

DESCRIPTION

ARTCOAT BM is a high performance pure polyurea system, 100% solids developed as a resilient polymer for blast mitigation, as these elastomeric coating is capable of absorbing the shock waves or pressure waves of a possible explosion, preventing generated structure collapse and spreading of shrapnel.

Its two components react in just seconds creating a continuous, elastic membrane of great elongation and pull and tear resistance. It can be sprayed on any substrate dully prepared and its fast reaction allows for multiple coats, adding up to any desired thickness and in any. This environmentally friendly process contains neither solvents (VOC), non CFCs.

ARTCOAT BM is an aromatic system and therefore requires a UV protection when no other protection is designed to prevent colour change and superficial oxidation. Aliphatic polyurethanes or aliphatic polyureas can be used as top-coat.

FEATURES

- Seamless monolithic application.
- Maintains elongation at temperatures below 0 °C.
- Impact and energy absorbing properties.
- Temperature of service -45 °C and 94 °C.
- The system has adhesion to concrete or metal.
- It allows a decorative finish.
- It avoids or minimizes structure damage as a result of an explosion.
- It avoids or minimizes injury and property damage caused by the emission of shrapnel or fragmented debris.
- It is a lightweight protection which does not add additional weight to structures.
- It is easy to install and maintain.

ARTCOAT BM is a fundamental part of the ACE-SIFEX System, which is proved to be the most effective and efficient solution for blast mitigation and fire resistance. The system has been tested by the Spanish Military Police with 84 Kg of TNT at distances of 3 and 10 meters with excellent results. Further information on the tests available subject to the signing of a NDA.

TYPICAL PROPERTIES OF THE COMPONENTS

	SIDE A	SIDE B
DESCRIPTION	ISOCYANATE	AMINIC RESIN
Appearance	Liquid	Liquid
Color	Clear amber	White or coloured
Specific gravity, @77 °F (25 °C)	1	0.95 -0.98
Viscosity, @ 77 °F (25 °C)	850 cps	400-550 cps
Ratio in volume	1	1
Freezing point	Less than 32 °F (0 °C)	

TYPICAL PROPERTIES OF THE SYSTEM

PROPERTY	RESULT	TEST
Hardness	Shore A 96	ASTM D 2240
Tear resistance pli	60 KN	D53515
Reactivity, @77 °F (25 °C)	5-8 sec.	
Solids	100 %	
Volatile Organic Compounds	0 %	
Weather Resistance	Aromatic system. Requires UV protection.	
Elongation	419 %	ASTM D 412
Tensile strength	3300 psi	ASTM D 412
Resilience	>33%	ASTM D 2632
Adherence	STEEL 800-1000 psi CONCRETE ≥ 2,18 N/mm ²	ASTM D 4541 UN-EN 1504-2
Izod Impact Test	355.2 Joules/M 9Nm	ASTM D 4812
Taber Abrasion, mg of loss/1000 cycles, 1000 grs, H-18 Wheel	133 mg 56 ±14 mg	ASTM D 4060 UN-EN 1504-2

PROCESSING CONDITIONS AND APPLICATION

ARTCOAT BM system components must be processed and sprayed-on high-pressure equipment in heat. It is essential to have an equipment that consistently delivers accurate amounts of both components to the mixhead to achieve a high-performance elastomer.

Processing Temperature	77°C / 170°F
Mixing Ratio (Side A/Side B), by Volume	1 / 1
Reactivity:	
Gel Time	8 sec.
Tack-free	22 sec
Cure	24 h

Any width can be obtained in just one application. For best results, it is recommended to apply alternating horizontal and vertical layers in order to achieve the highest resistance for the system.

STORAGE AND HANDLING

Isocyanate Component: Original containers must be kept tightly closed to prevent contamination with moisture and foreign materials, which can adversely affect processing. The isocyanate component will react slowly with water to form polyureas and liberate CO₂ gas, which may cause sealed containers to expand and rupture. Recommended storage temperatures between 24–40 °C (75-104 °F). Shelf life is 12 months when stored in closed, original containers at 25 °C (77 °F).

Aminic resin Component- This component is hygroscopic and containers must be kept closed to prevent absorption of moisture, which can adversely affect processing. Storage should be maintained between 10- 45 °C (50-113 °F). Shelf life is 12 months when stored in closed, original containers at 25 °C (77 °F).

HEALTH AND SAFETY INFORMATION

Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling ARTCOAT BM isocyanate and Aminic resin components. Before working with these products, you must read and become familiar with the available information on their hazards, proper use and handling. This cannot be overemphasized. Information is available in several forms, e.g. material safety data sheet and product labels. Consult your Artlux Europa representative.

IMPORTANT INFORMATION AND SAFETY PRECAUTIONS

Liquid irritate skin and eyes. Use chemical goggles, protective clothing and rubber gloves when working with chemical components. Vapour and spray mists may be harmful. Use only with exhaust ventilation and a positive pressure air supplied full-face respirator. Don not use if you have chronic breathing problems or if you have had a reaction to isocyanates.

The information and data contained herein are believed to be accurate and reliable; however, it is the user's responsibility to determine suitability of use. Since ARTLUX EUROPA cannot know all of the uses to which its products may be put or the conditions of use, it makes no warranties concerning the fitness or suitability of this products for particular use or purpose. Users should thoroughly test any proposed used of the ARTLUX EUROPA products and independently conclude satisfactory performance in the application. Likewise, if the manner in which the product is used requires governmental approval or clearance, the user must obtain approval.

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For more complete information on the use of ARTLUX EUROPA chemicals, please consult the ARTCOAT Safety Manuals.

ARTLUX EUROPA S.L.

C/ CAMPO SAGRADO 11 GIJON 33205 ASTURIAS, ESPAÑA

www.artluxeuropa.com info@artluxeuropa.com Tel. +34 985 32 33 28