POLYMATE Ltd.
International Nanotechnology Research Center

ANTICORROSIVE ADDITIVES FOR POLYMERS

Anticorrosive Additives (**AAdd**) are an innovative approach to creating highly chemical resistant polymer materials. Anticorrosive Additives are specially designed to upgrade the chemical resistance characteristics of base polymers to achieve optimal performance capabilities of materials operating in aggressive environments. **AAdd** can be mixed into a wide range of polymer materials offering a significant increase in product life and reducing product permeability.

These custom-made specialty formulations are designed to meet specific client requirements. When cured with polymer-based materials, **AAdd** can dramatically improve the capabilities of poly- based materials by upgrading their chemical resistance properties. This enhanced bonding occurs upon the penetration of aggressive media into the **AAd**d-containing polymer material. The chemical resistant properties of **AAdd** are activated by harsh environmental conditions where polymer systems without additives remain defenseless to chemical corrosion.

AAdd can be mixed into a wide range of polymer materials such as epoxies, polyurethanes. Glues, nylons, polyurethanes, synthetic rubbers and PVC offering performance-enhancing attributes that increase the value of the end product. Polymate Ltd-INRC gas developed an extensive product range of additives for upgrading the most common polymers against a wide variety of aggressive media including acids, seawater, fluorine, alkalis, and more. **AAdd** are an effective solution for many applications. More than 80 products have been tested for use in the chemical industry

ADVANTAGES

Anticorrosive additives provide a number of distinct enhancements for polymers offering manufacturers products with stronger, corrosion resistant products. Chemical resistance tests were conducted on polymer systems over a period of one year. The results revealed that **AAd**d-containing polymer systems significantly outperform those systems without the addive. Furthermore, extensive testing has shown that **AAdd** can increase product life by some 20 times. This extended the offers substantial savings for users who extend the life of their polymer-based products whether it is pipes, flooring, or other materials that exposed to specific corrosive environments.

Products that have been enhanced with **AAdd** yield higher impact strength than products without additive. In addition, material permeability is reduced significantly 15-20 times. The percentage of **AAdd** mixed with a polymer matrix is relatively low, requiring only small amount to obtain upgraded resistant characteristics of polymer materials.

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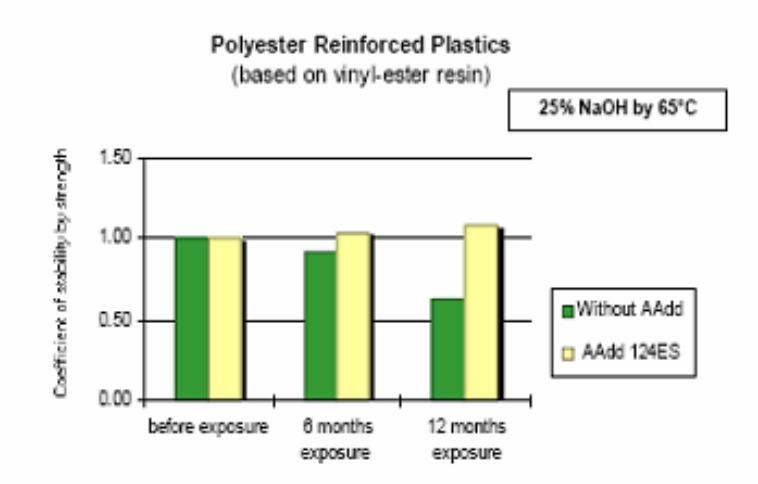
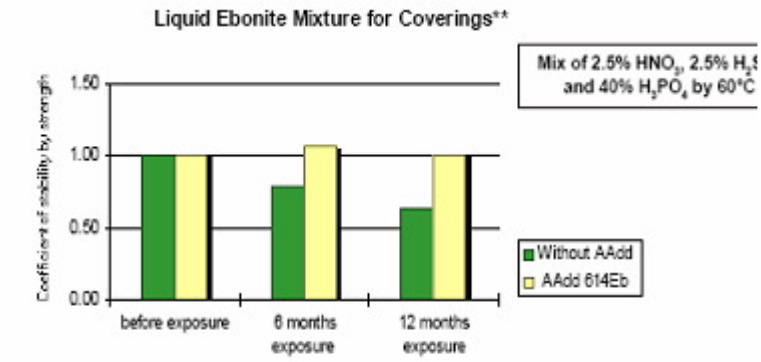
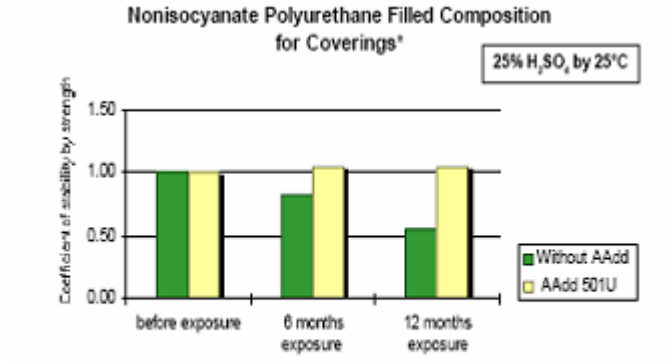
SPECIFICATONS





**Liquid Ebonite Mixture (LEM) is an advanced abrasive resistant material for monolithic thick-layer coverings, including coverings for articles with intricate surfaces (i.e., mesh of sieve, small pumps, rotors of centrifuges, small-diameter pipes, etc.) LEM does not require additional glue layers providing adhesion strength to steel 10 - 11 MPa in tear-apart tests.



**Nonisocyanate Polyurethanes are an advanced type of polyurethane based on new cyclocarbonate oligomers without toxic isocyanate components.

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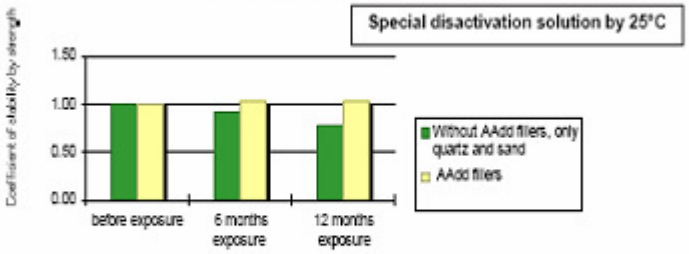
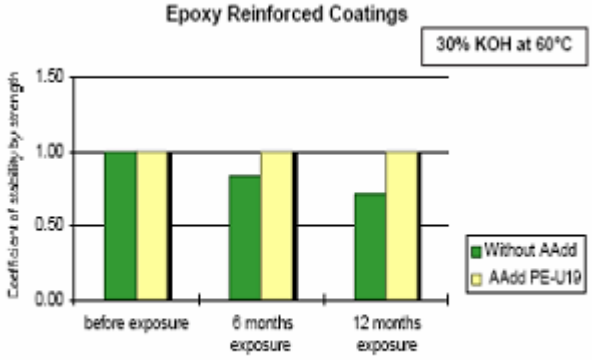
Chlorine-Contained Epoxy Mastics for Flooring Applications in Nuclear Power Stations and Various Chemical Plants***

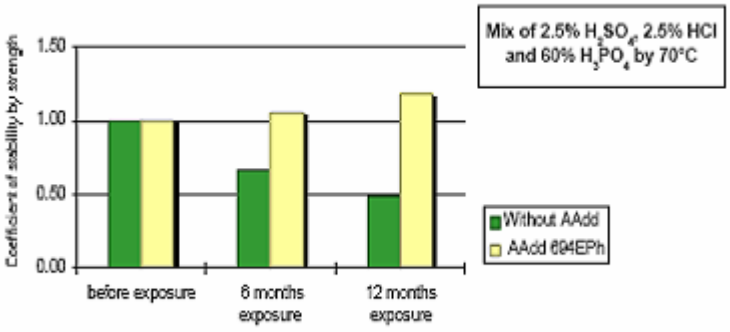


***AAdd in non-burning monolithic flooring provides upgraded chemical resistance against special disactivation solutions. Materials with AAdd are able to pass the IAEC method test for "natural fire" burning where flooring materials without the additive cannot.

Epoxy Reinforced Coatings



Epoxy - Phenolic Putty for Cladding



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