THE HANSON GROUP, LLC
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PolyArmor *PCM102 Top Coat*

TECHNICAL DATA SHEET

POLYARMOR PCM102 Top Coat is a sprayable, high performance, thermoset coating designed specifically for ground support applications in hard rock mines. It can be used on its own (with bolts) or in combination with other ground support systems offering unique, and impressive ground support benefits in a 4-6 mm coating thickness. POLYARMOR PCM102 toughness properties not only provide exceptional tensile holding strength but also the ability to deform and elongate, continuing to provide support as the rock structure moves. A unique chemistry also incorporates state of the art fire retardants that help prevent flame spread and reduce smoke generation.

The appropriateness of POLYARMOR PCM102 use for any specific application should be determined by the mine's ground control personnel based on POLYARMOR PCM102 performance specifications and the associated ground and application conditions. The below summary is meant to highlight the performance of the liner in order to assist the responsible ground control engineer in making his/her decision on the appropriateness of the product.

FEATURES

- High Elongation
- Great Tensile Strength
- Self Extinguishing
- Water Resistant - no absorption or stability loss after continuous immersion for 30 days at 50°C

RECOMMENDED USES

- Ground Support
- Mine Shaft Liner

TECHNICAL DATA

	Units	Values		Test Method
HARDNESS	Shore D	68	Sprayed	ASTM D2240
PERCENT SOLIDS	%	100 (0 g/l VOCs)	Calculated	
TENSILE	psi	4500	Sprayed	ASTM D412
ELONGATION	%	300	Sprayed	ASTM D412
TEAR	pli	630	Sprayed	ASTM D624
TABER ABRASION	mg/rev. loss	5.4/1000	CS-17 wheel	ASTM D3389
GEL TIME / TACK FREE	Sec	6 / 12	Sprayed	
POP OFF ADHESION STRENGTH:				
TO ROCK	MPa	1.5	Sprayed	ASTM D4541 (Type 5)
TO SHOTCRETE	MPa	1.5	Sprayed	ASTM D4541 (Type 5)

*BASED ON LAB SAMPLES

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

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 ad 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.*

SURFACE PREPARATION
All surfaces receiving the POLYARMOR PCM102 Top Coat must be thoroughly cleaned of loose rock, dirt, dust, oil, grease, diesel residue and other contaminants that may impair bonding. Verify existing conditions of the surface before starting work.

COLOR
Orange

COVERAGE RATE
1 gallon (3.79 liters) of POLYARMOR PCM102 will cover approximately 1600 square feet at 1 mil (0.025mm) thick, and can be applied in one or more passes to achieve a desired thickness.

PACKAGING
97.5 gallon kit. 48.75 gallons Part-A (Isocyanate, 450 pounds net) and 48.75 gallons Part-B (Curative, 452 pounds net) packaged as a "kit" in 2x55 gallon drums. 275 gallon IBC Totes are available.

MIXING PROCEDURES
Part B should be mixed with air driven tools at a medium speed for at least 8 hours prior to use. Verify mixing by feeling for any sediment still on the bottom of the drum. If any exist, continue to mix. The B side must also be agitated while being sprayed to ensure suspension of all fillers. Part A requires no mixing.

STORAGE
POLYARMOR PCM102 has a shelf life of 1 year from the date of shipment, in factory-sealed containers. Storage temperature for Part-A and Part-B is between 70ºF - 95ºF. (Avoid freezing temperatures). Keep containers sealed tightly to eliminate any condensation, moisture, or water contamination in Part-A or Part-B. Use inert gas such as nitrogen to flush partial containers.

EQUIPMENT CLEAN UP
Immediately clean equipment with an environmentally safe solvent, as permitted by local regulations. Cured or dried material may be removed by mechanical means. Know your equipment and how to perform routine maintenance.

APPLICATION
Prior to application, precondition both Part-A and Part-B to 70ºF - 90ºF (21ºC - 32ºC). Surface temperature should be greater than 32ºF (0ºC). Ensure that the air temperature is at least 42ºF (6ºC) above the dew point and rising. Fit Part-A with a desiccant drying device. In order to enhance mechanical bonding to the substrate, insert mechanical fasteners into the substrate prior to applying the POLYARMOR PCM102. Once in place, apply POLYARMOR PCM102 using plural component, high pressure 1:1 ratio heated, spray equipment over the bolts. Secure the liner in place by fastening a plate to the protruding bolt. The fastened plate can be coated with another layer of POLYARMOR PCM102 to lock it into place. Consult your THG representative for more information on your specific application. Installation shall follow standard operating procedures prepared by authorized personnel for the specific mine site.

TYPICAL SPRAY MACHINE REQUIREMENTS
- Capacity minimum 20 lbs. per minute
- Static pressure 1800 – 2500psi
- Spraying pressure 2200psi
- Pressure balance 100 variance desirable
- 300 psi variance maximum
- Temperatures, preheaters & hose 140ºF-175ºF each. Check with your local representative.