

10163

Systems: Footwear

10163 is an outstanding quality grade polyurethane system designed primarily for high quality Safety shoe sole or outsole. It has a good flexibility, high tensile strength, and elongation.

APPLICATIONS

- This system is used chiefly for the production of unit sole for high hardness sandal and safety shoe sole.

TYPICAL PROPERTIES

Materials	Typical Properties	Method	Unit	Value
A8113	Viscosity (@60° C)	QC0-I002-T025	cps	1,100 – 1,250
B9800	Isocyanate content	-	% by weight	18.7 – 19.7
	Viscosity (@60° C)	QC0-I002-T025	cps	200 - 300
C5205	Mixture of catalyst, chain extenders, cell regulators and foaming agent.			
D5002H	Hardener			

PREPARATION OF PRODUCTS

RA 8113 must be warmed at 45 - 50°C for 12 - 24 hour before mixing with Rayelast C 5205 at 25 - 30 °C for about 15 minute or others depend on size of mixer.

B 9800 should be warmed at 40-45°C for 12-24 hr. prior to its use. It has a clear to turbid solution appearance. The temperature of components in the production tanks should be 40-50°C to ensure good processing. Preheated temperature higher than 50 °C in long period is not recommend since the products might be lost reactivity and some undesirable reaction can take place.

MIXING RATIO BY WEIGHT

Materials	A : C Ratio (pbw)
A8113	100.00
C5205	17.65

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FOAMING FORMULATION ON MACHINE

100 pbw the above mixture at working temperature 45±5°C

125 - 130 pbw B9800 at working temperature 45±5°C (*The optimum ratio of Component B can be slightly different as per working condition)

**** Mold temperature 50-55°C**

FOAMING CHARACTERISTICS (at 40°C)

Foam Properties	Unit	Hand mix method
Cream time	secs., approx.	6-8
Gel time	secs., approx.	15-20
Tack free time	secs., approx.	30-40
Demold time	min. , approx.	5-8
Free rise density	kg/m ³ , approx.	210-250

TYPICAL PROPERTIES OF FINISHED PRODUCTS

Physical Properties	Unit	Value
Molded density	kg/m ³	430-500
Hardness	Shore C, approx.	75
Tensile strength	kg/cm ² , approx.	40
Elongation	%, approx.	> 300
Tensile strength retention after Hydrolysis	70°C / 7 days 100% RH, %	≥ 70
Flex resistance	(25 °C), 30,000 cycles	No Cut Growth

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ADJUST MIXING RATIO TO VARY SOLE HARDNESS

Physical Properties	Value	Value
Molded density g/cc about	0.43-0.50	0.43-0.55
Hardness shore C	75	75-85
(depend on processing and mold)		
Weight of A8113, kg.	20	20
Weight of C5205, kg.	3.5	3.5
Weight of D5002H, kg.	-	0.5
Polyol : Isocyanate (B9800) Ratio	100 : 125	100 : 135 - 140

* Weight of water adjust depend on the condition in each factory recommend to adjust to get ratio of molded density/Free rise density = 2.0 but free rise density is not less than 210 kg/m³.

PACKAGE

Material can be supplied in 200 litre drum or 20 litre can.

STORAGE AND HANDLING

The components are sensitive to moisture and should therefore, at all times, be kept in sealed drums. Storage temperatures should be within the range 20 – 25 °C to ensure maximum shelf life.

NOTICE: The information presented herein, while not guaranteed, is, to the best of our knowledge true and accurate. No warranty or guarantee, express or implied, is made regarding the performance or stability of any product, since the manner of use and conditions of storage and *handling* are beyond our control.