TECHTHANE® ELASTOMERS

PRODUCT DATA BULLETIN

TECHCURE™ B915 LIQUID URETHANE CURATIVE

DESCRIPTION

TECHCURE B915 is a high performance liquid curative for use with castable TDI urethane prepolymers. B915 offerst the primary advantage of forming an elastomer that is softer, yet has higher tensile strength, tear strength, elongation, and abrasion resistance than the same prepolymer cured with MBCA. Additionally, as a liquid, B915/prepolymer mixtures can be processed at lower temperatures than MBCA. Typical peformance applications include mineral processing parts requiring improved abrasion resistance, impact, and cutting. Typical processing applications include large cavity pours where a longer pot life is required than MBCA will allow.

CURATIVE PROPERTIES

PROPERTY	VALUE
Form @ 68°F (20°C)	Liquid
Liquid-Solid Transition	35°F
Viscosity @ 68°F (20°C), cps	2,700
Viscosity @ 150°F (65°C), cps	275
Specific Gravity @ 68°F (20°C)	1.12
SpecificGravity @ 150°F, (65°C)	1.08
Color	Amber
Flash Point, TCC, °F (°C)	>212 (100)
Equivalent Weight	229

PROPERTIES OF ELASTOMERS CURED WITH TECHCURE B915

When reacted with TECHCURE B915, the following TECHTHANE prepolymers yield the following typical properties in open-pour molds:

PROPERTY	TECHTHANE 200	TECHTHANE 620
Hardness, Shore A	57	88
Tensile Strength (ASTM D412), psi (MPa)	4,950 (34.15)	7,500 (51.75)
Elongation (ASTM D412), %	685	450
100% Modulus (ASTM D412), psi (MPa)	250 (1.75)	1,250 (8.65)
300% Modulus (ASTM D412) , psi (MPa)	500 (3.45)	2,200 (15.15)
Tear Strength, Die-C (ASTM D624), pli (kN/m)	230 (40.25)	775 (135.70)
Tear Strength, Split (ASTM D470), pli (kN/m)	100 (17.50)	110 (19.25)
Specific Gravity	1.02	1.04
Bell Brittle Point, °F (°C)	<-80 (-62)	<-80 (-62)

PROCESSING SUMMARY (See opposite page for further processing information)

	TECHTHANE 200	TECHTHANE 620
TECHCURE B915 level, pph, approximate	10.35	32.10
Prepolymer temperature, °F (°C)	180-240 (80-115)	100-180 (82)
TECHCURE B915 temperature, °F (°C)	140 (60)	140 (60)
Mold temperature, °F (°C)	150-220 (105)	150-220 (105)
Pot Life, minutes - B915	10	7
Cure Time, hours at 240°F (115°C)	3	2
Post Cure Time, hours at 180°F (80°C)	24	18

INFORMATION BASED ON 95% THEORY

CURATIVE LEVEL

To determine the amount of TECHCURE B915 required to properly cure a specific resin, use the following equation:

$$\left(\frac{4200}{\{\%\ \text{NCO of prepolymer}\}\ 229}\right) \text{X stoichiometry} = \text{parts resin : curative}$$

For example, a 3.30% NCO prepolymer mixed at 95% stoichiometry would have a ratio of 5.85 parts prepolymer : 1 part curative, or a 17.10 pph curative level.

CONDITIONING PRIOR TO USE

TECHCURE B915 solidifies at low temperatures. If solidified or partially solidified, entire contents must be fully thawed and thoroughly mixed prior to using.

POT LIFE

The pot life of TECHTHANE cast resins mixed with TECHCURE B915 varies significantly by temperature:

Pot Life, minutes	T200	T620
@ 130°F (55°C)	12	8
@ 180°F (82°C)	7	5
@ 212°F (100°C)	4	3

DEMOLDING

TECHCURE B915 / prepolymer mixtures should be cured at temperatures between 180°F (80°C) and 240°F (115°C) prior to demolding. Approximate demolding times are as follows:

Cure Time, hours	T200	T620
@ 180°F (80°C)	3	2
@ 220°F (105°C)	2	1.5
@ 240°F (115°C)	2	1

POST CURING

TECHCURE B915 / prepolymer mixtures should be post-cured at temperatures between 180°F (80°C) and 240°F (115°C). Approximate post cure times are as follows:

Cure Time, hours	
@ 130°F (55°C)	72
@ 180°F (80°C)	36
@ 220°F (105°C)	24
@ 240°F (115°C)	16

AVAILABILITY

TECHCURE B915 is packaged in 44 lb. (20 kg) pails and 440 lb. (200 kg) drums. Specific quantities, colors, and packaging are available on a special-order basis.

STORAGE AND SHELF LIFE

In the absence of heat and moisture, TECHCURE B915 is good for 2 years.

TECHCURE B915 is packaged in sealed containers under an argon blanket. Containers should be kept tightly sealed and stored in a cool, dry area that is protected from direct sunlight. Storage temperature should not exceed 120°F (50°C).

SAFETY OVERVIEW

TECHCURE B915 contains aromatic amines. Direct skin contact must be avoided at all times. Impervious protective clothing must be worn at all times. Never allow B915 to remain on skin or clothing for any amount of time - wash off immediately. Inhalation of vapors, particularly when heated, must also be avoided. Forced air ventilation must be used for all indoor applications when heated. Chemical cartridge masks suitable for organic vapors approved by MSHA/OSHA may be used under some conditions with adequate ventilation for handling B915 only -- when processing prepolymers typically used with B915, fresh-air breathing equipment may be required.

Avoid contact of components with skin and clothing. If contact occurs, wash thoroughly with soap and water immediately after contact. In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. If swallowed, do not induce vomiting, call a physician immediately.

Refer to the Material Safety Data Sheet (MSDS) for further information prior to use of this product.

FOR INDUSTRIAL USE ONLY

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