



WHITE RUST ON ALUMINUM

Castrol Industrial has many products that can be used to machine or protect aluminum. One goal in development of these products is to provide excellent corrosion resistance. White rust is a corrosion concern with aluminum. The two common causes of white rust are moisture and alkalinity.

Moisture – the reaction between water and aluminum is aluminum hydroxide, which is referred to as “white rust.”

- In washer units, the blow-off cycle is important in preventing white rust. Be sure the parts are dry after the blow-off.
- After machining, if the parts are stored for a length of time in a bin while still wet with coolant, white rust could occur. The metalworking fluid will drain off the parts and gather in the bottom, creating a potential humidity cabinet that will re-deposit water on the parts.

Alkalinity – alkaline residues can absorb water from the humidity in the air and react again as aluminum hydroxide.

- If the rinse cycle of a washer unit has become contaminated with the initial alkaline cleaner from the first stage in a three stage washer, you will re-deposit alkaline residues on the parts. Overflow the rinse tank sufficiently to constantly remove contamination.

Any other form of corrosion on aluminum is considered “chemical corrosion,” not white rust.