

I.101 – Introduction: Polymer Modified Cementitious Overlays

Revised: 5/2/2022 Version: 1.1

Introduction

The polymer modified cementitious overlay industry originates from the paint manufacturing and basic concrete restoration trades. Over forty years ago, paint resins (known as acrylic resin and/or vinyl resin) and cements were starting to be blended to create more durable solutions to basic concrete repair. It was found that with the addition of a basic paint resin, certain performance characteristics were mildly increased in repair cement mortars and so began the concrete overlay and resurfacing industry. It wasn't long before more innovative companies began to experiment with slightly improved aesthetic application techniques utilizing colors, textures and other applications processes. In the beginning, such materials were applied with masonry brushes to create subtle swirl and fan patterns. Then colors were added to enhance the look from dull gray colors to something more aesthetically appealing. That was followed by the use of drywall texture guns to create a sprayed on bubble type texture, along with troweled finishes and the now popular ¼" thin stamped overlays.

The Problem with Conventional Coatings & Overlay Products

Over the years, this industry has endured countless scrutiny and negative press from architects, specifiers, concrete contractors and homeowners due to the limitations caused by the of lack of long-term product performance of polymer modified cement coatings and overlay materials. These limitations include; un-tested & un-compatible materials, adverse weather condition failure from freeze/thaw cycles, high humidity & dampness and UV degradation. Lack of long-term product performance and adverse weather conditions forced installation failures, delays and also cause unforeseen expenditures downtime and application costs. This is all a result of poor product or chemical composition knowledge. Companies see a market niche or opportunity and immediately release a product line to the architectural concrete overlay and custom seamless flooring industry before the material can be properly tested or many times not even being of a quality composition.

In this industry the old adage of "marketing is what sells products, product don't sell products", is not true and too often one reason some overlay products are seen as ineffective. Too many companies not only have an extremely high attrition rate (loss of customers), but many companies don't even stay in business for long.

Developing a Solution

Elite Crete Systems was introduced to the decorative concrete overlay and custom seamless flooring industry when we were approached to blend and produce a pre-existing concrete resurfacing product line for another company. With our background in specialty polymer modified cement formulations and paint type products we immediately presented our customer with several alternative product blends which we felt would serve as improved replacements to their existing product line. It turned out the replacements were a success and so began the introduction of our products into a new industry.

The solution was relatively simple. Since most of the resins (modifiers) being used the industry at the time and still to date consisted of either acrylic based modifiers or vinyl based polymers, the disadvantages were immediately known. Acrylic based cements lacked the adhesion, water resistance and flexibility properties needed to perform long term, and vinyl based cements lacked the hardness, water resistance and abrasion resistance properties needed to perform long term. Our solution was to utilize performance characteristics of several different resins and polymers to create a better modifier for cement. This is why our cement modifiers are referred to as "hybrid polymers".

The Advantages

With the use of a proven hybrid polymer blend, the performance characteristics were a given. It wasn't until more creative contractors got to use the products until we learned another key advantage... Versatility. Acrylic modified cements were primarily used for base coats and spray textures and lacked the workability and texturing capabilities to emboss effectively or broom finish. Vinyl cements always had to be used in extremely dry conditions which would not be subject to high traffic or water.

The result is an architectural concrete overlay and custom seamless flooring system with the versatility to serve as a repair product or an aesthetic finish, as a broom finish or a splatter texture, as a troweled finish or a thin stamped overlay, our architectural concrete overlay and custom seamless flooring systems are leading the way.