

<b>Quality</b>	<b>40NiCrMo3</b>
According to standard	<b>UNI 7847: 1979</b>
Number	

## Chemical composition

C%	Si%	Mn%	P% max	S% max	Cr%	Mo%	Ni%	Deviations allowed for analysis product
0,37-0,43 ± 0.02	0,15-0,40 ± 0.03	0,50-0,80 ± 0.04	0,030 + 0.005	0,030 + 0.005	0,60-1,00 ± 0.05	0,15-0,25 ± 0.03	0,70-1,00 ± 0.03	

## Temperature °C

Hot-forming	Normalizing	Quenching	Quenching	Tempering	Stress-relieving
1100-900	860 air	850 oil or polymer		550-650 air	180
Soft annealing	Isothermal annealing	Full annealing	End quench hardenability test	Pre-heating welding	Stress-relieving after welding
700 air (HB max 240)	800 furnace cooling to 650, then air (HB 190-245)	820 furnace cooling (HB max 235)	850 water	not recommended	
				<b>Ac1</b> 740	<b>Ac3</b> 790
					<b>Ms</b> 330
					<b>Mf</b> 110

## 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 blanks diameter (mm)		Testing at room temperature (longitudinal)					
from	to	<b>R</b> N/mm <sup>2</sup>	<b>Rp 0.2</b> N/mm <sup>2</sup> min	<b>A%</b> min.	<b>C%</b> min.	<b>Kcu</b> J min	<b>HB</b> <i>for information</i>
	16	1030-1230	830	10		30	311-363
16	40	980-1180	785	11		30	295-354
40	100	880-1080	690	12		30	263-327
100	160	830-980	640	12		30	249-295
160	250	740-890	540	13		30	224-268

## Cold-drawn

diameter mm		Testing at room temperature (longitudinal)					
from	to	<b>R</b> N/mm <sup>2</sup>	<b>Rp 0.2</b> N/mm <sup>2</sup> min	<b>A%</b> min	<b>C%</b> min.	<b>Kcu</b> J min	<b>HB</b>

No indications from reference standards

UNI 7847 <b>Jominy test HRC</b> grain size 5 min.															Min. surface hardness after hardening and stress-relieving		
mm distance from quenched extremity																	
	1.5	3	5	7	9	11	13	15	20	25	30	35	40	45	50	HRC	54
<b>min</b>	52	51	50	49	48	46	44	43	39	36	34	33	32	31	30		
<b>max</b>	60	60	59	58	58	57	57	56	55	53	51	49	48	46	45		

EUROPE EN	ITALY UNI	CHINA GB	GERMANY DIN	FRANCE AFNOR	U.K. B.S.	RUSSIA GOST	USA AISI/SAE
40NiCrMo3							