

	<b>C40</b> Non-alloy high grade steel	<b>(W. NR. 1.0511)</b>
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**CHEMICAL COMPOSITION:** (heat analysis according to the EN ISO 683-1:2018 standard)

	C %	Si %	Mn %	P %	S %	Cr %	Ni %	Mo %	Cu%	Cr+Mo+Ni %
FROM	0,37	0,10	0,50	-	-	-	-	-	-	-
TO	0,44	0,40	0,80	0,045	0,045	0,40	0,40	0,10	0,30	0,63

**\* MECHANICAL FEATURES:** (according to the EN 10277:2018 standard)

Thickness mm	Rolled + peeled rolled (+SH)		Cold drawn (+C)		
	hardness HB	Rm (MPa)	Rp <sub>0,2</sub> minimum values (MPa)	Rm (MPa)	A <sub>5</sub> % minimum values
≥5≤10			540	700 - 1000	6
>10≤16			460	650 - 980	7
>16≤40	164 - 207	550 - 710	365	620 - 920	8
>40≤63	164 - 207	550 - 710	330	590 - 840	9
>63≤100	164 - 207	550 - 710	290	550 - 820	9

\* Delivery condition: as rolled.

**PROPERTIES :**

**Improved machinability:**

In order to improve its machinability, this steel grade can be supplied upon request with Pb (lead) addition, for example Pb=0,15%÷0,35%

**Weldability:**

Due to the medium-high carbon content it can be welded with some precautions.

**Hardenability:**

Low hardenability; it shows intermediate features between those of steels with medium and those of steels with high carbon content; therefore it is not easy to obtain the required features by quenching in oil and the quenching in water can result in cracking.

**Notes:**

**CORRESPONDENCE WITH OTHER STANDARDS ( purely as an indication ) :**

<b>UNI 7845</b> C40	<b>DIN 17200</b> C40	<b>AISI-SAE</b> 1040	<b>AFNOR 35-552</b> AF60C40
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