Quality 41CrAlMo7 (UNI 8077)

PROPERTIES AND EMPLOYEMENTS

41CrAlMo7-10 has an elevated hardenability and a high carbon content that make it suitable for the construction of big parts, which are submitted to elevated pulsing and dynamic stresses. Aluminium confers it an elevated hardness at the nitrited state, even if it reduces the steel's toughness. This steel has a more difficult machinability that can be improved by taking care of the inclusive rate and the micro-structure of steel.

CORRESPONDENCE TO INTERNATIONAL DESIGNATIONS

Quality	Europe	Germany		France	Spain	G.B.	USA
	EN	DIN	W.n.	AFNOR	UNE	B.S.	AISI/SAE
41CrAlMo7	**41CrAlMo7**	**41CrAlMo7**	**1,8509**	**40CAD6.12**	**F1740**	**905M39**	**-**

CHEMICAL COMPOSITION % (EN 10083-3)

Steel designation		%									
Symbolic	Numeric	C	Si max	Mn	P max	S[b] max	Al	Cr	Mo	Ni	V
41CrAlMo7-10	**1,8509**	**0,38 ÷ 0,45**	**0,40**	**0,40 ÷ 0,70**	**0,025**	**0,035**	**0,80 ÷ 1,20**	**1,50 ÷ 1,80**	**0,20 ÷ 0,35**	**-**	**-**

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		d ≤ 16mm				16mm < d ≤ 40mm				40mm < d ≤ 100mm				40mm < d ≤ 100mm				
Symbolic	Numeric	R_e min	R_m	A min	KV min	R_e min	R_m	A min	KV min	R_e min	R_m	A min	KV min	R_e min	R_m	A min	KV min	HV1[b]
		N/mm²		%	J	N/mm²		%	J	N/mm²		%	J	N/mm²		%	J	
41CrAlMo7-10	**1,8509**	**750**	**950 to 1150**	**11**	**25**	**720**	**900 to 1100**	**13**	**25**	**670**	**850 to 1050**	**14**	**30**	**625**	**800 to 1000**	**15**	**30**	**950**

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
41CrAlMo7-10	1,8509	max	60	60	59,5	59,5	59	59	58,5	58	57	56,5	55	53	51
		min	53	52	51	50	49	48	47,5	47	44,5	41	39,5	37,5	36

USUALLY AVAILABLE EX STOCK

M.T. Coloration	Quality	Heat treatment	Surface
	41CrAlMo7-10	Quenched and tempered	rolled