

► Risk of Corrosion in Wall Cladding Systems

November 2019

Corrosion of steel laths in stucco plasters is an ongoing concern. All of our lath and corner reinforcement products are hot galvanized to provide corrosion resistance. However it must be noted that the galvanization requirement per ASTM Standards provides protection during storage, before use, and for protection from the freshly applied stucco plaster. Long term protection is to be provided by proper embedment in a proper Portland cement stucco matrix.

General Precautions & Work Practices

1. Moisture Ingress – Corrosion cannot occur without the presence of water. In the presence of water, zinc will be consumed and steel will corrode. Therefore attention needs to be given to all details at penetrations, control joints, flashings etc. to minimize the potential of water entry behind the stucco cladding.
2. Embedment – The long term protection is the stucco itself. Therefore the stucco has to be kept dry and the metal has to be completely embedded in the stucco matrix to prevent contact with carbon dioxide or moisture. 1/8” stucco embedment is deemed to be the minimum cover.
3. Acrylic Coatings – are intended to provide resistance to water penetration. However once water has entered the cladding through the acrylic coating or around penetrations, the acrylic coating will tend to keep the stucco wet for much longer periods leading to accelerated corrosion. Therefore, greater attention to improved details will minimize, but not entirely remove risk.
4. For corners 1/8” embedment must be attained. When using acrylic this can be achieved by application of a 3rd stucco coat – feathering back in to the plain of the wall. Acrylic becomes the 4th coat in this case.
5. Do not use stucco for horizontal or sloping surfaces on top of structural walls functioning as a roofing element exposed to water. Stucco is not water impermeable and will allow water into the matrix which can not only cause corrosion but create structural problems with wood or metal framing. Flat surfaces are vulnerable to water entry on both cementitious and acrylic finishes.
6. Additives or Contamination – non- approved additives, such as calcium chloride, should not be added to stucco mixes. These can create acidic conditions which will quickly attack metallic elements. Similarly sand and mix water must be clean of any contaminants.

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7. Care has to be exercised with dissimilar metals such as zinc, copper, aluminum or other metals which may be in contact with the stucco.

8. In coastal climates or sub tropical climates, the risk of corrosion increases sharply. Therefore water entry must be prevented and full embedment is essential in accordance with paragraph 1 and 2 above.

9. In coastal areas, it is not recommended that Structa Wire Corners be used with Non-Portland Cement Stucco or stucco additives containing Alumino Sulfate cements due to the increased risk of corrosion in salt air environments.

DISCLAIMER

Since corrosion conditions are beyond Structa Wire's control, Structa Wire Corp. will not be responsible for corrosion damage or rust staining. For products with higher corrosion resistance, Structa is offering stainless steel corners and laths, on a special order basis.

If you require further information, please do not hesitate to reach out to us at 1-800-887-4708.