

This page is mainly introduced the Q275 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of Q275, 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 Q275

Q275 Standard Number:

ITEM	Standard Number	Descriptions
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Q275 Chemical composition (mass fraction) (wt.%)

Chemical			Min.(%)				Max.(%)		
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta
0.28~0.38	≤0.35	0.50~0.80	≤0.045	≤0.050	≤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 | than 16:275

The yield point σ_s /MPa (no less) than in steel different thickness or diameter/mm | > 16 ~ 40:265

The yield point σ_s /MPa (no less) than in steel different thickness or diameter/mm | > 40 to 60:255

The yield point σ_s /MPa (no less) than in steel different thickness or diameter/mm | > 60 ~ 100:245

The yield point σ_s /MPa (no less) than in steel different thickness or diameter/mm | > 100 ~ 150:235

The yield point σ_s /MPa (no less) than in steel different thickness or diameter/mm | > 150:225

Tensile strength σ_b /MPa: 490 ~ 630

Elongation δ_5 / (%) (no less) than in steel different thickness or diameter/mm | than 16:20

Elongation δ_5 / (%) (no less) than in steel different thickness or diameter/mm | > 16 ~ 40:19

Elongation δ_5 / (%) (no less) than in steel different thickness or diameter/mm | > 40 to 60:18

Elongation δ_5 / (%) (no less) than in steel different thickness or diameter/mm | > 60 ~ 100:17

Elongation δ_5 / (%) (no less) than in steel different thickness or diameter/mm | > 100 ~ 150:16

Elongation δ_5 / (%) (no less) than in steel different thickness or diameter/mm | > 150:15

Impact test (1) | temperature / °C :-

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

The cold bending property

Sample direction:-

180 ° of cold bending test b = 2 a different thickness or in steel diameter/mm | than 60: d = 3 a

180 ° of cold bending test b = 2 a different thickness or in steel diameter/mm | > 60 ~ 100: d = 4 a

180 ° of cold bending test b = 2 a different thickness or in steel diameter/mm | > 100 ~ 200: d = 4.5 a

Q275 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	-

Q275 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	-

Q275 Heat Treatment Regime

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

Q275 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 Structure Steel the specifications follows: