

This page is mainly introduced the Q235 D Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of Q235 D, 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 Q235 D

Q235 D Standard Number:

ITEM	Standard Number	Descriptions
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Q235 D Chemical composition (mass fraction) (wt.%)

Chemical			Min.(%)				Max.(%)			
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta	
≤0.17	≤0.30	0.35~0.80	0.035	0.030	≤0.30	≤0.30				
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other	
		≤0.30								

Mechanical properties

The yield point σ_s /MPa (no less) than in steel different thickness or diameter/mm | ≤ 16:235

The yield point σ_s /MPa (no less) than in steel different thickness or diameter/mm | > 16 ~ 40:225

The yield point σ_s /MPa (no less) than in steel different thickness or diameter/mm | > 40 to 60:215

The yield point σ_s /MPa (no less) than in steel different thickness or diameter/mm | > 60 ~ 100:205

The yield point σ_s /MPa (no less) than in steel different thickness or diameter/mm | > 100 ~ 150:195

The yield point σ_s /MPa (no less) than in steel different thickness or diameter/mm | > 150:185

Tensile strength σ_b /MPa: 375 ~ 450

Elongation δ_5 / (%) (no less) than in steel different thickness or diameter/mm | than 16:26

Elongation δ_5 / (%) (no less) than in steel different thickness or diameter/mm | > 16 ~ 40:25

Elongation δ_5 / (%) (no less) than in steel different thickness or diameter/mm | > 40 to 60:24

Elongation δ_5 / (%) (no less) than in steel different thickness or diameter/mm | > 60 ~ 100:23

Elongation δ_5 / (%) (no less) than in steel different thickness or diameter/mm | > 100 ~ 150:22

Elongation δ_5 / (%) (no less) than in steel different thickness or diameter/mm | > 150:21

Impact test (1) | temperature / °C :-20

Impact test (1) | impact absorption power AKV/J: 27 frequency

The cold bending property

Sample direction: horizontal

180 ° of cold bending test $b = 2a$ different thickness or in steel diameter/mm | than 60: $d = 1.5a$

180 ° of cold bending test $b = 2a$ different thickness or in steel diameter/mm | > 60 ~ 100: $d = 2.5a$

180 ° of cold bending test $b = 2a$ different thickness or in steel diameter/mm | > 100 ~ 200: $d = 3a$

Q235 D 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	-

Q235 D 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	-
HRC	30	-

Q235 D Heat Treatment Regime				
Annealing	Quenching	Tempering	Normalizing	Q & T
√	√	√	√	√

Q235 D 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 Structure Steel the specifications follows: