



DIVERSE URETHANES

PRODUCT DATA SHEET

PS 100 85A

1. INTRODUCTION

PS100 85A is a high performance Elastomer to be used with MDI 20802. It produces elastomers of 82-86 Shore "A" hardness.

Elastomers produced using PS100 85A are designed for applications where low temperature flexibility, chemical and oil resistance, high mechanical strength and extremely good abrasion resistance is required

2. CONSIDERATIONS

As with all polyurethane products, the product should not be exposed to very strong acids or bases. The highest temperature at which the product should be used is 80 to 85°C in order to maintain the full physical properties. The material can tolerate short period temperature increases up to approximately 120°C without permanently impairing any of the physical properties.

During processing, the material will experience up to 2% shrinkage due to the heat of the reaction.

Optimum physical results will be achieved if the elastomers are post-cured at a temperature of 80 to 90°C for a period of 8 hours.

3. PS 100 85A PHYSICAL PROPERTIES

Appearance	:	White liquid
Density @ 25°C (gmc ⁻³)	:	1,08

4. MDI 20802 PHYSICAL PROPERTIES

Appearance	:	Light Yellow liquid
Viscosity at 25°C	:	530 - 750
Specific gravity at 25°C	:	1,20

5. ELASTOMERS

The following range of physical properties will be obtained from PS 100 85A when reacted with MDI 20802 at 95% stoichiometry and subjected to the correct post curing cycle.

PS 100 85A at ~25°C	:	100 parts
MDI 20802 at ~25°C	:	34 parts

The mix ratio is calculated by weight.

Pot Life (minutes) at 23°C	:	3.5 – 4 per 200 g Polyol mix
Demould (minutes) at 50°C	:	15 - 20 minutes
Hardness Shore A	:	82 – 86

TYPICAL ELASTOMER PHYSICAL PROPERTIES

Hardness Shore A	:	82 - 86	ASTM D2240
100% Modulus (MPa)	:	15 - 17	DIN 53504
Tensile Strength (MPa)	:	28.3 – 29.5	DIN 53504
Elongation (%)	:	280 - 290	DIN 53504
Tear Strength (Picc N/mm)	:	28 – 32	ASTM D624

6. PROCESSING

PS100 requires to be processed at a temperature of 25°C but can be processed at higher temperatures either to shorten moulding cycle times or to reduce viscosity to suit particular processing methods.

- 6.1 Temperatures of chemicals should be at about 25°C prior to processing. Tumble or stir drum of PS100 thoroughly to ensure contents are homogeneous.
If MDI 20802 has crystallized, melt out at 70°C and tumble.

- 6.2 Mix components together thoroughly without entraining air.

- 6.3 Pour the mixture into preheated moulds treated with a suitable release agent.

- 6.4 Allow the mixture to gel and partially cure in the mould. The time required for this operation will vary according to oven temperature, mould design and size, but will be in the region of 25 - 35 minutes.

- 6.5 De-mould the finished piece and post cure overnight at room temperature.
Optimum properties are attained after a further seven days at room temperature.

- 6.6 Any metal substrate which is to be lined or coated should be degreased, shot blasted or sandblasted and primed with a suitable priming system to ensure good adhesion of the urethane to the metal.

7. PACKAGING

Standard packs consist of 25kg plastic drums. Larger packs are available on request.

8. SHELF LIFE

Six months minimum in sealed undamaged drums stored at ambient temperatures. Prolonged or repeated heating of the material will accelerate decomposition. Partly used containers should be resealed immediately after use.

9. HANDLING

9.1 PS 100 85A Green

PS 100 85A does not represent a significant health hazard to users under normal conditions of industrial exposure.

9.2 MDI 20802

MDI 20802 is an isocyanate containing material and normal standards of industrial hygiene should be observed during its handling. Safety goggles, gloves and overalls should be worn, and the material should preferably be used in a well ventilated area. Inhalation of its vapours should be avoided.

10. TOXICITY

Contains additives that can be harmful when swallowed.

11. FIRST AID MEASURES

11.1 PS 100 85A

In the case of skin contact with PS 100 85A, the affected area must be washed with soap and water. Eye contamination should be treated by rinsing with running water for at least 10 minutes. Seek medical assistance.

11.2 **MDI 20802**

MDI 20802 may be dermatitic and exhibit a low order of oral toxicity, however, since it is possible that certain individuals may be unusually sensitive to this material, it is recommended that all users wash thoroughly and avoid prolonged and repeated contact. Eye contamination, will cause severe irritation and pain. Immediate rinsing with water must be initiated and continued for at least 10 minutes. Seek medical assistance.

12. **FIRE**

Keep drums cool by spraying them with water if they are exposed to fire. Extinguish with dry chemical, foam, sand or water spray.

13. **SPILLAGES AND WASTE DISPOSAL**

13.1 **PS 100 85A**

Drum as much as possible of the spill, and wash away the remains with copious amounts of water.

13.2 **MDI 20802**

Decontamination can be affected by overnight contact with liberal amounts of a solution containing methanol (30 parts), water (70 parts), concentrated ammonia (1 part) and detergent (1 part). Drums should not be resealed until decontamination is complete. (See attached Safety Data Sheet on details for Dealing with Larger Spills.)

13.3 **Waste Disposal**

Customers are advised to check their local, provincial or national legislation governing the disposal of waste material.

The information provided in this data sheet and otherwise supplied to users is based on our general experience and upon tests which are believed to be reliable. However, because we have no control over the exact manner in which the information is used, we cannot guarantee the results to be obtained. Furthermore we make no express or implied warranty of merchantability or fitness of the product for a particular purpose.