

Quality

40NiCrMo3

According to Standard

UNI 7847 : 1979

Number



Comparable Standards

German
DINFrance
AFNORSpain
UNEChina
GBU.K.
B.S.Russia
GOSTUSA
AISI - SAEJapan
JISItaly
UNI

40NiCrMo3

Chemical Analysis

C%
maxSi%
maxMn%
maxP%
maxS%
max

Cr%

Mo%

Ni%

0.37 - 0.43

0.15 - 0.40

0.50 - 0.80

0.03

0.03

0.60 - 1.00

0.15 - 0.25

0.70 - 1.00

Hot Work and Heat Treatment Temperatures

Temperature °C

Hot - Forming	End Quench Hardeneability test	Soft Annealing +A	Isothermal Annealing +I	Normalising	Quenching	Full Annealing	Tempering	Stress-relieving +SR
1100 - 900	850	700 air	800 furnace cooling to 650, then air	860 air	850 Oil, polymer	820	550 - 650	50° under the temperature of tempering
	Water	HB max 240	(HB 190 - 245)			furnace cooling (HB max 235)	air	

Mechanical Properties at Room Temperature**Hot Rolled Mechanical Properties in Quenched & Tempered condition**

Size d/t		Testing at Room Temperature (Longitudinal)						HB
Dia.	Thick	R	Rp 0.2	A%	C%	Kv	for information	
From	To	N/mm2	N/mm2	min.	min.	J min.		
16	16	1030 - 1230	830	10		30	331 - 363	
40	40	980 - 1180	785	11		30	295 - 354	
160	100	880 - 1080	690	12		30	263 - 327	
160	160	830 - 980	640	12		30	249 - 295	
160	250	740 - 890	540	13		30	224 - 268	

d = diameter t = thickness

UNI 7847 Jominy test HRC grain size 5 min. mm distance from quenched extremity

	1.5	3	5	7	9	11	13	15	20	30	40	45	50
min.	52	51.0	50.0	49.0	48.0	46.0	44.0	43.0	39.0	36.0	32	31.0	30
max.	60	60	59	58	58	57	57	56	55	53	48	46	45