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Felt Tips

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WEATHERING STEEL

Weathering Steel releases minute oxide particles of corrosion product when water washes or drains over a bare exterior surface. Although staining potential decreases as the steel weathers and the tight protective oxide is formed, it may be present for several years, or an indefinite period, depending on variable environmental factors. Similarly, excessive condensation on bare interior surfaces of Weathering Steel can absorb water-soluble iron compounds that may drip onto adjacent materials. The best solution to the staining problem is permanent design details that will divert the run-off water away from adjacent, vulnerable materials. Unobtrusive gutter and downspout systems, adequate overhangs, drip plates, special flashings and similar provisions will usually do the job.

As a general rule, the minimum thickness of Weathering Steel sheet in most applications should be 0.0478 inches. Two environments that may require at least this minimum gage are extremely humid climates and areas of severe industrial contamination.

Siding, fascia, and roof applications of Weathering Steel sheet require special considerations to avoid possible progressive corrosion of the material under conditions where the protective oxide associated with the natural weathering process will form. Specifically, these possible problem areas include:

1. External crevices such as butted vertical joints between wall or fascia panels and overlapping joints in roof or wall assemblies where moisture can be entrapped for extended periods.
2. Excessive condensation on the interior surface of wall, fascia, or roof sheets as a result of high relative humidity within a building space. One critical point can be the interface between girts or purlins and the sheet which may entrap moisture.
3. Siding surfaces near grade where snow may be in contact with the steel for prolonged periods.

Butted vertical joint problems might best be avoided by separating the opposing surfaces at least 1/4 in. so that the joint is self-draining. Where this is not practical or desirable, the joint should be properly caulked. Gaskets may also serve the purpose in certain joint configurations.

Overlapping joints should be caulked. Gasket-type treatments have also been used.

Excessive condensation collecting on the back or sheltered side of Weathering Steel sheet can cause progressive corrosion and/or "rusty" water runoff.

Rain runoff from Weathering Steel should be prevented from flowing onto glass surfaces for it can result in rusty streak deposits. Window treatments whereby the window assembly is sufficiently recessed behind the face of the wall can serve this purpose. Other provisions can include a flashing - either separate or incorporated in a special glazing gasket - to divert the runoff away from the glass.

Glass manufacturers recommend cleaning the glass after each rain that is sufficient to produce stain deposits.