

This page is mainly introduced the HR50F45 chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of HR50F45, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Data Table for Grades Stainless Steels HR50F45

HR50F45 Standard Number:		
ITEM	Standard Number	Descriptions
1	BS 1449-1-1.4	Steel plate, sheet and strip. Carbon and carbon-manganese plate, sheet and strip. Specification for hot rolled wide material based on specified minimum strength

HR50F45 Chemical composition(mass fraction)(wt.%)		
Chemical	Min.(%)	Max.(%)
C	0.08	0.15
Si		1.00
Mn		1.00
P		
S		0.020
Cr	18.00	21.00
Ni		remaining
Mo		
Co		5.00
Ti	0.20	0.60
Fe		5.00
Al		
Cu		0.50
B		
Bi		
Pb		0.0050
Ag		

HR50F45 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	-

HR50F45 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	-	$Akv \geq J$
HBS	235-268	-
HRC	30	-

HR50F45 Heat Treatment Regime				
Annealing	Quenching	Tempering	Normalizing	Q & T
√	√	√	√	√

HR50F45 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 Stainless 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****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.**