherm 7050, International's flexible wrap system may be used. This system consists of a knitted glass tape of approximately 127 mm (5 inches) wide overlapped 50% and impregnated with a flexible epoxy resin.
Please consult the Intertherm 7050 Application Manual for further information.

D.F.T. Calculation

The required thickness of Intertherm 7050 is dependent on the design requirements and operating conditions of the structure requiring protection.
D.F.T. requirements for standard pipe sizes and common service conditions are available from published tables. For other applications, individual D.F.T. recommendations will be provided by International Protective Coatings.

Thermal Properties

Thermal Conductivity:	0.118 W/(m·K) at 20°C ASTM C177 (0.068 BTU/Ft-Hr-°F at 68°F) 0.120 W/(m·K) at 60°C ASTM C177 (0.069 BTU/Ft-Hr-°F at 140°F)
Specific Heat:	1250 J/(kg·K) (0.299 BTU/(lb·°F))

SYSTEMS COMPATIBILITY

Intertherm 7050 may be applied directly to correctly prepared abrasive blasted substrates. Where a primer is used, the following are recommended:

Intertherm 228
Interplus 256

Intertherm 7050 is generally overcoated for identification purposes or to provide additional protection.

The following topcoats are recommended to provide a durable cosmetic finish:

Interfine 629HS
Interthane 990

Ideally, Intertherm 7050 should be overcoated once hard dry (see table on page 1 for guidance) and before the coating becomes contaminated.

For topcoats designed to reduce surface spread of flame or details of other approved primers/topcoats, please consult International Protective Coatings.

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	Part A		Part B	
	Weight	Pack	Weight	Pack
30 kg	10.7 kg	20 litre	8.6 kg	20 litre

[1] The unit is supplied as: 2 x 10.7 kg Part A in 20 litre containers; 1 x 8.6 kg Part B in a 20 litre container.
For availability of other pack sizes, contact AkzoNobel.

SHIPPING WEIGHT (TYPICAL)

Unit Size	Part A	Part B
30 kg	13.55 kg	11.8 kg

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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