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# PolyArmor *CRD 8003*

## TECHNICAL DATA SHEET

PolyArmor CRD 8003-FR is a liquid, two-part polyurethane molding and casting system for producing parts which simulate ABS. It has excellent dimensional stability, high flex modulus and good impact resistance. The mixed viscosity is low allowing the casting of thin walled parts with excellent detail and low shrinkage. The shorter work life allows the rapid turnover of molds and production of multiple parts per day. POLYARMOR CRD 8003 allows you to produce economical prototype parts or limited production runs. CRD 8003 may be cured at either room or elevated temperatures.

### FEATURES

- Great Impact Resistance
- High Hardness
- Excellent Machinability
- Easy 1:1 Mix Ratio
- Room Temperature Curing
- Low Viscosity of A & B Components
- Non-mercury Catalysed
- Non TDI
- Non MBOCA

### RECOMMENDED USES

- Prototyping
- Dimensionally Stable Casting

### TECHNICAL DATA

	Units	Values		Test Method
<b>HARDNESS</b>	Shore D	80	Cast	ASTM D2240
<b>PERCENT SOLIDS</b>	%	100 (0 g/l VOCs)	Calculated	
<b>TENSILE</b>	psi	7000	Cast	ASTM D638
<b>ELONGATION</b>	%	8	Cast	ASTM D638
<b>FLEXURAL MODULUS</b>	psi	206,000	Cast	ASTM D790
<b>FLEXURAL STRENGTH</b>	psi	8950	Cast	ASTM D790
<b>LINEAR SHRINKAGE</b>	in./in.	0.003	Cast	
<b>HEAT DISTORTION</b>	°F	205	Cast	ASTM D638
<b>SPECIFIC GRAVITY</b>		1.1	Cast	STM D792
<b>GLASS TRANSITION TEMP</b>	°F	207	Cast	
<b>HEAT DISTORTION TEMP</b>	°F	207	Cast	ASTM D638
<b>IZOD IMPACT STRENGTH</b>	Ft.lb/in.	0.35 / 28	Cast	ASTM D256
<b>VOLUME RESISTIVITY</b>	Ohm-cm	5.1 x 10 <sup>15</sup>	Cast	ASTM D257
<b>DIELECTRIC CONSTANT (@ 77°F @ 1KHZ)</b>		3.5	Cast	ASTM D150
<b>DISSIPATION FACTOR (@ 77°F @ 1KHZ)</b>		0.012	Cast	ASTM D150
<b>DIELECTRIC STRENGTH (1/16")</b>	vpm	630	Cast	ASTM D149

### TYPICAL PROCESSING PARAMETERS

MIX RATIO (BY VOLUME OR WEIGHT)	1 : 1
WORK LIFE @ 77 °F	3 MINUTES
INITIAL MIXED VISCOCITY @ 77 °F	400 CPS
PEAK EXOTHERM (200G) @ °77F	200 °F
DEMOLD TIME @ 77 °F	1 HOUR
DEMOLD TIME @ 175 °F	30 MINUTES
CURE @ 77 °F	7 DAYS
CURE @ 160 °F	16 HOURS

NOTE: PHYSICAL PROPERTIES MAY VARY ON THE TYPE OF SPRAY EQUIPMENT USED. THE END USER SHOULD CHECK THE SUITABILITY OF THIS PRODUCT PRIOR TO USE



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## RECOMMENDED CASTING PROCEDURE

1. Maintain mixing ratio accuracy between Part A and Part B to within  $\pm 2\%$ .
2. Containers used for weighing or mixing should be metal, glass, or plastic. Mixing rods should be plastic or glass.
3. Use a separate container for mixing. If degassing is required, use a container with enough space to allow for expansion during degassing (usually 1 to 3 times the volume of material being mixed).
4. Weigh the correct proportions of the two components together and mix thoroughly. Degas at 28-29 inches of Mercury to remove entrapped air caused by mixing.
5. When casting, pour in a steady stream in one spot at a rate that avoids overlapping or enfolding air. To improve POLYARMOR CRD 8003 flow, molds to be cast can be preheated to 50°C-60°C (120°F-140°F) to allow CRD 8003 to flow better. Caution, this will shorten the work life of the material.
6. Some urethane prepolymers or hardeners may freeze or crystallize below 18°C (65°F). They may be re-liquefied by heating to 50°C-60°C (120°F-140°F). Avoid prolonged preheating. After heating, blend thoroughly.
7. If parts are to be demolded, a quality mold release should be applied prior to pouring. Contact your representative for more information.
8. Equipment may be cleaned with Methyl Ethyl Ketone or acetone.

## PACKAGING

POLYARMOR CRD 8003 is available in the following containers:

CONTAINER	Part A Fill Weight	Part B Fill Weight
1 GALLON	8 lbs	8 lbs
5 GALLON	40 lbs	40 lbs
55 GALLON DRUM	450 lbs	450 lbs

## STORAGE & HANDLING

Both the Part A and Part B components of POLYARMOR CRD 8003 are moisture sensitive. Avoid the use of paper cups and wooden sticks. Flush partial containers with nitrogen before resealing. Part A and Part B have a shelf life of 12 months from date of manufacture when stored in their original, unopened containers at 65°F-85°F.

**HEALTH AND SAFETY PRECAUTIONS:** Before using, refer to Safety Data Sheets (SDS). Ensure the same safe working methods are followed for all persons in the work area. Wear suitable protective clothing, rubber gloves and safety goggles with side shields during mixing and application. Respiratory masks should be worn at all times when adequate ventilation does not exist. Contact with skin-wash immediately with soap and water. Contact with eyes-rinse immediately with lots of water and seek medical attention. Keep away from children. **LIMITATIONS:** The end user should check the suitability of this product prior to its application. Do not open until ready to use. The Hanson Group assumes no liability for substrate defects. High temperatures and humidity can significantly affect pot life and the cure time. Low temperatures and humidity can extend the cure time. Excess moisture vapor in concrete slabs may result in polyurea to delaminate, discolor or cause improper curing. **NOTICE:** The information and data contained herein do not constitute sales specifications. The product properties may be changed without notice. No liability, warranty or guarantee of product performance is created by this document. It is the Buyer's responsibility to determine whether Hanson products are appropriate for Buyer's use and to ensure that Buyer's workplace and disposal practices are in compliance with applicable laws and regulations. No freedom from any patents or other industrial or intellectual property rights is granted or to be inferred.