

Quality S235J0

According to Standard EN 10025 - 2 : 2004

Number 1.0114



Comparable Standards	German DIN	France AFNOR	Spain UNE	China GB	U.K. B.S.	Russia GOST	USA AISI - SAE	Japan JIS
	St37-3U	E24 - 3	AE235C			St3Fsp . Ct3tnc	A 1011	SS 400

Chemical Analysis	C% max	Si% max	Mn% max	P% max	S% max	N% max	Cu% max
	0.17 - 0.19		1.40 - 1.50	0.030 - 0.040	0.030 - 0.040	0.012 - 0.014	0.40 - 0.45

**Hot Work and Heat Treatment Temperatures**

**Temperature °C**

Hot - Forming	Supply State +U	Soft Annealing +A	Isothermal Annealing +I	Normalising & Tempering	Quenching & Tempering QT	Stress-relieving +SR
1200 - 850	natural state	700 air		920 air	920 water	50° under the temperature of tempering
	(HB 240~)	(HB 120~)		540 - 650 air	540 - 665 air	

**Mechanical Properties at Room Temperature**

**Minimum Yield Strength R<sup>eH</sup>  
Mpa  
Nominal Thickness mm**

≤ 16	> 16	> 40	> 63	> 80	> 100	> 150	> 200
	≤ 40	≤ 63	≤ 80	≤ 100	≤ 150	≤ 200	≤ 250
360	355	345	335	325	305	295	285

**Tensile Strength R  
Mpa  
Nominal Thickness mm**

< 3	> 3	> 100	> 150
	≤ 100	≤ 150	≤ 250
690 to 900	670 to 830	650 to 830	640 to 830

**Minimum percentage elongation after fracture %**

	L = 80 mm. Normal thickness mm				L = 5.65 √S <sub>0</sub> . Nominal thickness mm					
	≤ 1	> 1	> 1.5	> 2	> 2.5	> 3	> 40	> 63	> 100	> 150
		≤ 1.5	≤ 2	≤ 2.5	< 3	≤ 40	≤ 63	≤ 100	≤ 150	≤ 250
l	17	18	19	20	21	26	25	24	22	21
t	15	16	17	18	19	24	23	22	22	21