PRODUCT INFORMATION

Formulated Systems

PROVISIONAL TECHNICAL DATASHEET
01/11/2013

DIPRANE 530/60

Introduction

DIPRANE™ C530/60 Polyol is a polyester curative which reacts with DIPRANE 530 Prepolymer to produce a high performance elastomer of 60 Shore A Hardness. The system has been specially developed for applications requiring a high degree of dynamic performance coupled with excellent physical properties and abrasion resistance. Other curatives are available to produce elastomers ranging from 45 - 95 Shore A.

Component Properties

Polyol Component

Product Reference	DIPRANE™ C530/60 Polyol
Appearance	Whitish, waxy solid at 20°C Hazy, amber liquid at 40°C
Viscosity	24 – 34 mPa.s at 40°C
Specific Gravity	1.16 – 1.18 at 40°C

Isocyanate Component

Product Reference	DIPRANE™ 530 Prepolymer
Appearance	Pale, amber liquid
Isocyanate Content	16.4 – 16.6%
Viscosity	19 – 31 mPa.s at 25°C
Specific Gravity	1.18 – 1.20 at 40°C

Mixed System

Mixing Ratio	1.75 : 1 by weight (Polyol : Isocyanate)
Gel Time	4'30" – 7'30"

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

Cured System – Typical Properties

Property	Test Method	Value	Unit
Shore Hardness	ISO 868	60	°A
Tensile Strength	ISO 527- Type5 (2mm)	30	MPa
100% Modulus	ISO 527- Type5 (2mm)	2.1	MPa
Elongation at Break	ISO 527- Type5 (2mm)	650	%
Angle Tear Strength	ISO 34 - Pt B, Proc A (2mm)	52	N/mm
Compression Set	ISO 815 - Type A	25	%
DIN Abrasion	ISO 4649	<30	mm^3 Loss
Rebound Resilience	ISO 4662	52	%

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Processing Details

Please Note: It is essential that the polyol component is thoroughly rolled / mixed before use.
Strong turbulence and mixing with air should be kept to a minimum by adopting a careful mixing technique (e.g. drum/keg rolling) or using low air introducing mixers. It is recommended that any air introduced during mixing is subsequently removed through degassing by either machine or vacuum chamber. It is the responsibility of the customer to ensure that the product is mixed and degassed sufficiently for use.

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. Our Technical Service Department can offer more detailed advice.

Recommended Processing Temperatures

Polyol Component	50 - 55°C
Isocyanate Component	50 - 55°C
Mould Temperature	80 - 100°C
Typical Demould Time	15 - 40 minutes

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

Recommended Cure Cycle

In order to achieve rapid attainment of mechanical properties of DIPRANE™ 530 castings, a post-cure of 12 -16 hours at approximately 80°C is recommended followed by a minimum of 48 hours at ambient. It is important that moulds be heated to the recommended temperature in order to achieve satisfactory demould times and subsequent curing of the elastomer.

Additional Processing Details

DIPRANE™ 530 systems can be processed by machine or hand mixing techniques. When hand mixing the mixed component should be vacuum degassed before casting for best results.

Machine Mixing

Our Technical Service Department can advise on suitable two or three component polyurethane dispensing equipment for processing DIPRANE™ 530 Series elastomers.

Hand Mixing

When hand mixing, the following procedures should be adhered to:-

1) Precondition the components to the recommended temperature.
2) DIPRANE™ C530/60 Polyol should be mixed by rolling the drum before use.
3) Weigh out the required quantities of DIPRANE™ C530/60 Polyol.
4) Weigh the required amount of DIPRANE™ 530 Prepolymer into the vessel and mix thoroughly for approximately one minute.
5) Put the mixture under vacuum (5 torr min) for 1 - 2 minutes or until bubbling ceases.
6) Pour the reaction mixture into heated moulds, which have been treated with mould release agent.

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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.	6 months

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

Packaging

Polyol Component	25 kg, 225 kg
Isocyanate Component	25 kg, 240 kg

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Safety Considerations

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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Customer Notice

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