



CCTTC - Udimet 500 Datasheet, Chemical Composition

Alloy Bars, Forgings, and Rings, Corrosion and Heat Resistant 54Ni - 17.5Cr - 16.5Co - 4.0Mo - 2.9Ti - 2.9Al - 0.006B Solution, Stabilization, and Precipitation Heat Treated Consumable Electrode or Vacuum Induction Melted Udimet 500 Mechanical properties, Physical properties, Mechanical properties, Heat

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Data Table for Materials Stainless Steels & Special Steels Alloy Bars, Forgings, and Rings, Corrosion and Heat Resistant 54Ni - 17.5Cr - 16.5Co - 4.0Mo - 2.9Ti - 2.9Al - 0.006B Solution, Stabilization, and Precipitation Heat Treated Consumable Electrode or Vacuum Induction Melted [Udimet 500](#)

[Udimet 500](#) Standard Number

ITEM	Standard Number	Descriptions
1	SAE AMS 5751E (1982)	Alloy Bars, Forgings, and Rings, Corrosion and Heat Resistant 54Ni - 17.5Cr - 16.5Co - 4.0Mo - 2.9Ti - 2.9Al - 0.006B Solution, Stabilization, and Precipitation Heat Treated Consumable Electrode or Vacuum Induction Melted

[Udimet 500](#) Chemical composition(mass fraction)(wt.%)

Chemical	Min.(%)	Max.(%)
C	0.05	0.10
Si		0.10
Mn		0.10
Cr		19.00
Ni		remaining
Mo		4.00
Co		19.00
W		
Al		3.00



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Cu									
Ti						3.00			
Fe									
Zr						0.06			
B						0.005			
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other

Udimet 500 Physical Properties

Tensile strength	115-234	σ_b /MPa
Yield Strength	23	$\sigma_{0.2} \geq$ /MPa
Elongation	65	$\delta_5 \geq$ (%)
ψ	-	$\psi \geq$ (%)
Akv	-	$Akv \geq$ /J
HBS	123-321	-
HRC	30	-

Udimet 500 Mechanical Properties

Tensile strength	231-231	σ_b /MPa
Yield Strength	154	$\sigma_{0.2} \geq$ /MPa
Elongation	56	$\delta_5 \geq$ (%)
ψ	-	$\psi \geq$ (%)
Akv	-	$Akv \geq$ /J
HBS	235-268	-
HRC	30	-

Udimet 500 Heat Treatment Regime



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

Udimet 500 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 Stainless Steels & Special Steels the specifications follows:

Note:

- (1) listed in the table apex diameter (d), to steel thickness (a) multiples said.
- (2) in the ASTM A6 standard specified scope can meet any additional conditions.
- (3) from the standard for 50 mm (2 in).

Mechanical properties

Mechanische Eigenschaften

Caracteristiques mecaniques

ReH Minimum yield strength / Mindestwert der oberen Streckgrenze / Limite d'élasticite minimale

Rm Tensile strength / Zugfestigkeit / Resistance a la traction

A Minimum elongation / Mindestwert der Bruchdehnung / Allongement minimal

J Notch impact test / Kerbschlagbiegeversuch / Essai de flexion par choc

Round bar:

Diameter : 1mm-2000mm

Square bar:

Size: 50mm * 50mm-600mm *600mm



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Plate steel/flat bar:

Size: Thickness: 0.1mm-800mm Width: 10mm to 1500mm

Tube/pipe:

Size: OD: 6-219mm WT: 1-35 mm.

Cold-rolled sheet: Thickness: 2-5mm Width:1000mm Length: 2000mm

Hot-rolled sheet: Thickness:6-80mm Width: 210-610mm

Length: We can supply any length based on the customer's requirement.

Forging/hot rolling/ extrusion of steel.

Forging: Shafts with flanks/pipes/tubes/slugs/donuts/cubes/other shapes

Finished goods condition: hot forging/hot rolling + annealing/normalizing + tempering/quenching +
tempering/any conditions based on the customer's requirement

Surface conditions: scaled (hot working finish)/ground/rough machining/fine machining/based on
the customer's requirement

Furnaces for metallurgical processing: electrode arc + LF/VD/VOD/ESR/Vacuum consumable
electrode.

Ultrasonic inspection: 100% ultrasonic inspection for any imperfections or based on the customer's
requirement.

UTS according to SEP 1921 C/c,D/d,E/e;A388 or GB/T 6402

Excellent service for all kinds of industries, with advantages of technologies, equipment and price.

We serve you with our honesty, integrity, and professionalism.