

This page is mainly introduced the W-Nr 1.4542 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of W-Nr 1.4542, 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 W-Nr 1.4542

W-Nr 1.4542 Standard Number:

ITEM	Standard Number	Descriptions
------	-----------------	--------------

W-Nr 1.4542 Chemical composition (mass fraction) (wt.%)

Chemical			Min.(%)				Max.(%)			
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta	
Max 0.07	Max 0.70	Max 1.50	Max 0.040	Max 0.015②	15.0-17.0	3.00-5.00				
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other	
		3.00-5.00				5×C□Max 0.45				

W-Nr 1.4542 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	-

W-Nr 1.4542 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	-

W-Nr 1.4542 Heat Treatment Regime

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

W-Nr 1.4542 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 Special Steel the specifications follows: