

Chemical Resistance and Reaction

Chemical Resistance

Ceramic Cover CC Systems 100 is an 84% solid latex high density material low in viscosity coating with high insulating properties and chemical resistance. Envirotrol has worked with industry by testing chemical resistivity according to requests. A Sterilization Division uses Ethylene Glycol, Sulfuric Acids and Ethylene Oxide (gaseous) for sterilization of hospital equipment and supplies.

Areas designated for applications of Ceramic Cover CC Systems 100 are the metal roof area (repel gases being expelled causing corrosion), pre-conditioning cell duct systems (stop condensate and hold in heat), and post-cell duct systems (to seal duct system by retarding gas expulsion).

Ceramic Cover CC Systems 100 tested for reaction against the following chemicals:

<u>Test Data Property</u>	<u>Ceramic Cover CC Systems 100 Test Description</u>	<u>Chemical Resistivity Results</u>
Ethylene Glycol (HOCH ₂ CH ₂ OH)	immersion 300 hrs	excellent, product not affected, no softening or discoloration
Ethylene Glycol + .03 Sulfuric Acid (HOCH ₂ CH ₂ OH) (H ₂ SO ₄)	immersion 300 hrs	excellent, metal strip corrosion, but product stability in-tact. Metal under coating shows no corrosion
Sulfuric Acid (93%) (H ₂ SO ₄)	immersion 300 hrs	excellent, metal strip corrosion, but product stability in-tact. Metal under coat shows no corrosion
Hydrochloric Acid (53%) (HCl)	immersion 300 hrs	acid softens the material no adverse affect or break down
Methanol (98%) (CH ₄ O)	immersion 300 hrs	softens the material no adverse affects on break down
Acidic Acid (50%) (NaHCO ₃)	immersion 300hrs	acid softens the material no adverse affects or break down

An environmental lab in Alpharetta, GA, uses sodium hydroxide for removal of contaminates in water. Sodium hydroxide violently attacks the aluminum mixing paddles accelerating corrosion.

Test of Ceramic Cover CC Systems 100TM reaction to sodium hydroxide are as follows:

<u>Property</u>	<u>Test Description</u>	<u>Results</u>
Sodium Hydroxid (NaOH)	immersion 300 hrs	excellent, product not affected, no softening or discoloration coated aluminum strip showed no sign of corrosion

■ Chemical Resistance continued...

Two tanks at a pulp and paper plant in the midsouth, 1) a hot water tank, approximately 40'dia. x 30' ht. with a measured temperature of 140°F, 2) a chemical storage tank, approximately 40'dia. x 40' ht. with a measured temperature of 195°F. Each had the fiberglass insulation removed and pressure washed. Ceramic Cover CC Systems 100 was then applied, two (2) coats at approximately forty (.40) mils dft. from ground level to approximately ten feet around each circumference, reducing the hot water temperature to ambient, and the chemical storage tank to 107°F.

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