

Indication of values and properties for construction qualities
(according to EN 10025-2)

CHEMICAL COMPOSITION (LADLE ANALYSIS)									
Thickness	≤ 16 mm	> 16 ≤ 40 mm	> 40 mm	Si max.	Mn max.	P max.	S max.	N max.	Cu max.
GRADE	Cmax.	Cmax.	Cmax.						
S235JR	0,17%	0,17%	0,20%	-	1,40%	0,035%	0,035%	0,012%	0,55%
S355J2+N	0,20%	0,20%	0,22%	0,55%	1,60%	0,025%	0,025%	-	0,55%
S355J2C+N	0,20%	0,20%	0,22%	0,55%	1,60%	0,025%	0,025%	-	0,55%

S235JR MECHANICAL PROPERTY REQUIREMENTS						
Thickness mm	tensile/yield/elongation in transverse direction			Impact Charpy V-Notch in longitudinal direction		heat treatment
	Tensile strength	Min. Yield stress	Min. Elongation	Test temperature °C	Min. Average energy	
≤ 16	360-510 (Mpa)	235 (Mpa)	26%	+20	27 (J)	AR/N
> 16 ≤ 40	360-510 (Mpa)	225 (Mpa)	26%	+20	27 (J)	AR/N
> 40 ≤ 63	360-510 (Mpa)	215 (Mpa)	25%	+20	27 (J)	AR/N
> 63 ≤ 80	360-510 (Mpa)	215 (Mpa)	24%	+20	27 (J)	AR/N
> 80 ≤ 100	360-510 (Mpa)	215 (Mpa)	24%	+20	27 (J)	AR/N
> 100 ≤ 150	350-510 (Mpa)	195 (Mpa)	22%	+20	27 (J)	AR/N
> 150 ≤ 200	340-490 (Mpa)	185 (Mpa)	21%	+20	27 (J)	AR/N

S355J2+N/ S355J2C+N MECHANICAL PROPERTY REQUIREMENTS						
Thickness mm	tensile/yield/elongation in transverse direction			Impact Charpy V-Notch in longitudinal direction		heat treatment
	Tensile strength	Min. Yield stress	Min. Elongation	Test temperature °C	Min. Average energy	
≤ 16	470-630 (Mpa)	355 (Mpa)	22%	-20	27 (J)	N
> 16 ≤ 40	470-630 (Mpa)	345 (Mpa)	22%	-20	27 (J)	N
> 40 ≤ 63	470-630 (Mpa)	335 (Mpa)	21%	-20	27 (J)	N
> 63 ≤ 80	470-630 (Mpa)	325 (Mpa)	20%	-20	27 (J)	N
> 80 ≤ 100	470-630 (Mpa)	315 (Mpa)	20%	-20	27 (J)	N
> 100 ≤ 150	450-630 (Mpa)	295 (Mpa)	18%	-20	27 (J)	N
> 150 ≤ 200	450-600 (Mpa)	285 (Mpa)	17%	-20	27 (J)	N