

Quality C 48

According to Standard UNI 7847 : 1979

Number



Comparable Standards	German DIN	France AFNOR	Spain UNE	China GB	U.K. B.S.	Russia GOST	USA AISI - SAE	Japan JIS	Italy UNI
----------------------	------------	--------------	-----------	----------	-----------	-------------	----------------	-----------	-----------

1049

Chemical Analysis	C% max	Si% max	Mn% max	P% max	S% max	Cr%	Mo%	Ni%
-------------------	--------	---------	---------	--------	--------	-----	-----	-----

0.45 - 0.52	0.15 - 0.40	0.50 - 0.80	0.030	0.030				
-------------	-------------	-------------	-------	-------	--	--	--	--

Hot Work and Heat Treatment Temperatures

Temperature °C

Hot - Forming	End Quench Hardeneability test	Soft Annealing +A	Isothermal Annealing +I	Normalising	Quenching	Stress Relieving	Tempering	Stress-relieving +SR
1100 - 850		700 air	790 furnace cooling to 660, then air	860 air	830 Water	180	550 - 650	50° under the temperature of tempering
		HB max 238	(HB 165 - 243)				air	

Mechanical Properties at Room Temperature

Hot Rolled Mechanical Properties in normalising treatment UNI 7847 : 1979

Size d/t		Testing at Room Temperature (Longitudinal)					
mm		R	Rp 0.2	A%	C%	Kv	HB
From	To	N/mm2	N/mm2	min.	min.	J min.	for information
16	100	610 - 760	335	16			183 - 226

d = diameter t = thickness

Hot Rolled Mechanical Properties in Quenched & Tempered Condition treatment UNI 7847 : 1979

Size d/t		Testing at Room Temperature (Longitudinal)					
mm		R	Rp 0.2	A%	C%	Kv	HB
From	To	N/mm2	N/mm2	min.	min.	J min.	for information
	16	730 - 675	510	13		20	224 - 262
16	40	680 - 830	430	14		15	208 - 249
40	100	630 - 770	400	15		15	192 - 231