

	C45E Non-alloy special steel	(W. NR. 1.1191)
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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	0,42	0,10	0,50	-	-	-	-	-	-	-
TO	0,50	0,40	0,80	0,025	0,035	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 :

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 C45	DIN 17200 Ck45	AISI-SAE 1045	AFNOR 35-552 XC48H1
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