

EXO-SET High Density Rigid Spray Foam System

PRODUCT DESCRIPTION

EXO-SET is a zero ODP two component foam system fully formulated to produce a high density rigid spray foam. The system should be processed at a 1:1 volume ratio through suitable spray machinery which will produce a closed celled rigid foam of approximately 220kg/m³ density. When fully cured the foam is extremely strong and durable, and is fire retardant in accordance with BS4735

USES

EXO-SET is used for speciality scenic replication and reinforcement purposes.

EXO-SET should be applied under standard conditions of temperature and humidity where possible – approximately 20°C and 50% humidity. The reactivity of the system has been tailored to suit these conditions.

EQUIPMENT

EXO-SET can be processed through all standard foam spray machines. The machine should be capable of maintaining the mix ratio at $\pm 2\%$ accuracy and controlling the component temperatures at 40-60°C (variable). Consult Isothane technical staff for a specific recommendation.

COMPONENT DESCRIPTION

EXO-SET Resin is a fully formulated liquid mixture. It should be stored in sealed tanks or drums and ideally should be heated to $20 \pm 5^\circ\text{C}$ before use.

M27 ISO is a liquid mixture containing crude diphenylmethanediisocyanate. It should be stored in sealed tanks or drums and ideally should be heated to $20 \pm 5^\circ\text{C}$ before use.

Stored under the above conditions the system has a shelf life of 12 months

RECOMMENDED MACHINE SETTINGS

Machine Example: Graco A25 air-driven spray foam machine fitted with Probler P2 spray gun containing an '01' mixing chamber and '01' conical spray tip

Block Temperatures; 45°C

Hose Temperature; 45°C

Chemical Pressures: Recommended 800 – 1000 psi (500 psi minimum)

Pressure imbalance tolerance +/- 200psi

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SPRAY TECHNIQUES

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

- The foam reaction gives out a large amount of heat.
- Care must be taken to build up the thickness of foam required gradually, to reduce the risk of
- Scorching and blistering
- 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.
- Factory conditions should be suitable for spraying with regard to humidity and ambient temperature

PHYSICAL PROPERTIES

EXO-SET is a two component, modified polyurethane rigid foam which, processed through suitable foam machinery, gives a product of nominal density 220 kg/m³.

Laboratory test results (typical) at 20°C:-

Cream time	4 – 8	Seconds
Tack free time	10 – 15	Seconds
Rise time	16 – 24	Seconds
Free rise density	200 - 240	kg / m ³

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.

TYPICAL PROPERTIES

	EXO-SET RESIN	M27 ISO
Appearance	Light Amber Liquid	Dark Brown Liquid
Viscosity	750 cps @ 20°C	150-270 cps @ 25°C
Specific Gravity	1.09 @ 20°C	1.24 @ 20°C
Mixing Ratio – parts by weight	88	100
Mixing Ratio – parts by volume	100	100
Process	High pressure impingement mixing	

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