

This page is mainly introduced the Ti-13V-11Cr-3Al Ti Alloy Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of Ti-13V-11Cr-3Al Ti Alloy, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

## Datasheet for Steel Grades Ti Alloy Ti-13V-11Cr-3Al Ti Alloy

Ti-13V-11Cr-3Al Ti Alloy Standard Number:

ITEM	Standard Number	Descriptions
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Ti-13V-11Cr-3Al Ti Alloy Chemical composition (mass fraction) (wt.%)

Chemical			Min.(%)				Max.(%)			
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta	
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other	

<b>Category</b>	Titanium Alloy
<b>Class</b>	Wrought
<b>Type</b>	Beta alloy
<b>Designations</b>	<b>United States:</b> MIL-T-9046, AMS 4917
<b>Composition</b>	
<b>Element</b>	<b>Weight %</b>
V	13
Cr	11

Al	3
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Mechanical Properties			
Properties		Conditions	
		T (°C)	Treatment
Density (×1000 kg/m <sup>3</sup> )	4.84	25	
Poisson's Ratio	0.304	25	
Elastic Modulus (GPa)	101.4	25	
Tensile Strength (Mpa)	1276	25	solution+age
Yield Strength (Mpa)	1207		
Elongation (%)	8		
Reduction in Area (%)			
Hardness (HRC)	40	25	solution+age
Impact Strength (J) (Charpy)	11	25	solution+age

Thermal Properties			
Properties		Conditions	
		T (°C)	Treatment

<b>Thermal Expansion</b> (10 <sup>-6</sup> /°C)	9.4	20-100 more	
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### Ti-13V-11Cr-3Al Ti Alloy Physical Properties

Tensile strength	115-234	σ <sub>b</sub> /MPa
Yield Strength	23	σ <sub>0.2</sub> ≥/MPa
Elongation	65	δ <sub>5</sub> ≥ (%)
ψ	-	ψ ≥ (%)
Akv	-	Akv ≥/J
HBS	123-321	-
HRC	30	-

### Ti-13V-11Cr-3Al Ti Alloy Mechanical Properties

Tensile strength	231-231	σ <sub>b</sub> /MPa
Yield Strength	154	σ <sub>0.2</sub> ≥/MPa
Elongation	56	δ <sub>5</sub> ≥ (%)
ψ	-	ψ ≥ (%)
Akv	-	Akv ≥/J
HBS	235-268	-
HRC	30	-

### Ti-13V-11Cr-3Al Ti Alloy Heat Treatment Regime

Annealing	Quenching	Tempering	Normalizing	Q & T
√	√	√	√	√

Ti-13V-11Cr-3Al Ti Alloy Range of products				
Product type	Products	Dimension	Processes	Deliver Status
Plates / Sheets	Plates / Sheets	0.08-200mm(T)*W*L	Forging, hot rolling and cold rolling	Annealed, Solution and Aging, Q+T, ACID-WASHED, Shot Blasting
Steel Bar	Round Bar, Flat Bar, Square Bar	Φ8-1200mm*L	Forging, hot rolling and cold rolling, Cast	Black, Rough Turning, Shot Blasting,
Coil / Strip	Steel Coil /Steel Strip	0.03-16.0x1200mm	Cold-Rolled & Hot-Rolled	Annealed, Solution and Aging, Q+T, ACID-WASHED, Shot Blasting
Pipes / Tubes	Seamless Pipes/Tubes, Welded Pipes/Tubes	OD:6-219mm x WT:0.5-20.0mm	Hot extrusion, Cold Drawn, Welded	Annealed, Solution and Aging, Q+T, ACID-WASHED

**We can produce Ti Alloy the specifications follows:**