CryoBond™ XVC

Cryobond™ XVC was designed as a moisture barrier coating. CryoBond™ XVC shows excellent adhesion and high strain capabilities on various substrates from cryogenic to elevated temperatures. This coating material is supplied in two parts. If needed, the viscosity of this coating can be adjusted to meet the needs of different processing techniques, such as spray application.

CURE: Hardens in approximately 2 hours in a 10 mil coating at 25°C. 7 days at 25° C for complete cure. Elevating temperature using heat lamps or ambient heating will accelerate cure, recommend 2 hours at 140° F.

Mix Proportions :	**Part A (Parts By Weight)**	**Part B (Parts By Weight)**
CryoBond™ XVC	100	48

Mixing Temperature: 20 - 25 °C (Room Temperature)

Mixing Procedure: Measure out the recommended quantities of Parts A & B by weight. It is essential that good mixing is achieved. **STRONGLY RECOMMEND MECHANICAL MIXING OF EACH COMPONENT PRIOR TO COMBINING THEM.**

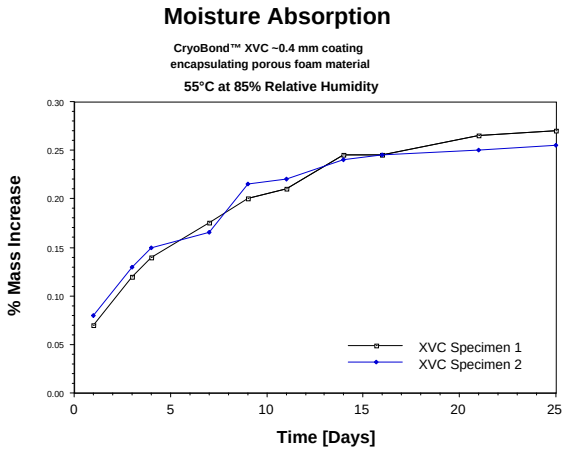
Pot Life: approximately 20 minutes in batch sizes around 100g

Storage: Store at room temperature, 20-30°C (65-75°F)

CryoBond™ XVC Performance Characteristics

Moisture absorption

Moisture absorption tests conducted on the CryoBond™ XVC encapsulating a porous foam material with a 0.10 to 0.15" coating. Specimens were placed in a humidity chamber maintained at 130°F and 85% relative humidity. Results of this study are presented below:

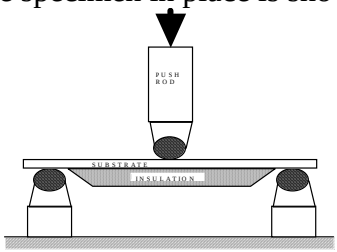


Thermal Shock

Porous foam specimens encapsulated with a 0.10 to 0.15 inch thick coating of CryoBond™ XVC were subjected to 25 thermal cycles between room temperature and liquid nitrogen temperature without the development of any observable cracks.

Cryogenic Strain Capability

The strain tolerance of Cryobond™ XVC was tested using a Flexural Cryoflex test method at cryogenic temperatures. This 3 point bend test method indicates the maximum strain capability of the coating by progressively loading the specimen and inspecting the coating for cracks. A schematic of the test fixture with the specimen in place is shown in the following figure.



The following results were achieved with the:

Coating Material	Coating Thickness	Substrate Material	Failure Strain at Coating Outer Edge	Comments
CryoBond XVC	0.009	Carbon/Epoxy	0.0132	Substrate failure
CryoBond XVC	0.007	Aluminum Lithium Alloy	0.0044	1.5 inch crack

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