Quality 17NiCrMo6-4 (UNI EN 10084)

PROPERTIES AND EMPLOYEMENTS

Il 17NiCrMo6-4 (uni en 10084) is the new designation of 18NiCrMo5 (UNI 7846). It is the most common case-hardening steel and in italy it is used for its excellent characteristics that make it suitable for several applications. It has a medium-high hardenability and a good machinability. After case-hardening and hardening treatments, the surface reaches an elevated hardness.
17NiCrMo6-4 is used for the production of mechanical parts, which are submitted to wear (gears, camshafts, bushings, pinions).

CORRESPONDENCE TO INTERNATIONAL DESIGNATIONS

Quality	Europe	Germany		France	Spain	G.B.	USA
	EN	DIN	W.n.	AFNOR	UNE	B.S.	AISI/SAE
17NiCrMoS6-4	**17NiCrMoS6-4**	**-**	**1.6566**	**18NCD6**	**-**	**817M17**	**4317**

CHEMICAL COMPOSITION % (EN 10084)

Steel designation		Chemical composition								
Symbolic	Numeric	C	Si max	Mn	P max	S	Cr	Mo	Ni	B
17NiCrMo6-4	**1,6566**	**0,14 ÷ 0,20**	**0,40**	**0,60 ÷ 0,90**	**0,025**	**≤ 0,035**	**0,80 ÷ 1,10**	**0,15 ÷ 0,25**	**1,20 ÷ 1,50**	**-**
17NiCrMoS6-4	**1,6569**					**0,020 ÷ 0,040**				

Concentration limits of the elements that are not indicated in the table can be deduced in the EN 10020 regulation. It can be provided with an addition of lead 0,12-0,35% or sulphur controlled up until 0,40% for an improved machinability.

MECHANICAL CHARACTERISTICS (UNI 7846)

Steel quality	Bar's diameter	Tensile testing					Impact strength KCU min
		Unified tensile strength R		Deviation from proportionality $R_{p\ 0,2}$ min		Elongation A min	
	mm	N/mm^2	kgf/mm^2	N/mm^2	kgf/mm^2	%	J
18NiCrMo5	**11 (30) (63)**	**1230÷1520 (980÷1270) (830÷1130)**	**125÷155 (100÷130) (85÷115)**	**980 (735) (635)**	**100 (75) (65)**	**8 (9) (10)**	**30 (32,5) (35)**

JOMINY HARDENABILITY (EN 10084)

Steel designation		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
17NiCrMo6-4+H	1.6566+H	max	47	47	46	45	43	42	41	39	37	35	34	34	33
17NiCrMoS6-4+H	1.6569+H	min	39	38	36	35	32	30	28	26	24	22	21	20	20
17NiCrMo6-4+HH	1.6566+HH	max	47	47	46	45	43	42	41	39	37	35	34	34	33
17NiCrMoS6-4+HH	1.6569+HH	min	42	41	39	38	36	34	32	30	28	26	25	25	24
17NiCrMo6-4+HL	1.6566+HL	max	44	44	43	42	39	38	37	35	33	31	30	29	29
17NiCrMoS6-4+HL	1.6569+HL	min	39	38	36	35	32	30	28	26	24	22	21	20	20

USUALLY AVAILABLE EX STOCK

M.T. Coloration	Quality	Heat treatment	Surface
	17NiCrMo6-4	Soft-annealed	rolled forged turned drawn / peeled h111
	17NiCrMo6-4 alta lavorabilità	Soft-annealed	rolled peeled
	17NiCrMo6-4+PB	Soft-annealed	rolled drawn / peeled h111