PYROPLEX®
FIRE CONTAINMENT SYSTEMS

QUICK VIEW	
Application:	Cavity gap sealing
Fire resistance period:	120 minutes
Insulation/integrity:	Insulation and integrity
Test standard:	EN 1366-4: 2008

Fire Rated Expanding Foam

Product Data

Pyroplex® Fire Rated Expanding Foam is a flame retardant based polyurethane expanding foam, which sets in a solid form by using moisture present in the atmosphere. The product is suitable for sealing gaps around doors and window frames, using secondary fire sealing media around services, such as metallic cable trays and general service penetrations.

Pyroplex® Fire Rated Expanding Foam is an ablative product, which will achieve a fire resistance period of up to 120 minutes when used in conjunction with a mineral fibre backing material.

It is tested to EN 1366-4: 2008 and has a European Classification EI120 in accordance with EN 13501-2: 2007 + A1: 2009.

Field of application

Pyroplex® Fire Rated Expanding Foam is suitable for use in a wide range of construction and building fire stopping solutions, including:

- Cavity joints between doors and window frames.
- Non-combustible services, including ducts and cable trays.

Product features

- Fire resistance of up to 2 hours dependent upon gap to depth ratio.
- Quick curing, can be cut, sawn or formed within 60 minutes of application.
- Easy to install, with up to 3m linear joint being fitted in under 10 minutes.
- Can be painted and/or plastered without additional primers.
- Expands up to 40 times its volume, which can prove an economical solution to other alternatives.

Product data

Gap width	Gap depth	Integrity	Insulation
10mm	200mm	120 minutes	120 minutes
11mm	200mm	120 minutes	120 minutes
22mm	200mm	120 minutes	120 minutes
32mm	200mm	120 minutes	120 minutes

Installation instructions

Preparation of the substrate:

1. Surfaces must be firm, clean, free of dust and loose particles. The cavity or voided area to be filled must be well moistened with water, this will aid installation adhesion to the substrate. It may be necessary to use a primer, prior to the application of the foam.
2. It is important to use the foam within a temperature controlled environment, the minimum temperature to which the foam can be installed should be no less than +20°C.
3. If the temperature is below +20°C the foam may show signs of slumping and irregular expansion.
4. Cans should not be left in an over-heated environment, temperatures above +50°C or exposed to direct sunlight.
5. Prior to application ensure that the surrounding area is protected, in particular when using the foam in retrofit applications. It may also be necessary to mask and protect the surrounding area of the cavity, particularly in areas where the compartment may be decorated or furnished.
6. Shake the can for two minutes, until the foam inside becomes liquid. This is essential to ensure the performance of the product. Then attach the adapter or gun to the canister.
7. Fill the cavity from the base of the aperture slowly and build up the layers of the foam, ensuring that the void is filled. Take care not to over-fill the cavity.
8. Allow the foam to cure and using a sharp bladed instrument cut-off the expanded 'cured' foam.
9. Ensure that empty cans are disposed of by reference to local regulations.

Product packaging

Pyroplex® Fire Rated Expanding foam is available in:

750ml gun application

750ml hand held application

Quality approval

Pyroplex Limited has a Quality Management System that meets the requirements of ISO 9001:2008, and is independently verified by BSI Management Systems under Certificate No. FM10371.

Other information

The information contained herein is based upon the present state of our knowledge. Recipients of our Pyroplex® products must take responsibility for observing existing laws and regulations.

Due to our policy of continuous improvement Pyroplex Limited reserves the right to amend specifications without prior notice.

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Technical Data

Product testing

Pyroplex® Fire Rated Expanding Foam has been tested in accordance with EN 1366-4: 2008, and has a European Classification EI120 in accordance with EN 13501-2: 2007 + A1: 2009.

Specification overview

Product characteristics and physical attributes:

Characteristics	Appearance – result
750ml canister	Approximately 38 litres
Cell structure	Medium fine in appearance
Tack time	4 - 8 mins, dependent upon environmental conditions
Tool time [cutting]	10 - 14 mins, dependent upon environmental conditions
Full stability load bearing [20mm bead]	After approximately 12 hours
Tensile strength DIN 53430	18N/cm^2
Elongation @ tension DIN 53430	30%
Shear strength DIN 53427	8N/cm^2
Thermal conductivity	0.04W/mk
Water absorption DIN 53433	0.3 vol. %

Structural constructions

Pyroplex® Fire Rated Expanding Foam can be used in walls of a solid construction.

Wall construction and fire resistance periods:

Construction element	Fire resistance period [mins]	Minimum thickness [mm]	Material types and minimum density
Wall	Up to 120 mins	200	Solid masonry work*, with a density no less than 650kg/M3

** Aerated concrete, lightweight ash blocks and/or solid brick construction.*

Maintenance and installation records

Since the product is not subject to routine and replacement programmes, Pyroplex Limited recommend that all firestopping materials are checked on a regular basis to ensure that the product remains integral. Replace and fit any damaged components to reinstate the fire resistance.

Product guarantee

Providing the product is installed in accordance with the requirements of the guidance document the fire performance characteristics of the product is guaranteed for a period of 10 years.

Technical support and guidance

Should you require any further information regarding this product please contact Pyroplex Limited or visit our website, www.pyroplex.com

Material Safety Data

Composition/information on ingredients

Ingredient name	CAS No.	Contents [class]	Health [R No.]	Risk
Diphenyl Methane - 4, 4'-Di-Isocyanate	101-68-8	5-10%	Xn	20.36/37/38
Propane	74-98-6	1-5%	–	–
Isobutane	75-28-5	1-5%	–	–
Butane	106-97-8	1-5%	–	–
Dimethyl Ether	115-10-6	5-10%	–	–

Hazardous identification

Extremely flammable. Irritating to eyes, respiratory system and skin, when used in a confined environment. May cause sensitisation by inhalation and skin contact.

First aid measures

General note: Effects may be delayed. Keep affected person under observation.

Inhalation: Move the exposed person to fresh air at once. Perform artificial respiration if breathing has stopped. Keep the affected person warm and at rest. Get prompt medical attention.

Ingestion: DO NOT INDUCE VOMITING! Seek medical attention.

Skin: This product bonds to skin extremely well. Carefully remove the cured product by physical means, soften the remaining material with moisturiser and allow to degrade by natural means.

Eyes: Promptly wash eyes with plenty of water while lifting the eyelids. Get medical attention immediately. Continue to rinse.

Fire fighting measures

Extinguishing media: Powder, foam or CO_2. Larger fires: Water spray, fog or mist.

Special fire fighting procedures: Use water to keep fire-exposed containers cool and disperse vapours. Move container from fire area if it can be done without risk. Keep run-off water out of the sewers and water sources. Dike for water control. If risk of water pollution occurs, notify appropriate authorities. Use pressurised air mask if substance is involved in a fire.

Unusual fire and explosion hazards: Aerosol cans may explode in fires. May develop highly toxic or corrosive fumes if heated.

Accidental release hazards

Spill clean up methods: Extinguish all ignition sources. Avoid sparks, flames, heat and smoking.

Ventilation: Provide ventilation and confine spill. Do not allow run off to sewer or touch spilled material. Shovel into dry containers, cover and move. Flush the area with water.

Handling and storage

Usage precautions: Do not use in confined spaces without adequate ventilation and/or respirator. Risk of vapour concentration on the floor and in low-lying areas. Keep away from heat, sparks and open flames. Avoid spilling, and skin and eye contact. Do not use contact lenses.

Storage precautions: Store at moderate temperatures in dry, well-ventilated area. Keep away from heat, sparks and open flames.

Storage criteria: Misc. hazardous material storage. Flammable compressed gas storage.

Exposure controls and personal protection

Ingredient comments: OES = Occupational Exposure Standard. MEL = Maximum Exposure Limit.
Exposure limits for isocyanates are quoted as NCO.

Protective equipment: Glasses, gloves, and ventilation.

Ventilation: Provide adequate general and local exhaust ventilation.

Respirators: Respiratory protection may be required.

Protective gloves: Use protective gloves made of: Rubber, neoprene or PVC.

Eye protection: Wear splash proof goggles to prevent any possibility of eye contact. Contact lenses should not be worn when working with this chemical.

Other protection: Use engineering controls to reduce air contamination to permissible exposure level. Wear appropriate clothing to prevent any possibility of skin contact.

Hygienic work routines: Wash promptly if skin becomes contaminated. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily if contamination is reasonably probable.

Physical and chemical properties

Appearance	Aerosol or viscous. Liquid or solid. Foam.
Colour	Pink.
Physical data comments	Information given concerns the major ingredient.
Solubility description	Hardens in contact with water. Slightly soluble in: Organic solvents [most].
Viscosity	Not applicable.
Flash point [°C]	< +20°C.

Stability and reactivity

Stability: Normally stable. Avoid heat, sparks, and flames.

Materials to avoid: No incompatible groups noted.

Hazardous decomposition products: Fire creates: Toxic gases/ vapours/fumes of: Ammonia or Amines. Carbon Monoxides [CO]. Oxides of: Nitrogen. Hydrogen Cyanide [HCN]. Nitrous gases [Nox].

Toxicological information

Health warnings: This chemical can be hazardous when inhaled and/or touched.

Inhalation: Prolonged inhalation of high concentration may damage respiratory system. Pulmonary sensitiser. Recognised allergen.

Skin contact: May cause sensitisation by continued skin contact. **Eye contact:** Irritating to eyes.

Eyes, nose and mouth: May cause temporary blindness and severe eye damage.

Respiratory system: Repeated exposure may cause chronic upper respiratory irritation.

Route of entry: Inhalation, ingestion, skin and/or eye contact.

Target of organs: Eyes. Respiratory system, lungs. Skin.

Medical symptoms: Eye and Mucous Membranes: Irritation of eyes and mucous membranes.

Respiratory system: General respiratory distress, unproductive cough.

Skin: Skin irritation, brown skin stains.

Medical considerations: Chronic respiratory and obstructive airway diseases. Skin disorders and allergies. Allergic reactions may develop after inhalation of low concentrations, also several hours after exposure.

Volatile Organic Content: 750ml Gun application = 170grams/litre 750ml Hand held = 178grams/litre.

Ecological information

Environmental hazards: Little danger to the environment.

Disposal considerations

Dispose of in accordance with local authority requirements.

Transport requirement

Label for conveyance: Flammable gas.

Regulatory information

Label for supply: Extremely flammable, harmful.

UK regulation references: Health and Safety at Work Act 1974. Chemical [Hazard Information and Packaging] Regulation 1999. The Control of Substances Hazardous to Health Regulation 1988.

Guidance notes: Occupational Exposure Limits EH40. Isocyanates Toxic Hazards and Precautions EH16. CHIP for Everyone HSG [108].

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