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PolyArmor *CRD 8003*

TECHNICAL DATA SHEET

PolyArmor CRD 8003 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
HARDNESS	Shore D	80	Cast	ASTM D2240
PERCENT SOLIDS	%	100 (0 g/l VOCs)	Calculated	
TENSILE	psi	7000	Cast	ASTM D638
ELONGATION	%	8	Cast	ASTM D638
FLEXURAL MODULUS	psi	206,000	Cast	ASTM D790
FLEXURAL STRENGTH	psi	8950	Cast	ASTM D790
LINEAR SHRINKAGE	in./in.	0.003	Cast	
HEAT DISTORTION	°F	205	Cast	ASTM D638
SPECIFIC GRAVITY		1.1	Cast	STM D792
GLASS TRANSITION TEMP	°F	207	Cast	
HEAT DISTORTION TEMP	°F	207	Cast	ASTM D638
IZOD IMPACT STRENGTH	Ft.lb/in.	0.35 / 28	Cast	ASTM D256
VOLUME RESISTIVITY	Ohm-cm	5.1 x 10 ¹⁵	Cast	ASTM D257
DIELECTRIC CONSTANT (@ 77°F @ 1KHZ)		3.5	Cast	ASTM D150
DISSIPATION FACTOR (@ 77°F @ 1KHZ)		0.012	Cast	ASTM D150
DIELECTRIC STRENGTH (1/16")	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.

PRECAUTIONS: Part-A contains an Isocyanate. 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. 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. **NOTICE:** Read all the information in this product information bulletin, and safety data sheet (SDS) before applying any material. The information contained herein is for the purpose of identifying the product and does not constitute a warranty or guaranty that the product will conform to this description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors. All published information and specifications are subject to change without notification. Technical data shown in product data sheets are typical but reflect laboratory test procedures conducted in laboratory conditions. Actual field performance and test results will depend on installation methods and site conditions. Field test results will vary due to critical job site factors. All recommendations, statements and technical data contained in this data sheet are based on tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty or guaranty of any kind. Satisfactory results depend upon many factors beyond the control of The Hanson Group, LLC. User shall rely on their own information and tests to determine suitability of the product for the intended use and user assumes all risk, loss, damage, expense and liability resulting from their direct use, indirect use or consequential to their use of the product. The Hanson Group, LLC shall not be liable to the buyer or any third party for any injury, loss or damage directly or indirectly resulting from use or inability to use the product. Products manufactured by The Hanson Group, LLC are free of defects for a period of one (1) year from time of manufacture. Liability and buyer's remedy under this limited warranty shall not exceed the purchase price of the materials in question. PolyArmor® is a trademark registered in the US Patent and Trademark Office. The marks of The Hanson Group, LLC, its divisions, slogans, emblems, other marks appearing in this document are the trademarks and/or service marks of The Hanson Group, LLC, its subsidiaries, affiliates or licensors.