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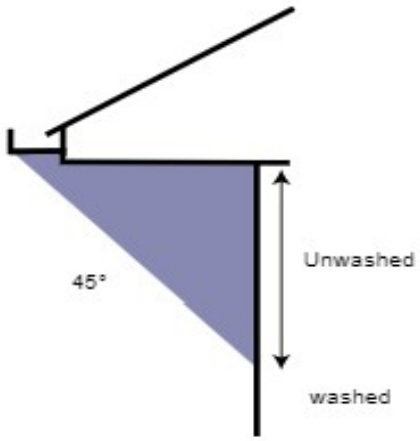
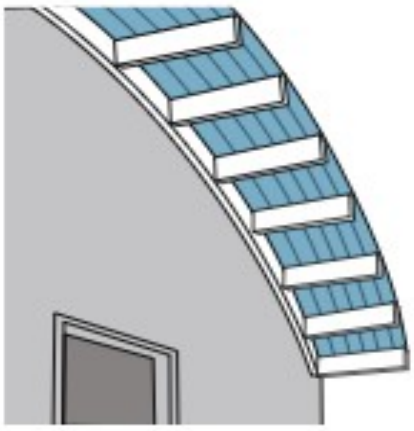
The Importance of Maintenance of Metal Roofing and Walling

Typically, roof cladding only requires rain washing to achieve its durability expectations. However, roof inspections should be carried out at least annually to remove any build-up of debris and conduct any required localised maintenance. Other materials and accessories with different durability expectations than the roof should also be inspected for deterioration.

Programmed washing should be carried out on all unwashed surfaces, at intervals prescribed by the material supplier. Unwashed areas include all surfaces above a line drawn at 45^0 from any overhang, the exposed undersides of roofing, and all wall cladding.



Unwashed area wall cladding



Unwashed area soffit

Failure to clean unwashed surfaces can have a significant effect on durability of profiled metal. This happens in two ways. It extends the time during which a reaction is happening, and it affects the speed of the reaction.

Time of Reaction

Corrosion is an electro-chemical reaction; to occur, it requires an electrolyte, e.g. water. Surfaces coated with dirt or salt debris will take longer to dry than a clean surface, hence prolonging the time of reaction. Salt is highly hygroscopic and will absorb water vapour from the air at high humidity levels, making moisture available to the metal even in “dry” conditions, and extending the time of reaction.

Speed of reaction

Dirt or vegetation build-up may be either acidic or alkaline. Large degrees of either will affect the speed of the reaction. Most metals used in roofing in New Zealand are most stable at a pH level close to 7 (neutral). Salt spray is most commonly slightly acidic, but its greater contribution to corrosion is that salt increases the conductivity of the water, which accelerates the rate of electro-chemical reaction.

The following pictures illustrate the effects of dirt and salt build-up, taken from wall cladding in a Moderate/Severe Marine location. The first photo shows sediment build-up, and corroding around fastener holes, as well as on the body of the sheet. The second photo is material from the same building, in an area naturally washed by rain. The sheet pictured has mechanical damage to the paint coating down to the base metal, but is not exhibiting any signs of corrosion. Nor were there signs of corrosion around fastener holes or sheet ends in this area of the building.

	
Corrosion in areas of debris build-up	*No corrosion on the rain-washed wall surface*

As can be seen, washing profiled metal cladding is not required just for aesthetics; it is an integral part of any plan to optimise durability and life cycle costing. Failure to do so can have a profound effect on the performance of metal roofing and walling.

Yours sincerely,

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