

Quality	41CrMo4	Flame and Induction	<i>Technical card</i>
According to standard	UNI 7847: 1979	Hardening Steel	Lucefin Group
Number	-		rev. 2018

Chemical composition

C%	Si%	Mn%	P% max	S% max	Cr%	Mo%	
0,38-0,44	0,15-0,40	0,50-0,80	0,030	0,030	0,90-1,20	0,15-0,25	Product deviations are allowed
± 0.02	± 0.03	± 0.04	+ 0.005	+ 0.005	± 0.05	± 0.03	

Temperature °C

Hot-forming	Normalizing +N	Quenching +Q	Quenching +Q	Tempering +T	Stress-relieving +SR		
1100-850	870 air	850 oil or polymer	-	550-650 air	180		
Soft annealing +A	Isothermal annealing +I	Spheroidized annealed +AC	End quench hardenableity test	Pre-heating welding		Stress-relieving after welding	
720 air (HB max 240)	800 furnace cooling to 670, then air (HB 180-240)	730-740 furnace cooling	840 water	not recommended			
				Ac1	Ac3	Ms	Mf
				745	790	300	80

Mechanical properties

Hot-rolled mechanical properties on test blank after **quenching and tempering** (values valid for untreated products)

For quenched and tempered material supply, values must be guaranteed on the product

UNI 7847:1979. Use only as reference.

test blank diameter (mm)		Testing at room temperature (longitudinal)							
from	to	R	Rp 0.2	A%	Kcu	HB			
		N/mm ²	N/mm ² min	min.	J min	<i>for information</i>			
	16	1080-1280	880	10	25	327-375			
16	40	980-1180	765	11	25	295-354			
40	100	880-1080	640	12	25	263-327			
100	160	780-930	560	13	25	232-278			
160	250	740-890	510	14	25	224-268			

UNI 7847 **Jominy test HRC** grain size 5 min.

mm distance from quenched end																Min. surface hardness after hardening and stress-relieving	
	1.5	3	5	7	9	11	13	15	20	25	30	35	40	45	50		
min	53	53	52	51	50	48	45	43	38	35	34	33	32	32	32	HRC	55
max	60	60	60	60	60	59	59	58	56	53	51	48	47	46	45		

EUROPE EN	ITALY UNI	CHINA GB	GERMANY DIN	FRANCE AFNOR	U.K. B.S.	RUSSIA GOST	USA AISI/SAE
41CrMo4	41CrMo4		41CrMo4			40ChFA	4142