

Mechanical Properties

	SS 304Cu	WNR 1.4567	UNS S30430	AISI 304Cu	DIN 1.4567	AFNOR Z3CNU 18-10
Tensile Strength, ksi[Mpa]	75[520]	75[520]	75[520]	75[520]	75[520]	75[520]
Yield Strength, ksi[Mpa]	30[200]	30[200]	30[200]	30[200]	30[200]	30[200]
Elongation %	60	60	60	60	60	60
Reduction in Area, %	70	70	70	70	70	70

General Properties:

- Corrosion Resistance - Good
- Mechanical Properties - Average
- Forgeability - Good
- Weldability - Good (Seldom)
- Machinability - Very good

Special Properties

- Suited for cryogenic applications.
- Non-magnetic Grade.
- Suited to a very high degree of cold deformation.

Applications

- Automotive industry
- Chemical industry
- Food and beverage industry
- Decorative items and kitchen utensils
- Electronic equipment
- Ship building.

Processing

- Automated machining - yes
- Machinable - yes
- Hammer and die forging - not common
- Cold forming - yes
- Cold heading - yes
- Suited to polishing - yes

Corrosion resistance

- 1.4567 is resistant to corrosion in most natural waters and urban and rural atmospheres, provided that the chloride and salt contents are low.
- This grade of stainless steel is not resistant to sea water and as such must not be used in any sea water applications.
- Its resistance to corrosion in moderate chloride containing environments and organic acids, makes 1.4567 suited for use in the food and beverage industries.
- The corrosion resistance of 1.4567 is very similar to that of 1.4307, but due to its higher copper content, 1.4567 displays improved resistance to corrosion in many reducing acid environments, such as H₂SO₄ environments.

Heat treatment

- Optimal material properties are realised after solution annealing in the temperature range 1000 - 1100°C followed by rapid cooling in air or water.
- During operation and fabrication, the time spent in the temperature range 450 - 850°C must be minimised to avoid embrittlement.

Welding

- Although 1.4567 can be welded with, or without, the use of filler material, this steel is seldom welded.
- If a filler metal is required, then the use of Novonit 4404 [AISI 316 L] would be recommended.
- Post weld heat treatment is not necessary.

Forging

- Usually heated to within the temperature range 1180 -1210°C to allow forging which takes place at temperatures between 1210 and 950°C.
- Forging is followed by air cooling, or water quenching when no danger of distortion exists.

Machining

- As a result of the high copper addition to this steel, the work hardening tendency is retarded, i.e. the austenite phase is more stable, and as such drilling, threading and other machining operations can be performed with comparative ease.



**9/A, 9th Floor, Mehta Mehal,
15th Mathew Road, Opera House,
Charni Road, Mumbai - 400 004, India.**

web: www.aesteiron.com

email: info@aesteiron.com

Tel: +91-22-67776700 - 6799 - 6777



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