

PIRTHANE® 'O'

Spray foam and Coating Composite

Product Description

PIRTHANE® 'O' is an insulating system with excellent fire resistant properties. It complies with the requirements for a **Class 0** surface as defined in Paragraph A12(b) of Approved Document B 'Fire Safety', to the Building Regulations 1991. It has a Class 1 surface spread of flame when tested to BS476 Part 7 1997; when tested to BS476 Part 6 1989 the material achieved a fire propagation index (I) of not more than 12 and subindex (i₁) of not more than 6.

PIRTHANE® 'O' comprises of a low thermal conductivity insulating foam (**PIRTHANE® HR**) coated with a one component waterborne intumescent (**PIRTHANE® FPC**).

Uses

PIRTHANE® 'O' is used for thermal insulation and condensation control on:

- Underside of concrete soffits or floor slabs.
- Interior of commercial buildings.
- Internal surfaces of marine craft.

PIRTHANE® 'O' should not be used on substrates below 5°C.

Benefits

- Low thermal conductivity - reduced thickness - space saving.
- Lightweight - typically 2.5kg/m² for 0.45W/m²K U-Value.
- Excellent adhesive properties - withstands high wind speeds and vibration - can be used on single skin substrates.
- Zero Ozone Depletion Potential.
- Zero air erosion.
- Low cost maintenance.

Pirthane® HR

PIRTHANE® HR is a CFC and HCFC free, two component, 1:1 ratio, modified polyisocyanurate rigid foam system which when processed through suitable spray machinery, will produce a rigid foam with exceptionally good compressive strength, insulating properties, and bond strength.



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Recommended machine settings

Block Temperature	<i>Minimum, operating</i>	120-140°F / 50-60°C
Hose Temperature	<i>Minimum, operating</i>	120°F / 50°C
Chemical Pressures	<i>Minimum, operating</i>	500 psi, not greater than 200 psi difference iso / res

Application Guidelines

The guidelines in Isothane Limited's standard specification should be followed but the general requirements are as follows.

- The substrate should be clean, dry and free of dirt, grease, oil and loose particles.
- In certain cases primer may be necessary to maximise adhesion.
- Climatic conditions must be suitable for spraying with regard to humidity and wind velocities.
- Process through suitable spray machinery (Graco, Gusmer, Glas-Craft)
- The foam should be built up in passes of not less than 15mm and not more than 10 minutes should elapse between passes.

Physical Properties

Reactivity @ 20°C	Cream time	2-3 seconds
	Tack free time	10-15 seconds
	Rise time	16-22 seconds
	Free rise density	25-27kg/m ³

<u>Typical Properties of Pirthane® HR Foam Core</u>	<u>Value</u>	<u>Test Method</u>
Core Density	32kg/m ³	BS4370
Closed Cell Content	92% min	ASTM D2856
Thermal conductivity, aged, <80mm thick	0.028 W / mK	BS EN 12667
Thermal conductivity, aged, 80-120mm thick	0.026 W / mK	BS EN 12667
Thermal conductivity, aged, >120mm thick	0.025 W / mK	BS EN 12667
Ozone Depletion Potential	ZERO	

This information is of a general nature and is supplied without recommendation or guarantee. It does not make claim to be free from patent infringement. Properties shown are typical and do not imply specification tolerances. Liability for loss or damage through use cannot be accepted except for death or injury caused by negligence on the part of Isothane Ltd. Whilst these specifications are based on expert knowledge, practical experience and laboratory testing, successful application depends upon the nature and conditions in which the products are applied. Users must, by comprehensive testing, ensure suitability of product for own use. Without control or supervision of the preparation for and application of Isothane products, general guarantees cannot be offered.



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Storage, Handling and Personal Protection

The recommendations in our Safety Data Sheet for this product must be followed at all times. More general information is included in our publication "A Guide to the Safe Handling of Polyurethane Chemicals" and in the following Technical Data Sheets which are available on request:-

- Fire safety when Storing, Handling and Installing Polyurethane Foam.
- Decontamination of Isocyanates using Isothane Decontaminant.

Pirthane® FPC

PIRTHANE® FPC is a water based intumescent coating which gives exceptional fire retardancy to sprayed polyurethane foam. It does not contain asbestos in any form. The flame retarding intumescent properties are brought into action under heat exposure, when chemicals in the film decompose and swell (intumesce) to provide a carbonaceous foam layer acting as an insulating barrier between the source of heat and the substrate.

Properties

- Fast drying.
- Non toxic
- Fire retardancy retained throughout life
- Washable
- Low smoke emission
- Single pack

Touch Dry	1 hour
Hard Dry	2-3 hours
Overcoat time	2 hours
Full Cure	2 days
Solids Content	50%
Applied by brush, roller or spray.	

All BS476 fire test results relate to a 200 micron dry film thickness.

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Health and Safety

PIRTHANE® FPC does not present any health hazard during normal industrial use. Adequate ventilation must be provided in confined areas particularly when spraying.

Skin contact should be avoided where possible and affected areas should be washed with soap and water. Where eye contact occurs, flush with copious amounts of clean water.

Full Material Safety Data available on request. Shelf Life (both HR & FPC) 12 months.



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