



Material Grade: **S355N / NL**  
 Material Condition(s): **Untreated / Normalised**  
 Surface Finish: **As rolled**

Associated Standard: **BS EN 10025-3**

Description:

A hot rolled, medium tensile, low carbon manganese steel which is readily weldable and possess good impact resistance (also in sub-zero temperatures). This material is commonly supplied in the untreated or normalized condition and is available in several variations (denoted by additional letters and/or digits) which offer slight modifications of chemical composition and mechanical properties.  
 Machinability of this material is similar to that of mild steel.

Typical applications: **Welded and architectural structures, bridge components, heavy equipment, highly stressed structural applications.**

Typical variations: **S355N**  
**S355NL**

Conditions: **no designation or +AR - as rolled**  
**+N - normalised**  
**+NL - normalised, low notch toughness testing temperature**

## 1. STEELMAKING

	<u>C*</u>	<u>Si</u>	<u>Mn</u>	<u>S</u>	<u>P</u>	<u>Cu</u>	<u>CEV*</u>
Min							
Max	0.18	0.5	1.65	0.02	0.025	0.55	0.45

(\* differs with section thickness and grade variation)

## 2. TYPICAL MECHANICAL PROPERTIES

Test type			Tensile and hardness test (at room temperature)					Impact test (KV)			
			Yield (Re)	0.2 % proof	UTS (Rm)	Elong (A)	R of A (Z)	Hardness	Room Temp	-20°C	-50°C
Variation	Sample dia	Unit	N/mm <sup>2</sup>	N/mm <sup>2</sup>	N/mm <sup>2</sup>	%	%	HB	J	J	J
S355NL	> 16 ≤ 40mm	Min	345		470	22			63	47	27
		Max			630						
S355NL	> 40 ≤ 63mm	Min	335		470	22			63	47	27
		Max			630						
S355NL	> 63 ≤ 80mm	Min	325		470	21			63	47	27
		Max			630						
S355NL	> 100 ≤ 150mm	Min	295		450	21			63	47	27
		Max			600						