

Castorthane 50M

Low-Density Spray Foam

A Hard Spray Foam System – Renewable Resource Based and CFC Free

DESCRIPTION:

Castorthane 50M rigid spray foam is a new generation high performance rigid insulation and moulding foam incorporating **14% renewable resource plant oil**. It has a water and HFC dual gas blowing mechanism, especially designed for spray insulation. The reactivity profile of **Castorthane 50M** has been designed to provide optimum coverage (yield) in comparatively cold application conditions and on metal substrates. Suitable for thin film initiation and DTV (direct to vertical) substrates.

Castorthane 50M is formulated with a degree of green strength flexibility to enable spray moulded articles, panels etc to be demoulded easily and rapidly.

Castorthane 50M is a fire retarded foam with good self-extinguishing properties, coupled with low thermal conductivity and permeability, good mechanical strength, chemical resistance and dimensional stability.

RECOMMENDED USES:

Applications include:-

Wall and ceiling insulation
Roof insulation/refurbishment
Fruit and vegetable coolstores [in-situ]
Walk-in coolers/freezers
Fish holds & freezers
Stage/studio prop creation

NOTE: All exterior applications should be protected against weather exposure by sheathing or covering with a monolithic membrane. Consult your PGL representative for advice.

As polyurethane foam products may constitute a serious fire hazard if improperly used or protected, a careful assessment should be made to determine what potential hazard may exist.

PHYSICAL PROPERTIES:

Components:

Component A (isocyanate)	
• Viscosity (20°C)	200cps
• Flashpoint (ASTM D92)	230 C
• Specific Gravity	1.24
Component B (polyol)	
• Viscosity (20°C)	75cps
• Specific Gravity	1.06

Reaction Profile:

• Cream Time (20°C)	3 secs
• Rise Time	12 secs
• Tack Free Time	13 secs

Mix Ratio:

100A:100B parts by volume
117A:100B parts by weight

Cured Foam:

• Density, free rise core	50-55 kg/m ³
• Thermal Conductivity (Kcal/m ² hr °C)	0.019-0.023
• Compressive Strength	150kN/m ²
• Closed Cells	90-95%
Dimensional Stability	
• 24 hrs @ 100°C	1-5%
• 24 hrs @ -40°C	0%
• 24 hrs @ 70°C/100% RH	0-5%
• Water Absorption (23°Ckgs/m ²)	0.49
• Water Vapour Permeability (Perm-in.....ASTM C-355 @ 23°C)	1.8
• Flammability	
• DIN 4102	B3
• ASTM D1692 Self extinguishing	

APPLICATION DATA

Castorthane 50M should be machine-applied through two component polyurethane application equipment such as Glas-Craft Probler or similar. Please consult your representative or Contracts Manager for advice regarding any equipment application questions you may have.

Equipment: Glas-Craft Probler

Primary Heater: Part A (Isocyanate) 30°C
Part B (Polyol) 30°C

Hose Temperature: 30-40°C

Optimum temperatures will vary with equipment, substrate temperature and ambient conditions generally. Check and maintain correct output ratio to $\pm 2\%$.

Substrates:

Castorthane 50M may be applied over most surfaces. Substrates must be clean and dry. Where adhesion is at all doubtful a suitable primer should be applied first. Contact your Technical Representative for advice. Water in any form will react adversely with the components. **Ambient and surface temperatures** should be above 15°C. **Low temperatures will decrease yield markedly.**

Theoretical Coverage:

Always check yield and coverage rates at start of job and then regularly during application to ensure product coverage is as expected. Pay special attention when spraying on to a profiled substrate to determine the "flat" area to be sprayed. This can often be as much as 25% greater than the measured area. Similarly adequate allowance must be made for spraying losses especially when working outside. It is not recommended to spray when wind velocities exceed 5 km/hr.

1 kg of foam occupies 0.032 cu.m (0.625 sq.m @ 50 mm) applied under ideal conditions (1 sq.m = 1.6 kg @ 50 mm).

PRECAUTIONS

Handling Precautions:

All chemical materials should be used by trained personnel.

Component A (Isocyanate) contains methylenebisphenyldiisocyanate (MDI). It is an irritant and allergic sensitiser. It is moderately toxic. Avoid contact with skin or eyes, avoid breathing vapour and use fresh air-supplied breathing apparatus when spraying.]

Component B (Polyol) contains HCFC, a volatile blowing agent. It is a mild irritant. In confined spaces it may displace sufficient air to be hazardous. Provide ventilation or use only in well ventilated situations.

Always wear eye protection and suitable protective clothing. Flush splashes to the skin or eyes with copious quantities of water.

Clean up:

Owing to the chemical resistance of polyurethane products it is important to clean up any overspray as quickly as possible. Methyl Proxitol is suitable for general cleaning and methylene chloride can be used as a line flush.

Wear suitable protective clothing, goggles and gloves at all times when cleaning.

Greasing components beforehand assists with contamination removal.

Storage:

Store at temperatures between 15°C and 26°C in tightly closed containers to prevent moisture and other contamination. If exposed to moisture Component A will crystallise resulting in line blockages.

Shelf Life: Minimum 6 months.

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