

ZCM is different from ACM in many aspects which have to be taken into consideration well in advance of executing a project.

ZINC PATINATION PROCESS AND PRE-WEATHERING

Zinc is a natural metal which upon exposure to outdoor elements, develops a protective zinc-carbonate patina layer. Over time, the patina will mature into a rich blue-gray patina which incorporates elements of its surroundings to provide a finish unique to its location. Pre-weathering is the process of utilizing a non-pollutant phosphate treatment to accelerate the natural patination process that zinc undergoes. Pre-patina finishes are manufactured to varying tones and hues and enable panel surface finishes, upon installation, to achieve a look which would only otherwise be achieved numerous years after installation in its outdoor environment.

MINIMIZING OPTICAL TONE VARIATION

Titanium Zinc is an alloyed natural metal which is cast into ingots, rolled into its coil format, and pre-patinated via the pre-weathering process. Due to inherent variations during each step of the process, ZCM panels will be subject to slight variations in optical tone, even within the same production batch. Optical differences between production batches will be more pronounced therefore it is very important to order all the required material for a singular project at the same time to ensure it is sourced from one production lot.

THERMAL EXPANSION AND CONTRACTION

Aluminum Composite Material expands and contracts with temperature fluctuations in a uniform manner in all directions. Zinc Composite Material will expand and contract differently with the metal grain versus against the metal grain. Great care must be taken during design to accommodate for differing vertical and horizontal expansion coefficients in wall design.

SPECIAL CONSIDERATIONS

Alfred FR ZCM



Fire Resistant & Non-Combustible Cladding

	ALFREX FR ZINC COMPOSITE MATERIAL		ALFREX FR ALUMINUM COMPOSITE MATERIAL	
SKIN ALLOY	Titanium Zinc Alloy		Aluminum 3003 H14	
SKIN THICKNESS	Top Side	0.028" (0.7mm)	Top Side	0.020" (0.5mm)
	Bottom Side	0.028" (0.7mm)	Bottom Side	0.020" (0.5mm)
CORE MATERIAL	Mineral Filled Fire-Resistant Core		Mineral Filled Fire-Resistant Core	
STANDARD THICKNESS	4.0mm (0.157")		4.0mm (0.157")	
STANDARD WIDTHS	39.37" (1000mm)		62" (1575mm)	
	48" (1220mm)		50" (1270mm)	
CUSTOM WIDTHS	Not Available		Minimum 42,000 SF	
WEIGHT	2.92lbs/SF (14.26kg/sqm)		1.51lbs/SF (7.37kg/sqm)	
FINISHES	Pre-Weathered Finishes		70% PVDF Kynar Resin Coil Coatings	
COEFFICIENT OF THERMAL EXPANSION ASTM D696	Lengthwise (With Metal Grain)	12.2 x 10 ⁻³ in/in/°F (@-22-86°F)	1.44 x 10 ⁻³ in/in/°F (@-22-86°F)	
	Widthwise (Against Metal Grain)	9.4 x 10 ⁻³ in/in/°F (@-22-86°F)		
PRODUCTION MINIMUMS	Made to order for each specific project		Standard colors from finished goods or made-to-order	
	Consult for minimum quantity details.		Standard color minimum production quantity 2,000 SF	
	Production runs are classified as a specific finish and product width manufactured from the same batch of zinc coil.		Custom color minimum production quantity of 2,300 SF	
FINISHED GOODS	NO		YES	
CUSTOM COLORS	NO		YES	
STANDARD COILS STOCKED	NO		YES	
MATCHING FLAT SHEET	YES From zinc manufacturer		YES	
BOND INTEGRITY WARRANTY	YES		YES	
FINISH WARRANTY	NO		YES	

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Fire Resistant & Non-Combustible Cladding

	ALFREX FR ZINC COMPOSITE MATERIAL	ALFREX FR ALUMINUM COMPOSITE MATERIAL
STORAGE AND HANDLING	It is essential to review the technical support documentation of both elZinc and RHEINZINK for detailed recommendations Zinc is a much heavier, softer metal versus aluminum with higher sensitivity to moisture exposure, standing water conditions, and deformation due to improper storage, stacking, and handling. Employees must use gloves and sleeves to avoid fingerprinting and marking.	Standard storage and handling procedures per experienced MCM fabricators
FINISH DIRECTIONALITY	Extremely high due to visible metal grain. Always install sheets in the same direction.	Extremely high for Mica and Metallic colors. Always install sheets in the same direction.
PRODUCTION BATCH SENSITIVITY	Extremely high between coils	Coil coated solid colors - low Coil coated Mica and Metallic colors - high
TONE VARIATION	Slight optical variations are expected since a natural metal such as zinc has minor fluctuations in alloy and grain throughout a coil	Low to non-existent with coil coatings
FINISH AGING	Patina formation will progress at different rates based on environmental factors resulting in some variation between panels depending on their location on a building	Coil coated finishes will age differently based on degrees of UV exposure
CLEANING & MAINTENANCE	It is essential to review the technical support documentation of both elZinc and RHEINZINK for detailed recommendations. DO NOT USE TRADITIONAL CLEANING AGENTS used in construction. Any stains, fingerprints, or other discolorations which are not removed immediately will be permanently incorporated into the patina After installation, periodic cleaning is not recommended other than a freshwater rinse	Standard cleaning procedures using mild detergents per Alfred's published recommendations
CONTACT WITH DISSIMILAR METALS	More sensitive than aluminum Stainless steel fasteners & rivets only Use standard industry practices for separating panel surfaces from dissimilar metals with shims or other materials for that purpose	Aluminum or stainless-steel fasteners & rivets Use standard industry practices for separating panel surfaces from dissimilar metals with shims or other materials for that purpose
STANDING WATER CONDITIONS	Highly susceptible to permanent staining and corrosion	Susceptible to corrosion