



Crown Acid Aid SS

Pickling Additive for Stainless Steel



Description

Crown Acid Aid SS is a highly specialized chemical additive for use in the acid pickling of stainless steel alloys. Uniquely formulated to withstand the extreme conditions of nitric acid/ hydrofluoric acid at high temperature, Acid Aid SS improves the surface quality of stainless steel strip while significantly reducing acid consumption. Processors will notice a brighter, shinier, more uniform surface with less pitting and reduced smut. Plus, Crown Acid Aid SS pays for itself many times over by reducing acid costs by 10 to 20 percent.

General Benefits

- ***Significantly improves surface quality of stainless steel alloys pickled in mixed HNO₃/HF acid***

- * *Creates a brighter, shinier surface with less pitting and reduced smut*
- * *Levels the reactivity across the entire surface, resulting in a more uniformly pickled substrate*
- * *Improves pickling, minimizing the incidence of residual scale and mill defect*



- ***Dramatically reduces overall process costs***

- * *Lowers consumption rate of hydrofluoric acid by a minimum of 10%*
- * *Allows nitric acid specification to be safely lowered without compromising pickling ability*
- * *Improves overall pickling, minimizing the incidence of residual scale and mill defect*

- ***Safe, reliable and cost effective***

- * *Will not interfere with normal pickling process or wastewater treatment*
- * *Helps to keep dangerous NO_x fumes in the bath and not lost up the stack; allows for a greater percentage of NO_x gases to be treated in SPL*
- * *Very low additive usage rate means the product more than pays for itself in reduced process costs*



CROWN TECHNOLOGY, INC. has been the industry leader in steel pickling inhibitors and acid corrosion products since 1946





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Typical Properties

Appearance.....	Clear, colorless liquid
Odor.....	Mild
Solubility in Water.....	Complete
Specific Gravity.....	1.00 – 1.02
pH.....	6.0 – 8.0

Consult your Crown Technical Representative for specific usage information

Mode of Action

Crown Acid Aid SS is a unique chemical additive that was specifically developed for stainless steel pickling applications. The specialized qualities of the chemistry allow it to improve surface quality while also reducing process costs. Importantly, the Acid Aid SS has been formulated to withstand the extreme environment of a high temperature stainless steel pickling bath to ensure long-lasting benefits.



Here's how it works:

- ***Reduces interfacial tension between the acid and the surface of the steel***
 - * *Allows acid to penetrate the cracks of the scale → faster descale rates*
 - * *Eliminates the electric double layer associated with pickling → more uniform reactivity and faster descale rates*
 - * *Faster descale rates → lowered HNO₃ acid specifications*
 - * *Less localized, more uniform reactivity → less pitting and shinier surface*
 - * *Reduces deleterious effect of high metals buildup*

- ***Creates a beneficial foam blanket on the acid baths***
 - * *Hydrofluoric acid is a gas (hydrogen fluoride) dissolved in water, therefore HF losses up the stack at elevated temperatures can be significant*
 - * *Creation of a foam blanket allows the hydrogen fluoride gas to re-condense in the foam matrix and fall back into the pickle bath*
 - * *Dangerous and toxic NO_x gases are maintained in solution the same way, allowing them to be later treated in SPL*



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