

This page is mainly introduced the Custom 455 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of Custom 455, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Datasheet for Steel Grades Special Steel Custom 455

Custom 455 Standard Number:		
ITEM	Standard Number	Descriptions
1	SAE AMS 5578G (2003)	Steel, Corrosion and Heat-Resistant, Welded Tubing 12Cr - 8.5Ni - 0.30Cb - 1.1Ti - 2.0Cu Vacuum Induction Plus Consumable Electrode Vacuum Melted Solution Heat Treated, Precipitation Hardenable

Custom 455 Chemical composition (mass fraction) (wt.%)									
Chemical		Min.(%)			Max.(%)				
C					0.02				
Si									
Mn									
P									
S									
Ni					8.50				
Cr					12.00				
Al									
Cu					2.00				
Ti					1.15				
Fe					remaining				
Mo									
Co									
Nb					0.38				
B					0.003				
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other

Steel, Corrosion and Heat-Resistant, Welded Tubing 12Cr - 8.5Ni - 0.30Cb - 1.1Ti - 2.0Cu Vacuum

Induction Plus Consumable Electrode Vacuum Melted Solution Heat Treated, Precipitation

Hardenable

Custom 455 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	-

Custom 455 Mechanical Properties

Tensile strength	231-231	σ_b /MPa

Yield Strength	154	$\sigma_{0.2} \geq / \text{MPa}$
Elongation	56	$\delta 5 \geq (\%)$
ψ	-	$\psi \geq (\%)$
Akv	-	$Akv \geq / \text{J}$
HBS	235-268	-
HRC	30	-

Custom 455 Heat Treatment Regime

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

Custom 455 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	$\Phi 8$ -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 Specialsteel the specifications follows: