



MIRACOTE®

Scientifically Superior™ Technologies

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Crossfield Products Corp.

Providing quality products and systems since 1938

In the mid 1930s, Jack Crossfield was an early pioneer in the development, marketing and sales of natural latex composition deck coverings and coatings to the marine industry. Crossfield's natural latexes were installed on both the Queen Mary and the Queen Elizabeth as underlayments, faring compounds and protective coatings. The latex surfacing was a great success and positioned Crossfield as the marine industry leader.

In 1938, Dan Patch, a chemist, and a group of investors purchased Jack Crossfield's surfacing products. They opened manufacturing plants in Brooklyn, NY and Los Angeles, CA. Dan Patch was selected to manage the new corporation and Chuck Watt joined the team. Together, they launched a revolution in the development of Scientifically Superior natural and synthetic products, starting with the introduction fire resistant and weather resistant elastomers.

During the 1940s Crossfield developed a number of products for marine and land construction use, including a number of core technologies that are still used today. These advancements positioned Crossfield to successfully service the resurfacing needs of naval and commercial fleets at the end of WWII and provide quality products in the growing construction industry.

Scientifically Superior flexible, semi-rigid and rigid catalyzed latex cementitious systems changed the shipping and construction industries forever with composition systems that possess ideal properties of toughness, skid resistance and ease-of-maintenance. In the late 1940s weatherproofing wearing decks coupled with slip-sheet technology were introduced as a successful answer to traffic bearing and roofing problems. These products were successfully placed in the Empire State Building, the Sears Tower and the United Nations buildings.

In the early 1950s, Crossfield was the leader in the introduction of conductive flooring systems, which were used in hospitals, munitions and solvent handling areas. In addition, they introduced epoxy resinous systems, including coatings, broadcast and trowel systems, leading the way for the introduction of urethane coating and mortar systems. This expanded product line created worldwide demand for Crossfield's marine, commercial, institutional and industrial product offerings.

In the early 1980s Crossfield acquired the Miracote product line and trademarks from Miracote Inc., which expanded Crossfield's channels of distribution to include concrete accessory and waterproofing distributors.

Today, the Miracote product line from Crossfield Products Corp. offers the owner, specifier, distributor and contractor a vast product offering of Scientifically Superior Technologies for use in commercial, institutional, industrial and residential applications.



Waterproofing Systems

- Miraflex II Walking Deck and Roof Covering System**
 Comprised of a decorative architectural wearing surface. It is a composition polymer modified cementitious and polymeric resinous waterproofing system that is used over elevated plywood decks. Miraflex II requires expanded metal lath that is filled with Miracote RM III (RM = Repair Mortar and Underlayment) materials. The system is ICC-ES ESR-1714 Listed having an UBC Class A One-Hour-Fire-Resistive Construction Rating. The membrane component has an IAPMO File No. 4509 Certification, which is manufactured in compliance with ANSI A 118.10-99.

Parking Structure Wearing Surfaces

Miracote's cementitious wear surfaces are designed for resurfacing parking decks. The systems include the option of Membrane A, a liquid applied, highly elastic fluid proofing membrane. The wearing surface is MPC (Multi-Purpose Protective Coating), a liquid polymer, catalyst based high performance cementitious resurfacing product.

- Mirathane AR SF (Parking Deck System)**
 A solvent free, fluid applied elastomeric surfacing designed for parking decks and high traffic pedestrian areas. The material consists of an epoxy primer, high performance polyurethane membrane and various wearing surfaces designed for a wide variety of end uses. It is designed to be "turned-up" at walls, columns, parapets, etc. to create an integral waterproofing membrane.



Membranes

Miracote has developed several membranes, using various chemistries, including copolymers, epoxies and urethanes.

- Membrane A Waterproofing Membrane**
 An exceptional copolymer emulsion waterproofing system designed for use beneath ceramic tile, marble, quarry tile, below grade and between slab, and under most Miracote composition floor and deck systems. Membrane A Waterproofing Membrane offers protection against water and waterborne salt intrusion, together with excellent adhesion. It is applied to horizontal and vertical concrete substrates, bricks, tile and metal. As a shower-pan liner it has an IAPMO File No. 4509 Certification, which is manufactured in compliance with ANSI A118.10-99.
- MC-5 Membrane Flexible Epoxy Crack Isolating, Waterproof and Fluid Proof Membrane System**
 A 100% solids epoxy/urethane flexiblized membrane designed to be applied under various floor and wall surfaces as a waterproofing, fluid proofing and crack isolation membrane. It was developed to replace solvent and solvent free polyurethane membrane systems, which are usually prohibited from indoors use due to combustibility, flame spread and smoke concentration. Most polyurethane membranes, when subjected to a flame, continue to burn, but MC-5 Membrane is self-extinguishing on concrete when tested per ASTM D635.





Cementitious Coatings and Overlays

- MPC (Multipurpose Protective Coating)**
 A high performance, liquid polymer catalyst, silica sand free, cementitious resurfacing product. It is applied in two applications with, brush, roller, trowel, squeegee or sprayer. It is resistant to salts, waterborne chlorides, and scaling from freeze-thaw conditions and it is ideally suited for interior and exterior resurfacing of concrete, concrete block and masonry. This system is highly flexible, trafficable, resistant to UV degradation and has a UL 790 Class A Fire Resistance rating.
- Micro-Topping**
 A multi-use cementitious decorative and protective coating system designed for application over a broad range of surfaces (e.g., concrete, brick, metal, masonry, plywood, etc.) to create a decorative, "concrete-like" appearance with "concrete-like" performance.
- Mirastamp**
 A polymer modified, two component cementitious architectural paving system that is installed at a thickness of 1/4" (6.3mm) to 5/8" (15.9mm) and is stamped using common methods and techniques. Mirastamp develops high compression strength and abrasion resistance and is suitable for heavy-duty vehicular or pedestrian traffic. It is designed for interior and exterior applications over new or existing concrete surfaces.

Decorative and Functional Epoxy Flooring

- Chameleon Symphony Pigments and Effects** – A unique line of pigments and effects that are pre-packaged and field blended with Miracote polymeric resin systems that include colorants featuring metallic and pearlescent dynamic color effects and brilliant pigments.
- CQ Pigmented Smooth Coating** – An epoxy coating that comes in standard monochromatic (solid) colors. This system is comprised of a primer and two coats of pigmented epoxy. It ranges in thickness from 18 mils (0.46mm) to 20 mils (0.51mm) and can be topcoated with an optional clear epoxy, urethane or polyurea.
- CQ Pigmented Broadcast Flooring** – An monochromatic (solid) quartz aggregate epoxy flooring system designed to produce a seamless floor and integral cove base. The floor ranges in thickness from 1/16" (1.59mm) to 1/8" (3.17mm) and consists of a limited number of standard epoxy colors with optional topcoats and finishcoats, including clear epoxy, urethane or polyurea.
- CQ Pigmented Industrial Troweled** – An monochromatic (solid) trowel applied industrial flooring system designed to produce a seamless floor and integral coved base. The floor ranges in thickness from 3/16" (4.76mm) to 1/4" (6.35mm) and consists of specially blended aggregate and a clear or pigmented CQ epoxy matrix, which is then topcoated with a pigmented epoxy. An optional finishcoat of urethane or polyurea is available.
- CQ Matrix Broadcast Colored Quartz Flooring** – An decorative colored quartz broadcast flooring system, designed to produce a seamless floor and integral cove base. The floor ranges in thickness from 1/16" (1.59mm) to 1/8" (3.17mm) and consists of colored quartz granules embedded in a clear epoxy matrix, then topcoated with a clear epoxy, urethane or polyurea.
- Miraf Flake™ Color Flake Full Broadcast Epoxy Flooring System** – A seamless, fluid-applied epoxy flooring system comprised of an epoxy primer basecoat and an epoxy pigmented receivingcoat, which is heavily broadcast with decorative vinyl chips, followed by a topcoat of clear epoxy and an optional clear aliphatic polyester urethane. The receiving coat is available in a wide range of background colors with several vinyl chip color options.
- Miraf Flake™ Color Flake Random Broadcast Epoxy Flooring System** – A seamless, fluid-applied epoxy flooring system comprised of an epoxy primer basecoat and an epoxy pigmented receivingcoat, which is lightly broadcast with decorative vinyl chips, followed by a topcoat of clear aliphatic polyester urethane. The receiving coat is available in a wide range of background colors with several vinyl chip color options.

Repair Mortars and Underlayments

Liquid Polymer and Cementitious Systems

Miracote Repair Mortars and Underlayments are liquid polymer and cementitious based repair mortars and smoothing/leveling underlayment products, which are trowel, screed or squeegee applied. They are ideal for concrete restoration and resurfacing over properly prepared, clean, sound and durable, spalled, cracked and deteriorated concrete and properly reinforced plywood substrates subjected to heavy-duty traffic; or as underlayments for microtoppings, resinous systems, carpet, linoleum, resilient tile or ceramic tile.

- **RM I** – Rigid trowel applied, from featheredge to 3" (76mm), suitable for pitching and sloping, and extendible with pea gravel for thicker fills.
- **RM II** – Flexible squeegee applied, suitable for pumping, applied at 1/2" (13mm) or less.
- **RM III** – Very flexible, trowel applied from featheredge to 1" (25mm), suitable for pitching and sloping, for plywood/wire lath, and extendible with pea gravel for deeper fills.
- **OV** – Overhead and vertical patching material, applied using a hawk-n-trowel or gloved hand, lightweight and sag-resistant.
- **SL** – A self-leveling underlayment typically pumped on site and spread with a special rake. SL Underlayment is intended for interior use only and should not be used for sloping. It sets rapidly to allow for immediate installation of resilient tile or carpeting.



Repair Mortars

Redispersible Polymer Cementitious Systems

Miracote redispersible polymer based repair mortars and underlayment products require only the addition of potable water and are troweled or poured-in-place. They are ideal for concrete restoration and resurfacing over properly prepared, clean, sound and durable deteriorated concrete substrates; or as an underlayment substrate for microtoppings, carpet, linoleum, resilient tile or ceramic tile.

- **PM** – Patch Mortar is a rigid, trowel applied, sag-resistant patching mortar suitable for horizontal or vertical applications and is ideal for smoothing rough concrete.
- **FC** – Feather-Cote is a rigid, trowel applied, feather edge smooth resurfacer ideal for shallow patching.





Concrete Stains

- Mirastain I Decorative Acidic Color Stain** – A unique architectural accent stain designed to color surfaces of cementitious poured-in-place construction materials. It is designed to penetrate concrete, masonry and polymeric cementitious surfaces using a combination of metallic salts in water-based solutions. Mirastain I is formulated to generate reactive chemical etching of cementitious surfaces. The reaction results in a permanent colorization, tinting or staining of the treated surface.
- Mirastain II Architectural Colored Stain for Cementitious Surfaces** – A waterbased architectural accenting liquid designed to color surfaces and antique cementitious poured-in-place construction materials. Mirastain II is a combination of high-grade pigment dispersion, co-polymer and water-based carrier solution specifically formulated to penetrate concrete, masonry and polymeric cementitious surfaces to provide permanent color tinting, antiquing or staining of the surface. It is a colorant and must be sealed with an appropriate sealer.



Top Coats, Finish Coats and Sealers

- Colorbond Dressing Single Component Acrylic Coating** – A single component, waterbased, pigmented acrylic coating designed for application on Miraflex II and other promenade deck and roof deck surfaces, and to polymer modified cementitious coatings such as Miracote MPC and Microtopping.
- CQ Matrix** – A clear epoxy resin and hardener designed for use as a top coat over select Miracote systems. Its impervious nature limits it to interior use provided the MVT (moisture vapor transmission) does not exceed 3.0 lbs/1,000 sq ft/ 24 hr period per ASTM F1869. Use Miracote MVERSTM Primer 100 over substrates, which have MVT emissions that exceed 3.0lbs, but are under 15.0 lbs/1,000 sq ft/24 hr period per ASTM F1869.
- HD II Acrylic Clear (Gloss or Matte) Sealer** – A combination of acrylic and VOC compliant solvents. HD II resists oil, grease, brake fluid, salt, calcium chloride, limited caustics, dilute acids, kerosene, alcohol and abrasion. HD II Acrylic Sealer is also used as a sealer for concrete, terrazzo, flagstone or other masonry surfaces.
- Mirathane APU™ II Clear Gloss and Matte Finish Coat (Aliphatic Polyester Urethane Finish Coat)** – Represent the next generation of urethane topcoats, are a blended aliphatic polyester urethane that is ultraviolet light stable. In addition, these products provide high chemical resistance, UV resistance and a low VOC of 250 grams or less per liter, making them compliant with Industrial Maintenance Coating Guidelines.
- Mirathane APU™ III Pigmented Finish Coat (Aliphatic Polyester Urethane Finish Coat)** – Represent the next generation of pigmented urethane topcoats, which are a blended aliphatic polyester urethane that is ultraviolet light stable. In addition, these products provide high chemical resistance, UV resistance and a low VOC of 250 grams or less per liter, making them compliant with Industrial Maintenance Coating Guidelines.
- Mirathane U/A Sealer (Aliphatic Urethane/Acrylic Sealer)** – Can be used clear or pigmented with Miracote ColorPax™. This represents the most competitive urethane sealer, which is a hybrid aliphatic urethane/acrylic that is ultraviolet light stable.
- Miraseal Acrylic Clear Sealer** – Miraseal is a single component, waterborne acrylic sealer designed for application to Miracote Colorbond, Miraflex II, Mirastamp and Multipurpose Protective Coating surfaces. Important characteristics of Miraseal include its wash down characteristics and excellent weathering qualities. It is also used as a sealer for concrete, cementitious terrazzo, flagstone and masonry surfaces.





Moisture Vapor Transmission Mitigation System

- **MVERS** – (Moisture Vapor Emissivity Reduction System) is a negative side moisture vapor barrier primer system that mitigates MVT up to 15.0 lbs/1,000 sq ft/24 hr period per ASTM F1869. MVT (Moisture Vapor Transmission) is the natural migration of gaseous water from a higher moisture source into an environment with a lower concentration of moisture, such as subgrade soil or a concrete slab on grade. MVT induced flooring problems are estimated to cost the construction industry and facility owners millions, if not billions of dollars a year.

The sources of capillary moisture, either liquid or gaseous are:

- High water table
- Drainage deposits
- Residual water from irrigation, run-off, etc.
- Broken plumbing
- Lack of or improper installation of a positive side (beneath the concrete slab) vapor barrier
- Free moisture (moisture not used in the hydration of cement) in new concrete slabs



Miracote Concrete Renewal Products

The Miracote Product Line consists of decorative finishes, waterproofing systems, repair mortars and underlayments, overlays, membranes, concrete and cementitious overlay stains, top coats, finish coats, sealers, and moisture vapor transmission mitigation systems.

Waterproofing Systems

- Decorative Decking (concrete and plywood)
- Pedestrian Traffic Coating
- Roofing Coverings

Membranes

- Co-polymer Membrane Shower Pan (IAPMO and ANSI Approved)
- Epoxy Membrane
- Urethane Membrane

Decorative Flooring and Finishes

- Architectural Stains
- Acrylic Sealers
- Epoxy Flooring

Repair Mortars and Underlayments

- Trowelable Repair Mortars and Underlayments
- Squeegee Grade Repair Mortars and Underlayments
- Overhead Patching Mortar
- Feather-Cote Thin Repair Mortar

Decorative Overlays

- Multi-Purpose Protective Coatings
- Stampable Overlays
- Micro Topping Overlays

Concrete Stains

- Chemical
- Pigmented Acrylic

Top Coats, Finish Coats and Sealers

- Acrylics
- Epoxy
- Urethane

MVT

- Moisture Vapor Transmission Mitigation System



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