

This page is mainly introduced the HR4 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of HR4, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

## Datasheet for Steel Grades Specialsteel HR4

HR4 Standard Number:		
ITEM	Standard Number	Descriptions
1	BS 1449-1-1.2	Steel plate, sheet and strip. Carbon and carbon-manganese plate, sheet and strip. Specification for hot rolled steel plate, sheet and wide strip based on formability

HR4 Chemical composition(mass fraction)(wt.%)									
Chemical		Min.(%)			Max.(%)				
C		0.12			0.20				
Si					1.00				
Mn					1.00				
P									
S					0.015				
Cr		14.00			16.00				
Ni					remaining				
Mo		3.00			5.00				
Co		13.00			15.50				
Ti		3.50			4.50				
Fe					1.00				
Al		4.50			5.50				
Cu					0.20				
B		0.0100			0.0250				
Bi					0.0001				
Pb					0.0015				
Ag					0.0005				
Zr					0.15				
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other

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Steel plate, sheet and strip. Carbon and carbon-manganese plate, sheet and strip. Specification

for hot rolled steel plate, sheet and wide strip based on formability

### HR4 Physical Properties

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

### HR4 Mechanical Properties

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

### HR4 Heat Treatment Regime

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

### HR4 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 Specialsteel the specifications follows:**