

This page is mainly introduced the Q215 B Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of Q215 B, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

## Datasheet for Steel Grades Structure Steel Q215 B

### Q215 B Standard Number:

ITEM	Standard Number	Descriptions
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### Q215 B Chemical composition (mass fraction) (wt.%)

Chemical			Min.(%)				Max.(%)			
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta	
0.09~0.15	≤0.30	0.25~0.55	≤0.045	≤0.045	≤0.30	≤0.30				
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other	
		≤0.30								

### Mechanics performance

The yield point  $\sigma_s$ /MPa (no less) than in steel different thickness or diameter/mm | ≤ 16:215

The yield point  $\sigma_s$ /MPa (no less) than in steel different thickness or diameter/mm | > 16 ~ 40:205

The yield point  $\sigma_s$ /MPa (no less) than in steel different thickness or diameter/mm | > 40 to 60:195

The yield point  $\sigma_s$ /MPa (no less) than in steel different thickness or diameter/mm | > 60 ~ 100:185

The yield point  $\sigma_s$ /MPa (no less) than in steel different thickness or diameter/mm | > 100 ~ 150:175

The yield point  $\sigma_s$ /MPa (no less) than in steel different thickness or diameter/mm | > 150:165

## **Cold bending property**

Sample direction: horizontal

180 ° of cold bending test  $b = 2a$  different thickness or in steel diameter/mm | than 60:  $d = a$

180 ° of cold bending test  $b = 2a$  different thickness or in steel diameter/mm | > 60 ~ 100:  $d = 2a$

180 ° of cold bending test  $b = 2a$  different thickness or in steel diameter/mm | > 100 ~ 200:  $d = 2.5a$

## **Performance characteristics and applications**

High plasticity and toughness and welding performance, good pressure processing performance, but low strength.

Load small parts, spacers, rivets, the anchor bolt, colter, funnel, roof, low carbon steel wire, plates, welded pipe, bars, split cotters, and stamping parts, components etc.

## **GB/T 700-1988 standard and GB 700-1979 standard steel grade comparison**

GB/T 700-1988 standadr:

Regardless of rank, the chemical composition and mechanical properties ( $\sigma_s$ ,  $\sigma_b$ , the delta and the cold bending) are to be guaranteed

Rolling plate and rod of products, the mechanical properties of the guarantee condition, can according to product characteristics and application requirements, in the standard separately

GB 700-1979 standard

A1 the mechanical properties of the steel guarantee ( $\sigma_s$ ,  $\sigma_b$ , the delta and the cold bending), B1 steel guarantee the chemical composition of

the same with Q195

A1 steel cold bending test is additional guarantee conditions

1 no special steel of steel

Q215 B 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	-

Q215 B 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	-

Q215 B Heat Treatment Regime				
Annealing	Quenching	Tempering	Normalizing	Q & T
√	√	√	√	√

Q215 B 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,	Φ8-1200mm*L	Forging, hot rolling and	Black, Rough Turning,

	Square Bar		cold rolling, Cast	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 Structure Steel the specifications follows:**