Baxenden Chemicals Limited
Polyurethane Systems, Paragon Works, Baxenden,
Nr Accrington, Lancashire BB5 2SL England
Tel: +44 (0) 1254 872278 Fax: +44 (0) 1254 302400

Isofoam ES DP6345

Hardcoat Sprayed Elastomer System

Description

Isofoam ES DP6345 is the resin component of a two part, MDI based elastomer spray system.

The RESIN component is a fully formulated liquid mixture. Store at ambient temperatures (18-22°C). Keep drums closed when not in use, and thoroughly mix (with mechanical agitation) before application to re-disperse any separated ingredients.

The ISOCYANATE component is a brown liquid grade of crude diphenylmethane di-isocyanate (MDI). Store at ambient temperatures (18-22°C). Protect from frost. Keep drums closed when not in use.

Typical Properties

RESIN Component

Viscosity @ 20°C	400 – 500 mPa.s
Typical Specific Gravity @ 20°C	1.05

ISOCYANATE Component (Type 174)

Viscosity @ 20°C	300 – 400 mPa.s
Typical Specific Gravity @ 20°C	1.24

Mix Ratio 46% RESIN / 54% ISOCYANATE by weight
100 RESIN / 100 ISOCYANATE by volume

Typical reaction and density (at above ratio)

Thixotropic time	7 – 9 sec	Laboratory cup mix
Gel time	15 – 19 sec	both components @ 20°C

Safety Information

All polyurethane products are ORGANIC, combustible materials and may, therefore, present a fire risk if exposed to flame, fire and/or heat.

This Technical Data Sheet must always be used in conjunction with the appropriate Material Safety Data Sheets relating to the RES and ISO components of this product.

For further information please refer to BAXENDEN brochure, "Isocyanates and Polyurethanes Safety Advice".

Data No: RM255/3
Version: 002
Last revised: 05.10.04
Polyurethane Systems

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Application

Isofoam ES DP6345 is the resin component of a two part, spray applied polyurethane coating system that has been formulated to give good physical properties and ease of application. The mixed components set rapidly to form a glossy, tough, durable elastomeric coating.

Isofoam ES DP6345 can be spray applied to a wide variety of substrates to provide a tough seamless coating of any desired thickness from 0.5 mm upwards.

Typical Physical Properties

The following physical properties were obtained from samples of Isofoam ES DP6345 that had been sprayed to a thickness of approximately 7mm.

Properties	Test Method	Units	Value
Density	BS4370	Kgm^{-3}	802
Surface Hardness	DIN 53505	Shore °D	72
UltimateTensile Strength	ASTM D638	MPa	21.2
Tensile Modulus	ASTM D638	MPa	543.8
Elongation at Break	ASTM D638	%	12.3
Flexural Yield Strength	ASTM D790	MPa	26.8
Flexural Modulus	ASTM D790	MPa	824.8
Impact Strength Notch Izod	ASTM D256	Jm^{-1}	52.0
Heat Distortion Temperature at $0.45Nmm^{-2}$ fibre stress	ASTM D648	°C	67.0

The above physical properties have been obtained under the conditions stated. The physical properties obtained when making different items or using alternative conditions to those detailed above, may vary and should be determined for the intended application.

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Application Recommendations:

Machinery: Isofoam ES DP6345 is designed for application using heated, two component spray equipment capable of pressures of at least 2000psi, such as the Gusmer H20/35 range of equipment.

Spray gun: A Gusmer 'D' gun with a #46 mixing chamber is recommended, but a Gusmer GX-8 gun may also be used. It is important that the gun is supplied with clean, dry air.

Temperature: The primary heaters and hose heaters should be set to approximately 55°C.

Substrate: Substrate temperature should be 25°C to 30°C. Drying in a hot air fan oven to prevent moisture contamination is recommended for substrates made from porous materials.

Release agent: If required, wax based release agents are to be used (substrate dependent).

In-mould paints: Any in-mould paints used must be compatible with the product and ensure that all solvent-based materials are fully dried before application of the elastomer.

Application thickness: It is recommended that the elastomer is applied in multiple layers of less than 0.5mm per pass, building up to the desired thickness. Users should be aware that spraying the product in thicker layers may create some surface defects. Finished product with a thickness of less than 0.5mm may be slow to cure and may not achieve full physical properties.

During storage materials should be kept properly sealed and indoor to prevent ingress of moisture. During use, it is recommended that silica gel pots be installed to prevent moisture ingress to the materials.

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