
MINIMIZATION OF WATER STAINING OF ALUMINUM

Winter is once again upon us, and with it increased opportunities for water staining of aluminum. Water stain is actually a thin corrosion layer and, while not generally detrimental to properties or performance, is visually unacceptable, particularly in sheet and coil products. In the presence of water in a confined space, as between stacked sheets or plates, or between wraps in a coiled product, water stain can develop in a matter of hours.

While we at ThyssenKrupp NA, take pains to ensure adequate packaging and protection for your valuable aluminum products, aluminum and its alloys are extremely sensitive to storage, handling, and environmental conditions, and there are many steps you can take to minimize the occurrence of water stain.

- When your aluminum products are received, examine the incoming load on the truck. Is it properly secured, tarped, and protected? Is there evidence that the shipment traveled through rain or snow enroute? Note any problems on your receiving documents.
- On unloading, inspect the packaging of each skid. Is the packaging intact? Dry? If there is any damage to the packaging and/or if the material is wet when received, note it on your receiving documents and take photographs for future reference. Do not open any packages until dry.
- If the metal is received cold, as is often the case with winter shipments, allow it to come gradually to room temperature, which may take several days, before opening or breaching the packaging. Even a small opening can allow atmospheric moisture to condense on the metal.
- If condensation forms on the coil or package, do not attempt to open it until it has warmed to room temperature and dried.
- When opening the package, note any apparent damage to packaging or metal and document photographically. In the case of coiled products, note whether the top and bottom coil caps are intact.
- Store your aluminum in dry, temperature-controlled areas.
- If you encounter water stain, take photographs and note position, relative to package. If coil, was it the top or bottom of the coil as-received?
- The presence of water stain does not necessarily mean that the entire skid is affected. If possible, run out at least 1/3 of a coil and flip through sheets or plates, to determine the extent of the problem.

See also "Guidelines for Minimizing Water Staining of Aluminum," document TR3, available from the Aluminum Association at www.aluminum.org.

For questions on water staining, protection of aluminum, or other technical issues, contact ThyssenKrupp NA Corporate Quality:

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