



## Quality 34CrAlNi7 (UNI 8077)

### PROPERTIES AND EMPLOYEMENTS

This steel has an elevated hardenability, discreet toughness and it is suitable for the construction of big parts that are submitted to elevated dynamic stresses. It has the best machinability among nitriding steels that contain aluminium.

For this reason it is preferred over other nitriding steels, because an essential characteristic is the toughness of nitrited layers at elevated hardness (guaranteed by aluminium).

### CORRESPONDENCE TO INTERNATIONAL DESIGNATIONS

Quality	Europe	Germany		France	Spain	G.B.	USA
	EN	DIN	W.n.	AFNOR	UNE	B.S.	AISI/SAE
<b>34CrAlNi7</b>	<b>34CrAlNi7-10</b>	<b>34CrAlNi7</b>	<b>1,8550</b>	-	-	-	<b>K52440</b>

### CHEMICAL COMPOSITION % (UNI 8077)

Steel designation		%									
Symbolic	Numeric	C	Si max	Mn	P max	S <sup>b</sup> max	Al	Cr	Mo	Ni	V
<b>34CrAlNi7-10</b>	<b>1,8550</b>	<b>0,30 ÷ 0,37</b>	<b>0,40</b>	<b>0,40 ÷ 0,70</b>	<b>0,025</b>	<b>0,035</b>	<b>0,80 ÷ 1,20</b>	<b>1,50 ÷ 1,80</b>	<b>0,15 ÷ 0,25</b>	<b>0,85 ÷ 1,15</b>	-

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

### MECHANICAL CHARACTERISTICS (UNI 8077)


Steel		16mm < d ≤ 40mm				40mm < d ≤ 100mm				100mm < d ≤ 160mm				160mm < d ≤ 250mm				HV1 <sup>b</sup>
Symbolic	Numeric	R <sub>e</sub> min	R <sub>m</sub>	A min	KV min	R <sub>e</sub> min	R <sub>m</sub>	A min	KV min	R <sub>e</sub> min	R <sub>m</sub>	A min	KV min	R <sub>e</sub> min	R <sub>m</sub>	A min	KV min	
		N/mm <sup>2</sup>		%	J	N/mm <sup>2</sup>		%	J	N/mm <sup>2</sup>		%	J	N/mm <sup>2</sup>		%	J	
<b>34CrAlNi7-10</b>	<b>1,8550</b>	<b>680</b>	<b>900 to 1100</b>	<b>10</b>	<b>30</b>	<b>650</b>	<b>850 to 1050</b>	<b>12</b>	<b>30</b>	<b>600</b>	<b>800 to 1000</b>	<b>13</b>	<b>35</b>	<b>600</b>	<b>800 to 1000</b>	<b>13</b>	<b>35</b>	<b>950</b>

### JOMINY HARDENABILITY (UNI 8077)

Steel designation		Symbol	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	
<b>34CrAlNi7-10</b>	<b>1,8550</b>	max	60	59	58	57	56,5	56	55,5	55	53,5	52,5	51	49	47,5	
		min	49	48	47	46,5	45,5	44	43,5	42	39	37	35	34	33	

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## USUALLY AVAILABLE EX STOCK

M.T. Coloration	Quality	Heat treatment	Surface
	34CrAlNi7	Quenched and tempered, stress relieved	rolled peeled

