

## **Elastomeric Coating provides a long-lasting Waterproof Coating**

Exterior masonry walls—particularly ones that are weathered—have long represented one of the most difficult maintenance challenges for the contractor, the painter, and the waterproofer alike.

Most typical exterior surfaces can be successfully protected and maintained by the regular applications of high quality conventional acrylic latex paints. But even the best paints often tend to split and fail when they have been applied over the surface cracks that develop as masonry ages.

There are two main reasons for this phenomenon. For one, conventional paint formulations have a relatively low volume solids content and tend to shrink on drying. If the paint contracts too much, it can re-expose the substrate. The other cause of paint failure is even more significant. It has to do with the fundamental nature of conventional paint films.

Most architectural and maintenance paints are based on "hard" polymers with relatively high glass transition temperatures -- generally between 0 degrees and 25 degrees C. As a result, the films formed by these formulations tend to be relatively rigid and in-elastic. Most surfaces to be coated are generally dimensionally stable, so this lack of a high degree of flexibility and elasticity poses no problem.

However, masonry surfaces are another case entirely. Masonry often exists as large monolithic areas that usually contain some cracks. Most of the cracks are relatively small ranging from hairline thickness to no more than 1/8" in width, but they undergo remarkable fluctuations in size -- as much as 300% to 400% or even higher in climates that experience wide swings in temperature.

When a conventional paint experiences the stresses caused by this movement, it responds by cracking.

There is a better alternative to latex paint on masonry substrates. Advances in acrylic technology have developed a unique series of 100% acrylic elastomeric masonry coatings. Acrylic elastomeric coatings are water based weatherproof coatings. Elastomeric wall coatings based on this technology combine many of the traditional benefits of high-quality acrylic latex paints, superb exterior durability, excellent dirt resistance, soap and water cleanup together with elasticity and flexibility required to tolerate the thermal movement of cracks.

**Note :** These suggestions and information are offered in good faith but without gurarantee as conditions and methods of use are beyond our control, Hence it is desirable for the prospective customer that they determine the suitability of the products and suggestions before commercial usage.

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## A Better Alternative: Elastomeric Wall Coatings

The construction chemical industry has known about the limitations of traditional paints on masonry. For almost that long, the industry has been searching for better alternatives. Early attempts to solve the cracking problem, involved formulating coatings with polymers not generally used in conventional paints. Many of these experimental systems provided acceptable service as dirt-resistant coatings.

Unfortunately, virtually all of the polymers tested formed hard films that were too rigid to accommodate the temperature-related fluctuation in the dimensions of the cracks. Inevitably, coatings based on these hard polymers fractured, exposing the masonry to the elements once again.

Recognizing that hard binders were not the answer, the industry turned to "softer" polymers with much lower glass transition temperatures. Many of the products investigated were already seeing use as binders for caulks and sealants. Because they had low glass transition temperatures, they furnished excellent elasticity and flexibility over a wide range of temperatures.

Formulations based on these polymers were better able to tolerate dimensional fluctuations without cracking than conventional paints. Consequently, they possessed good functional durability on masonry. Unfortunately, in solving one problem, the soft binders created another. These polymers produced tacky films that rapidly accumulated dirt, with a notably adverse effect on appearance. The bottom line was that none of the many products tested by the industry proved any more successful than conventional acrylic latex paint.

Basically, none of these alternative coating materials possessed both the decorative appeal and durability of acrylic paints and the mechanical properties required by masonry.

As has been indicated, coatings made from this new acrylic technology have the durability expected of a 100% acrylic binder, they dry rapidly, and are easy to clean-up. They adhere well to all kinds of common building substances, including masonry. Finally, they have dirt resistance associated with conventional acrylic latex paints, and they can be formulated with standard pigments to possess the same kind of visual appeal.

However, the novel composition of the new polymers provides two features that conventional latex paints do not possess. For one, these coatings exhibit excellent elastomeric properties. Under stress, they can stretch to several times their original dimensions. Thus, when the masonry substrates expands and contracts, with changes in temperature, the elastomeric coating can accommodate the movement without cracking. The other key difference between coatings based on the elastomeric technology and conventional latex paints concerns thickness. Latex paints are normally applied at thicknesses ranging from 1 to 3 mm.

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Elastomeric coatings are formulated to form much thicker films (10 to 30 mm).

As a result, they are much better able to bridge cracks than the comparatively thin films formed by latex films. Greater film thickness also enables elastomeric wall coatings to conceal fairly large surface imperfections. The result is a smoother, more uniform surface, a major benefit in some applications.

### **ADVANTAGES:**

Instead of depending on a separate, external component to impart flexibility to the film, 100% acrylic elastomeric polymers derive elasticity from a unique combination of special composition, molecular weight, and crosslinking. As a result, they retain flexibility over periods of time. Moreover, formulations based on the 100% acrylic elastomeric polymers exhibit their elastomeric properties over a broad range of temperatures. Thus, the performance of waterborne coatings based on the acrylic elastomerics remains consistently outstanding under all conditions.

In comparing the different types of binders in other areas of performance, the 100% acrylic binders have a significant edge over styrenated products in the area of ultraviolet stability, over vinyl acetate products in the area of hydrolysis resistance, and over both chemistries in the area of dirt pick-up resistance. As a result, on extended exposure, waterborne acrylic coatings are more resistant to chalking and do not yellow as do styrenated products. They are not as vulnerable to damage from ambient moisture as acetate-based systems, and they remain cleaner than both types of non-acrylic systems.

Collectively, the advantages provided by 100% acrylic technology translates into superior durability in both protective and decorative terms. Acrylic-based coating films retain their integrity better than styrenated and vinyl acetate systems; the acrylic formations do not crack, flake, or peel. Consequently, they do a better job of shielding masonry substrates from the elements.

At the same time, since the 100% acrylic coatings retain their elasticity and do not yellow or pick-up dirt very readily, they maintain an attractive, "decorative" appearance far longer than their competitors.

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# ZC-SEALCOAT

## *Protection with Decoration*

### *Waterproof Elastomeric Exterior Coating*

**ZC-SEALCOAT** is a unique polymer based waterproofing, elastomeric exterior performance coating to protect the concrete structure from degradation in varied climatic conditions. **ZC-SEALCOAT** is a single component 'Ready to Use' formulation with quick drying properties at room temperature. Its outstanding properties of water repellency coupled with toughness helps to arrest the leakage

during rainy season while its stability against UV radiation keeps the brightness unfazed for years together. Its **Two in One** performance **protects the surface from water seepage & leakage, enhances life of plaster and provides desired aesthetical outlook.**

#### **PERFORMANCE FEATURES:-**

- Excellent Water Repellency
- Resistance to U.V. Radiation
- Resistance to Fungus and moss.
- No peel-off tendency
- Tough and Scratch-proof.
- Excellent Brightness and finish.
- Stable at high temperatures.

#### **HOW IT WORKS:-**

Viscosity of **ZC-SEALCOAT** is so designed that, while application, **ZC-SEALCOAT** virtually travels in the surface and occupies all the cavities, porosities and hairline cracks of the structure. On curing, **ZC-SEALCOAT** forms tiny, flexible crystals within these cavities and blocks the passage of water arresting the chances of leakage completely.

**ZC-SEALCOAT**, thus, on application gets absorbed in the surface and forms an integral part of it. As a result, **ZC-SEALCOAT** does not show any tendency of 'peel-off' in any detrimental climatic conditions.

#### **OPERATIONAL FEATURES:-**

- Single component, ready to use system
- Quick drying at room temperature.
- No water curing required.
- Can be pigmented in wide colour range.

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## **OTHER SALIENT FEATURES**

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### **WATER REPELLENT**

Due to its smooth film, water falling on it beads up and rolls off. Since it seals all porosity and cracks, it does not allow water to penetrate.

### **WATER VAPOUR PERMEABLE**

To prevent damage from built-up hydrostatic pressure, a building must "breathe" and allow water vapour to pass through. With its multitude of densely packed micropores, ZC-SEALCOAT is much more water vapour permeable. It prevents hydrostatic pressure buildup and reduces the likelihood of blistering, cracking and peeling – all while successfully repelling water!

### **FUNGUS RESISTANT**

Due to its smooth film it does not allow fungus to grow. A powerful antifungal additive is incorporated in ZC-SEALCOAT.

### **UV RESISTANT**

ZC-SEALCOAT coatings fade far less than ordinary coatings. ZC-SEALCOAT colour pigments are virtually non-reactive with ultraviolet light. ZC-SEALCOAT colours stay bright and true.

### **CO diffusion resistant**

ZC-SEALCOAT provides excellent resistance to CO diffusion, which is the principle cause of damaging reinforced concrete.

### **Environment friendly**

ZC-SEALCOAT does not release any hazardous vapours in the atmosphere and is totally environment friendly coating.

### **Excellent crack bridging**

ZC-SEALCOAT has high degree of flexibility for wide range of temperature. The film can elongate 5 times its original shape, enabling it to conceal the cracks.

### **Aesthetic Decoration**

ZC-SEALCOAT provides the beautiful aesthetics to the buildings combined with functional properties. ZC-SEALCOAT can be pigmented in various shades to give a wide spectrum of colours.

### **Cost Effective**

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**ZC-SEALCOAT** becomes very much cost effective by avoiding reoccurring recoating cost due to its long life.

### **Covering Capacity**

**ZC-SEALCOAT** covers 45-50 sq.ft. per kg. for 2 coats application depending on smoothness and porosity of substrate.

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## **DIRECTIONS FOR USE**

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### **Surface Preparation**

Remove dust, dirt, grease, loose particles, flaking paint, wax, fungus, algae from surface using wire brush. Surface should be washed with water and allowed to dry.

### **Priming**

Apply the priming coat using recommended primer or by mixing **ZC-SEALCOAT** with water in the ratio of 1:2 using brush.

### **Finishing**

Finish the surface by applying 2 coats of **ZC-SEALCOAT** with an intercoat interval of 4 hours.

### **Thinning**

**ZC-SEALCOAT** is ready to apply paint, which does not require thinning.

### **Storage**

Keep container closed with a tight lid when not in use. Store in dry place.

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