mauri	**C45** Non-alloy high-grade steel	**(W. NR. 1.0503)**

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	0,42	0,10	0,50	-	-	-	-	-	-	-
TO	0,50	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)	$Rp_{0,2}$ minimum values (MPa)	Rm (MPa)	A_5 % minimum values
≥5≤10			565	750 - 1050	5
>10≤16			500	710 - 1030	6
>16≤40	172 – 241	580 - 820	410	650 - 1000	7
>40≤63	172 – 241	580 - 820	360	630 - 900	8
>63≤100	172 - 241	580 - 820	310	580 - 850	8

* 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:

It has a low hardenability in water or oil; fit for surface hardening that gives this steel grade a high hardness of the hardened shell.

Notes :

CORRESPONDENCE WITH OTHER STANDARDS (purely as an indication) :

UNI 7845	**DIN 17200**	**AISI-SAE**	**AFNOR 35-552**
C45	C45	1045	AF65C45