



## PICKLING HOOKS

Two acids are commonly used by the ferrous industry to clean their products: hydrochloric acid (HCL) and sulfuric acid (H<sub>2</sub>SO<sub>4</sub>). The corrosive effects of these two acids on materials used for pickling equipment are considerably different but both compromise the structural integrity of the equipment. When the need arises for the removal of surface impurities from ferrous materials, count on Alloy Engineering's design and manufacturing expertise to provide the most efficient and economical hook for handling your rod and wire. For over 45 years, the world's leading wire manufacturers have relied on Alloy Engineering pickling hooks. Our engineers use the latest technology in design, material selection and fabrication techniques to build exceptionally durable hooks.

### Features:

- Dramatically reduces downtime, lost production and maintenance cost due to the need for frequent and unscheduled replacement of hooks built from inferior material or fabricated using inferior techniques.
- No charge for periodic inspections and rerating of load capacity
- Engineering expertise for the selection of optimum materials
- Proprietary software to custom design each hook based on your required service conditions
- Repair capabilities

## RELATED PRODUCTS:

- Strip lifter bars
- Plate pickling racks
- Pickling drums
- Pickling baskets
- Acid heating coils
- Tank guards
- Tanks

**Reduced Maintenance • Longer Life • Lower Life-Cycle Cost**

**Alloy Engineering**

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# PICKLING HOOKS



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## Pickling Hook material selection guide and approximate design data

Material	Inconel 625	Inconel 825	Carpenter 20 CB3	Monel 400	316 Stainless Steel
Best in/as	HCL	Sulfuric	Sulfuric	Sulfuric	Low Cost Alternative
Normal Operating	100-120 ° F	180-200 ° F	180-200 ° F	180-200 ° F	
Nickel	58%	38-46%	32.5-35%	63%	10-14%
Chrome	20-23%	19.5-23.5%	19-21%		16-18%
Moly	8-10%	2.5-3.5%	2.0-3.0%		2.0-3.0%
Copper		1.5-3.0%	3.0-4.0%	28-34%	
Yield Strength Annealed Plate	60-95,000 psi	38-46,000 psi	40,000 psi	28,000 psi	42,000 psi
Modulus of Elasticity	29,600,000 psi	28,300,000 psi	28,000,000 psi	26,000,000 psi	28,000,000 psi
ASME design stress as temps shown above	27,500 psi	20,250 psi	21,300 psi	16,400 psi	25,000 psi

Two approaches to hook design

1. ASME allowable stress
2. ASME B 30.20 below the hook design factor of safety 3 (No factor of safety included in requirement)

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