

A286 Cold Reduced (A286CR) is a work-hardened, corrosion- and heat-resistant iron-nickel-chromium superalloy engineered to provide elevated mechanical strength for high-temperature fastener applications. Produced through a 15–17% cold-reduction process, this alloy delivers a minimum room-temperature tensile strength of 160 ksi, making it ideal for aerospace-grade fastening systems and structural hardware operating under demanding loads. A286CR retains strength up to 1000°F (538°C) and provides reliable oxidation resistance up to 1200°F (649°C), offering dependable performance in elevated-temperature environments where long-term thermal stability is essential. The alloy is typically multiple-melted using VAR or ESR remelting practices, ensuring high cleanliness, consistency, and microstructural control for critical aerospace and industrial components.

### Products & Sizes

Coil 15% - 17%	Sheet 15% - 17%	Bar 15% - 17%	Bar 40% - 60%
0.0200" - 0.1250"	0.0200" - 0.1250"	0.260" - 1.510"	0.385" - 1.010"

### A286 CR Chemical Composition

	Element	Min	Max
C	Carbon	-	0.08
Mn	Manganese	-	2.00
Si	Silicon	-	1.00
P	Phosphorus	-	0.025
S	Sulfur	-	0.025
Cr	Chromium	13.50	16.00
Ni	Nickel	24.00	27.00
Mo	Molybdenum	1.00	1.50
Ti	Titanium	1.90	2.35
B	Boron	0.003	0.010
V	Vanadium	0.10	0.50
Co	Cobalt	-	1.00
Al	Aluminum	-	0.35
Cu	Copper	-	0.50

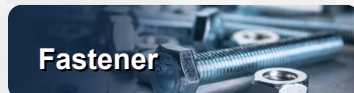
### Industry Standards

- Cold reduced 15% to 17%
- Cold reduced 40% to 60%
- MS 314 Class A Rev 4 (chem. only)
- MS 314 Class B Rev 4 (chem. only)
- Hi Shear 140 Type I (Normally 15-17% Cold Worked)
- PWA LCS
- GE Aircraft Engine (GT193)
- GE Aviation S-SPEC-35 AeDMS S-400
- RR SABRe Edition 2
- DFARS Compliant

### Industry Applications

- Aerospace Fasteners
- High-Temperature Springs
- Cryogenic Equipment

### Related Industries



## Physical Properties

Property	Value
Density	0.286 lb/in <sup>3</sup> (7.92 g/cm <sup>3</sup> )

## Mechanical Properties

Mechanical Properties of A286 CR	
Tensile Strength	160 ksi minimum
Yield Strength	120 ksi minimum
Elongation (4D)	12% minimum
Reduction of Area	18% minimum
Hardness	298 BN minimum