



CCTTC - HR55 Datasheet, Chemical Composition

Specification for nickel-iron-chromium-molybdenum-aluminium-titanium heat-resisting alloy billets, bars, forgings and parts (Ni/Co 43.5, Cr 16.5, Mo 3.3, Al 1.2, Ti 1.2, Fe remainder) HR55 Mechanical properties, Physical properties, Mechanical properties, Heat treatment, HR55 Supplier

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Data Table for Materials Stainless Steels & Special Steels Specification for nickel-iron-chromium-molybdenum-aluminium-titanium heat-resisting alloy billets, bars, forgings and parts (Ni/Co 43.5, Cr 16.5, Mo 3.3, Al 1.2, Ti 1.2, Fe remainder) [HR55](#)

[HR55](#) Standard Number

ITEM	Standard Number	Descriptions
1	BS 2HR 55 (2010)	Specification for nickel-iron-chromium-molybdenum-aluminium-titanium heat-resisting alloy billets, bars, forgings and parts (Ni/Co 43.5, Cr 16.5, Mo 3.3, Al 1.2, Ti 1.2, Fe remainder)
2	BS HR 55	Specification for nickel-iron-chromium-molybdenum-aluminium-titanium heat-resisting alloy billets, bars, forgings and parts (Ni/Co 43.5, Cr 16.5, Mo 3.3, Al 1.2, Ti 1.2, Fe remainder)

[HR55](#) Chemical composition(mass fraction)(wt.%)

Chemical	Min.(%)	Max.(%)
C	0.04	0.08
Si		0.50
Mn		0.20
P		
S		0.015
Cr	15.50	17.50
Ni	42.00	45.00
Mo	2.80	3.80
Co		2.00
Ti	1.10	1.30



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Fe							remaining		
Al			1.10				1.30		
Cu							0.50		
B							0.005		
Pb							0.0015		
Bi							0.0001		
Ag							0.0005		
Zr			0.01				0.04		
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other

HR55 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	-

HR55 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	-



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HRC	30	-
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HR55 Heat Treatment Regime

Annealing	Quenching	Tempering	Normalizing	Q & T
✓	✓	✓	✓	✓

HR55 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'élasticité 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



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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.