



RubberShield EWC

Elastomeric Wall Coating

Technical Data and Application Instructions

Product Description

RubberShield EWC is a fluid-applied, 100% acrylic elastomer designed to waterproof exterior vertical surfaces. It possesses outstanding adhesion to a wide variety of substrates.

RubberShield EWC is a flexible “breathing” membrane, allowing moisture vapor from the substrate or building interior to escape through the coating while remaining impervious to mass water penetration from the exterior.

RubberShield EWC cures in a two-stage mode. The exposed surface crosslinks under ultraviolet light, while the sub-surface of the coating is protected from further crosslinking and retains a permanent elastomeric bond with the substrate. This eliminates the need for a separate topcoat and allows the system to repel dirt, mildew and pollution without sacrificing flexibility. It contains no plasticizers, and will not harden or slump with age or changes in temperature.

Advantages

- ❖ **Single Component:** RubberShield EWC is a ready-to-use material requiring no catalyzing. It has no pot-life problems.
- ❖ **No Solvents:** RubberShield EWC is a water-based, elastomeric emulsion conforming to all VOC and air pollution standards.
- ❖ **High Resin Content:** RubberShield EWC contains a higher ratio of acrylic resin-to-filler pigments than other coatings.
- ❖ **Uniform High Film Build:** RubberShield EWC’s thixotropic consistency gives it excellent vertical hold, allowing full application in one or two coats.
- ❖ **Self Cleaning:** RubberShield EWC seals and protects, releasing dirt, dust and pollution from its tight surface skin.
- ❖ **Elastomeric:** Permanent and non-aging, RubberShield EWC moves with the building to bridge hairline cracks that may develop.
- ❖ **Low Temperature Performance:** RubberShield EWC is unique having sustainable elongation properties at cooler temperatures, contributing to its ability for bridging hairline cracks and withstand effects of freeze-thaw cycling.
- ❖ **Abrasive Weather Conditions:** RubberShield EWC will

Basic Uses

RubberShield EWC was specifically developed for waterproofing vertical concrete and masonry building exteriors. It has the ability to uniformly cover the profile of textured substrates while forming a continuous membrane resistant to all forms of weather and airborne pollutants.

RubberShield EWC effectively covers existing hairline cracks and repairs areas while bridging anticipated future movement-derived hairlines. It provides long-term, aesthetically pleasing waterproofing on all types of concrete and masonry surfaces. RubberShield EWC is also effective over wood and hardboard substrates. EWC is available in smooth finish or a range of textures.

Colors

RubberShield EWC is available in 36 standard natural toned colors. All other colors are custom matched for the specific application. GlobalShield, Inc. has the color tinting facilities to match, virtually, any color. Color chips or samples must be furnished large enough to match for custom colors.

Typical Properties

Property	Value	Method
Solids by weight	68% (±2)	ASTM D2369
Solids by volume	55% (±2)	ASTM 2697
Tensile Strength	150 psi (1.0 kPa) (±25) @ 75°F 400 psi (2.8 kPa) (±25) @ 0°F	ASTM D412
Elongation	300 (±50) @ 75°F 400 ((±50) @ 0°F	ASTM D412
Hardness	60-70 Shore A	ASTM D2240
Permeance	7.7 perms at 15 mils (381 microns)	ASTM E96
Drying Time @ 75°F, 50% R.H.	½ hr. @ 20 wet mils (508 microns)	ASTM D1640
Low & High Service Temperature Limits	-30°F to 200°F	

Performance Properties

Property	Test Procedure	Value
Accelerated Weathering-Ultraviolet (U.V.) Resistance	Atlas Carbon Arc Weather-Ometer Type EH – Continuous UV and water spray cycling at elevated temperature. ASTM D822	After 2,000 hours of continuous exposure RubberShield EWC showed no deleterious effect, nor surface checking, cracking or delamination.
Resistance to Wind-Driven Rain	Pressurized test chamber producing 5" (12.7 cm) of water pressure, equivalent to 100 mph wind pressure (161 km/hr). Federal Spec. TTC-555B	During 40 hours of continuous testing, no apparent moisture penetrated the RubberShield EWC sample.
Resistance to Salt Spray	Harshaw Salt Spray Cabinet (5% sodium chloride fog solution). ASTM B117	After 500 hours of continuous exposure RubberShield EWC showed no deleterious effect, nor surface checking, cracking or delamination.
Resistance to Mildew	Five different fungus cultures grown on potato dextrose agar in 86°F (30°C) incubator. ASTM G21	After 14 days, all RubberShield EWC samples showed absolutely no fungus growth.
Low Temperature Flexibility	Federal Test Method No. 141a-6221, utilizing Gardener Mandrel set at cryogenic temperatures.	RubberShield EWC has the ability to withstand multiple 180° bends over a 1/8" mandrel at -30°F (-34°C)
Elongation After Aging	Atlas Carbon Arc Weather-Ometer Type EH (ASTM D822) and Instron Universal Testing Instrument. ASTM D412	After 2,000 hours exposure in the Weather-Ometer, RubberShield EWC retained 95% of its elastomeric properties.
Low/High Temperature Stability	Aged films tested in accordance with ASTM D822 in thermostatically controlled heat chamber and freezer.	Films retained their ability to be flexed 180° without cracking at temperatures from -30°F to 200°F (-34°C to 94°C) with no age hardening or slump.

Surface Preparation

NEW OR UNPAINTED: Bare concrete, brick, stucco or masonry must be structurally sound, clean, dry, fully cured, and free from dust, curing agents or form-release agents, efflorescence, scale or other foreign materials. On new, poured-in-place concrete, use a non-staining form release agent that is either easily removed or is designed to be compatible with surface coatings. RubberShield EWC may be applied directly to clean, sound surfaces of concrete, brick or stucco, as well as wood, siding and exterior wallboard. Concrete surfaces exhibiting high alkalinity should first be primed using RubberShield Primer.

Prior to application over masonry block, RubberShield Block Filler should be utilized to fill the pores and achieve a pinhole-free surface. RubberShield Block Filler is a water-based, high solids acrylic that enables it to uniformly fill and seal porous substrates. Application of block filler will maximize the effectiveness of the RubberShield EWC topcoat.

The amount of block filler required to uniformly fill or surface a masonry block or other porous substrate will depend upon the texture and porosity of the surface. The average application rate for RubberShield Block Filler will be 2 to 2½ gallons per 100 sq. ft. (.8 to 1.01/m²). For additional information, refer to separate RubberShield Block Filler Technical Data & Application Instructions.

PREVIOUSLY PAINTED: All dust, dirt, efflorescence and loosely adhering paint or coating shall be removed. Paints which show failure due to alkalis and moisture, recognized by flaking, peeling and white deposits, must be washed using RubberShield Cleaner and thoroughly power-rinsed with clean, fresh water prior to application of RubberShield EWC. RubberShield Cleaner is a 100% biodegradable cleaner formulated with penetrants from wetting agents and surfactants. It is non-toxic, non-polluting and will not harm ground vegetation, septic tanks or sewer systems. RubberShield Cleaner should be diluted at a 10 to 1 ratio with water. The diluted cleaning solution is then applied to substrate at 150 to 200 sq. ft. per gallon and allowed to stand for a minimum of 15 minutes. The cleaning solution is then rinsed from the surface with water under high pressure utilizing either airless spray or pressure washing equipment. A sample application of RubberShield EWC should then be applied to test for adhesion. If testing indicates poor or marginal adhesion, surfaces shall be primed with RubberShield Primer at 300 to 400 sq. ft. per gallon (7.3 to 9.7 m²/l) in this case. RubberShield Primer is a resinous acrylic designed to lock down residual chalkiness on sound, previously painted surfaces. Any

pre-painted surfaces not tightly adhered must be removed by sandblasting, water blasting or other mechanical means.

Concrete Repairs

SPALLED OR DELAMINATED CONCRETE: All delaminated or spalled areas in the concrete shall be repaired prior to the application of RubberShield EWC. Locations of delaminated concrete shall be identified in the field by tapping the concrete with a sounding rod or hammer.

Remove all unsound concrete using electric or pneumatic chipping hammers or with hand tools, as required. Sizes of hammers shall be such so as not to damage sound concrete adjacent to repair area. Care shall be taken to avoid damage to embedded steel reinforcements. Sandblast all exposed, embedded reinforcements to white metal, replacing reinforcements as required. Sandblast the cavity and the immediate surrounding concrete area to remove laitance, dirt, grease, chalk, curing compounds, paint and other contaminants. Blow the cavity clean with compressed air to ensure that all loose particles have been removed. Thoroughly coat all areas of exposed steel reinforcement with a two-component epoxy resin.

Fill cavities using high quality polymer-hydrated cement mix as manufactured by Sika or other approved brands. After pre-dampening cavity surface with clean water, latex-modified Portland cement mortar shall be scrubbed into the surface. Immediately following, latex-modified Portland-based repair cement patching mix shall be worked into the cavity, at the lift rate recommended by the manufacturer, and compacted adequately to ensure that no voids remain within the repair.

Patch lift thicknesses shall be a maximum of 1½" (3.8 cm) and a minimum of 1/8" (3 mm) or as recommended by the manufacturer. Finished surface of patches shall be flush with and shall match the texture of surrounding surfaces. For major repairs, involving deterioration greater than a 2" (5cm) depth, or severe corrosion of the reinforcements were evident, consult a structural engineer for repair procedures.

CONCRETE CRACK REPAIRS: All cracks larger than hairline shall be considered as "moving", and shall be routed and sealed. Mark all cracks with chalk to provide visibility of the crack during routing. Rout out full length of crack to form a ¼" (6mm) wide by ¼" (6mm) deep joint centered on the crack. Thoroughly rout out the joint centered on the crack. Thoroughly expel remaining dust using compressed air or flush with clean water. Routed surfaces must be clean, sound and square.

Remove all failed caulking material previously applied over cracks and clean thoroughly. Remove any existing paint, as required, to provide a clean, sound concrete surface prior to repairing cracks. Apply bond breaker along entire length of joint base, taking care to avoid applying bond breaker to sides of the joint. Fill the full length and depth of the joint with a high quality acrylic caulking. Tool the sealant, as recommended by the Manufacturer, to ensure bonding, consolidation and uniform appearance. The sealant must be completely cured prior to application of the RubberShield EWC.

Application

RubberShield EWC may be applied by roller as well as conventional or airless spray equipment. A brush or pad may also be used for touch-up and edging work, or for small areas unsuitable for spray application. Airless spray and rolling are the most effective methods for obtaining uniform film build. RubberShield EWC is a single-component material available in 5-gallon (19 liter) pails and 55-gallon (208 liter) drums. Upon extended storage, the product will settle into a bi-level suspension. It is necessary to thoroughly re-mix all RubberShield EWC containers prior to application. Use a slow, variable speed 1.2" professional power-drill or other large capacity power tool mixer capable of mixing the entire contents.

RubberShield EWC has a rich, thixotropic consistency. The addition of water reduces the thixotropic nature and decreases the ability to achieve heavy film buildup with good vertical hold. The material is easily pumped and sprayed without thinning, provided the equipment is in good working condition and coating is properly mixed and maintained at a minimum temperature of 60°F (16°C).

All surfaces should be sprayed with multi-directional spray passes to assure even coverage. On applications requiring two or more coats, subsequent coats shall be applied in a direction perpendicular to the previous coat, after it has dried. All surfaces must be uniformly coated and free from voids, pinholes or blisters.

The desired thickness given for coverage is based on a smooth, non-porous surface. Actual quantity required to achieve the minimum dry film thickness will depend upon the surface texture, method of application and weather conditions. It is the responsibility of the Applicator to apply sufficient material to achieve the minimum dry thicknesses required. RubberShield EWC, applied at the rate of one gallon per 100 sq. ft. (.41/m²), will theoretically yield 8.8 dry mils (224 dry microns). For issuance of a 5-year waterproofing warranty, GlobalShield, Inc. requires one or two coats of RubberShield EWC applied at a nominal thickness of 13 dry mils (330 dry microns), with a minimum thickness of 10 mils (254 dry microns) at any location. For issuance of a 10-year waterproofing warranty, GlobalShield, Inc. requires a minimum of two coats of RubberShield EWC applied at a nominal thickness of 19 dry mils (483 dry microns), with a minimum thickness of 15 day mils (381 dry microns) at any location. The following estimated coverage rates can be used as a guide in figuring material requirements for 5 and 10 year warranties:

Coverage Rates

Substrate	Gallons/100 sq. ft. for 5-yr.	Gallons/100 sq. ft. for 10-yr.
Concrete (smooth)	1.5 (.6 l/m ²)	2.25 (.9l/m ²)
Concrete Block, Brick	2 (.8 l/m ²)	2.75 (1.1 l/m ²)
Lightweight Pumice Block	2.5 (1.0 l/m ²)	3.25 (1.3 l/m ²)
Split Face, Stucco or Coarse Textured Surfaces	3 (1.2 l/m ²)	3.75 (1.5 l/m ²)

As work proceeds, the Applicator must periodically check the number of gallons used and compare to square feet coated. If adequate gallonage has not been applied, adjust accordingly and apply additional material to previous coats. Allow 15 to 30% more material for structures with grooved designs or recessed mortar joints.

RubberShield EWC shall not be applied when one of more of the following conditions exists:

1. If ambient and/or surface temperatures are below 45°F (7°C)
2. If relative humidity exceeds 95%.
3. Threat of rain or freezing temperatures within 4 hours of application.
4. The dew point is less than 5°F (3°C) above the surface temperature.

In addition, caution must be exercised when applying RubberShield EWC in dark colors under high heat conditions. Surfaces exposed to direct sunlight should be coated using thin passes during the morning or late afternoon hours. Application of dark colors under extreme, direct sunlight can cause blistering and/or excessive cellular structures within the cured film.

RubberShield EWC has been applied over a wide variety of substrates, utilizing many different brands, types and sizes of conventional and airless spray equipment. Airless equipment is best for field applications, using a minimum of ¾ GPM output (2.8 l/minute) and reversible .021" to .031" (.5 to .8mm) tips.

Larger equipment will always increase production capabilities.

GlobalShield, Inc. recommends that a sample area be applied by the Contractor, using the desired RubberShield EWC color and texture, and approval be obtained prior to any general application of the material. This will help determine proper coverage rates and application techniques. Final appearances will be affected by surface textures and porosities, as well as application techniques.

RubberShield EWC is also available in a light texture finish. It is recommended that a minimum of two coats be applied, with the first being non-textured, or smooth RubberShield EWC. This will provide a monolithic, waterproof membrane underneath the textured topcoat(s).

Use water and RubberShield Cleaner or equal to thoroughly flush equipment. Purge the water from the system using Mineral Spirits or Cellosolve solvent. Leave the solvent in the lines and equipment until next use.

Application Tips

Whenever RubberShield EWC is ordered, every effort is made to supply the coating from a single batch. However, due to fluctuations in inventory levels, there are occasions when different batch numbers of the same color are sent to complete an order. Whenever this occurs, it is the sole responsibility of the Applicator to make certain that only one batch number is used on any one side of the building. Different batch numbers cannot be used on the same wall unless they are "boxed" or blended together to ensure total color uniformity.

Partially full containers of RubberShield EWC may surface-skin under hot conditions. Examine before mixing and remove skin, if present. To prevent skinning during application in hot weather, or in partially full containers, pour a thin layer of water on the surface after mixing.

While RubberShield EWC has excellent vertical hold, it is virtually impossible to apply more than ½ gallon per sq. ft. (.2 l/m²) per coat unless utilizing airless or conventional spray equipment. Therefore, additional coats must be factored in to achieve the required dry film thickness when utilizing roller or brush application.

Limitations & Precautions

RubberShield EWC should generally not be used over cold storage tanks of buildings where a vapor barrier coating is required. RubberShield EWC shall not be used for interior applications in place of a thermal barrier.

RubberShield EWC will freeze and become unusable at temperatures below 32°F (0°C). Do not ship or store unless protection from freezing were available.

RubberShield EWC requires the complete evaporation of water to cure. Cool temperatures and high humidity retard curing. Do not apply if weather conditions will not permit complete curing before rain, dew or freezing temperatures occur. Do not apply in the late afternoon if heavy moisture condensation would appear during the night.

Do not apply RubberShield EWC at temperatures below 45°F (7°C), or when there is a possibility of temperatures falling below 32°F (0°C) within a 4 hour period after application.

For addition information, refer to OSHA guidelines and RubberShield EWC Material Safety Data Sheet.



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