



## Quality 30CrNiMo8 (EN 10083-3)

### PROPERTIES AND EMPLOYEMENTS

It is a quenched and tempered steel (identical to 30CrNiMo8 Ref. UNI 7845 / UNI 7847) with high hardenability and toughness. It has a good cold and warm machinability. It can be quenched and tempered with high values of resistance and toughness on big sections where it is required a remarkable hardness uniformity. It can be nitrited to improve its resistance and fatigue strength.

It is commonly used for the realization of pinions and turbine shafts.

### CORRESPONDENCE TO INTERNATIONAL DESIGNATIONS

Quality	Europe	Germany		France	Spain	G.B.	USA
	EN	DIN	W.n.	AFNOR	UNE	B.S.	AISI/SAE
<b>30CrNiMo8</b>	<b>30CrNiMo8</b>	<b>30CrNiMo8</b>	<b>1,6580</b>	-	-	<b>822M30</b>	-

### CHEMICAL COMPOSITION % (EN 10083-3)

Steel designation		Chemical composition								
Symbolic	Numeric	C	Si max	Mn	P max	S max	Cr	Mo	Ni	B
<b>30CrNiMo8</b>	<b>1,6580</b>	<b>0,26 ÷ 0,34</b>	<b>0,40</b>	<b>0,50 ÷ 0,80</b>	<b>0,025</b>	<b>0,035</b>	<b>1,80 ÷ 2,20</b>	<b>0,30 ÷ 0,50</b>	<b>1,80 ÷ 2,20</b>	-

Concentration limits of the elements that are not indicated in the table can be deduced in the en 10020 regulation.

### MECHANICAL CHARACTERISTICS (EN 10083-3)


Steel		Mechanical characteristics for the reduced section														
		d ≤ 16mm					16mm < d ≤ 40mm					40mm < d ≤ 100mm				
Symbolic	Numeric	R <sub>e</sub> min	R <sub>m</sub>	A min	Z min	KV <sup>b</sup> min	R <sub>e</sub> min	R <sub>m</sub>	A min	Z min	KV <sup>b</sup> min	R <sub>e</sub> min	R <sub>m</sub>	A min	Z min	KV <sup>b</sup> min
		MPa		%	%	J	MPa		%	%	J	MPa		%	%	J
<b>30CrNiMo8</b>	<b>1,6580</b>	<b>1050</b>	<b>1250 to 1450</b>	<b>9</b>	<b>40</b>	<b>-</b>	<b>1050</b>	<b>1250 to 1450</b>	<b>9</b>	<b>40</b>	<b>30</b>	<b>900</b>	<b>1000 to 1300</b>	<b>10</b>	<b>45</b>	<b>35</b>

Steel		(EN 10083-1:2006, attachment a) with a diameter (d) of									
		100mm < d ≤ 10mm					160mm < d ≤ 250mm				
Symbolic	Numeric	R <sub>e</sub> min	R <sub>m</sub>	A min	Z min	KV <sup>b</sup> min	R <sub>e</sub> min	R <sub>m</sub>	A min	Z min	KV <sup>b</sup> min
		MPa		%	%	J	MPa		%	%	J
<b>30CrNiMo8</b>	<b>1,6580</b>	<b>800</b>	<b>1000 to 1200</b>	<b>11</b>	<b>50</b>	<b>45</b>	<b>700</b>	<b>900 to 1100</b>	<b>12</b>	<b>50</b>	<b>45</b>

## JOMINY HARDENABILITY (EN 10083-3)

Steel designation		Symbol	Range limits	HRC hardness measured from the quenched end of the test tube (mm)														
Symbolic	Numeric			1,5	3	5	7	9	11	13	15	20	25	30	35	40	45	50
30CrNiMo8	1,6580	+H	max	56	56	56	56	55	55	55	55	55	54	54	54	54	54	
			min	48	48	48	48	47	47	47	46	46	45	45	44	44	43	43

## USUALLY AVAILABLE EX STOCK

M.T. Coloration	Quality	Heat treatment	Surface
	30CrNiMo8	Quenched and tempered Quenched and tempered stress relieved	rolled reeled

