



Hyperlast

PRODUCT INFORMATION

TECHNICAL DATASHEET

12/6/2016

Introduction

HYPERLAST™ Syntactic DW 512/300E is a polyether based polyol blend which reacts with either HYPERLAST LE 5013 Isocyanate or HYPERLAST LP 5013 Isocyanate to produce a syntactic polyurethane exhibiting high compressive strength. The material is designed to withstand 3000 metres water depth, and is designed to be applied by a moulding process. The material is suitable for operating temperatures up to 115°C (dry) and for water depths to 3000 metres.

HYPERLAST SYNTACTIC DW 512/300E

Component Properties

Polyol Component

Product Reference	HYPERLAST™ Syntactic DW 512/300E Polyol
Appearance	Yellow Liquid at 25°C
Viscosity	11500 – 22500 cP at 25°C
Specific Gravity	0.700 – 0.760 at 25°C

Isocyanate Component

Product Reference	HYPERLAST LE 5013 / LP 5013 Isocyanate
Appearance	Amber Liquid at 25°C
Viscosity	100 – 200 cP at 25°C
Specific Gravity	1.21 at 25°C (Nominal Value)

Mixed System

Mixing Ratio	2.2 : 1 by weight (Polyol : Isocyanate)
Gel Time	6' 0" – 8' 0" (100g at 25°C)

These are typical values and should not be construed as specifications.

Cured System – Typical Properties

Property	Test Method	Value	Unit
Shore Hardness	ISO 868	40 - 51	°D
Nicked Crescent Tear Strength	ASTM D624	80	N/mm
Elongation at Break	ISO 37	20	%
Tensile Strength	ISO 37	9	MPa
Density	ISO 2781	850	kg/m ³
Thermal Conductivity	ASTM C518	0.165	W/m ² K
Flexural Modulus	ASTM D790	200	MPa

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Property	Test Method	Value	Unit
Hydrostatic Compressive Strength	Hyperlast Test	300	Bar
Specific Heat Capacity	Hyperlast Method	1500	J/g°C
Shear Strength	BS 2782 Meth 340A	12	MPa

These are typical values and should not be construed as specifications.

Processing Details

The following information is given as a guide to processing this product. It is recommended that optimum conditions for a specific application are determined experimentally. Dow Hyperlast Technical Service Department can offer more detailed advice.

Recommended Processing Temperatures

Polyol Component	20 – 30°C
Isocyanate Component	20 – 30°C

Recommended Cure Cycle

The material will cure at normal ambient temperatures. Pre-warming of the pipe may be necessary.

Storage and Handling

		Shelf Life
Polyol Component	Store in tightly sealed containers at a temperature of 0 - 30°C. Raise to the processing temperature and mix well before use. Avoid contact with moisture. Storage at low temperatures may result in freezing of the polyol component, should this occur it should be melted out by raising to the processing temperature and mixed thoroughly before use.	12 months
Isocyanate Component	Store in tightly sealed containers at a temperature of 25 - 35°C. Avoid contact with moisture. Storage below the recommended minimum temperature may result in freezing of the Isocyanate. If the Isocyanate does not fully melt out when raised to the processing temperature it may be necessary to re-melt at a temperature of 60 - 70 °C following the procedures laid down in the information sheet 'Safe Handling – Pure, Modified and Polymeric MDI' Form No. 109-01224X-1009P&M.	HYPERLAST™ LE 5013 Isocyanate 12 months HYPERLAST™ LP 5013 Isocyanate 6 months

More detailed information on the storage and handling of polyurethane components can be obtained by contacting Dow Hyperlast Technical Service Department.

Packaging

Polyol Component	130 kg / 287 lb
Isocyanate Component	25 kg, 225 kg, 227 kg / 500 lb, 1100 kg / 2425 lb

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Safety Data Sheets (SDS) are available from The Dow Chemical Company (Dow). SDS are provided to help customers satisfy their own handling, safety and disposal needs, and those that may be required by locally applicable health and safety regulations. SDS sheets are updated regularly. Therefore, please request and review the most current SDS before handling or using any product. Copies of the SDS are available on request through the nearest Dow Sales office.

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Contact information:

For more information about this product please call The Dow Chemical Company.

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