



Quality 20MnCr5 (UNI EN 10084)

PROPERTIES AND EMPLOYEMENTS

It is similar to 16MnCr5, but it is more hardening and it can also have good characteristics for what concerns the centre, up to a diameter of more or less mm 50.

CORRESPONDENCE TO INTERNATIONAL DESIGNATIONS

Quality	Europe	Germany		France	Spain	G.B.	USA
	EN	DIN	W.n.	AFNOR	UNE	B.S.	AISI/SAE
20MnCr5	20MnCr5	20MnCr5	1.7147	20MC5	-	-	-

CHEMICAL COMPOSITION % (EN 10084)

Steel designation		Chemical composition								
Symbolic	Numeric	C	Si max	Mn	P max	S	Cr	Mo	Ni	B
20MnCr5	1,7147	0,17 ÷ 0,22	0,40	1,10 ÷ 1,40	0,025	≤ 0,035	1,00 ÷ 1,30	-	-	-
20MnCr5	1,7149					0,020 ÷ 0,040				

Concentration limits of the elements that are not indicated in the table can be deduced in the en 10020 regulation.



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
20MnCr5	11 (30) (63)	1230÷1520 (930÷1230) (780÷1080)	125÷160 (95÷125) (80÷110)	930 (690) (540)	95 (70) (55)	7 (8) (9)	17,5 (20) (25)

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
20MnCr5+H	1,7147+H	max	49	49	48	46	43	42	41	39	37	35	34	33	32
20MnCrS5+H	1,7149+H	min	41	39	36	33	30	28	26	25	23	21	-	-	-
20MnCr5+HH	1,7147+HH	max	49	49	48	46	43	42	41	39	37	35	34	33	32
20MnCrS5+HH	1,7149+HH	min	44	42	40	37	34	33	31	30	28	26	25	24	23
20MnCr5+HL	1,7147+HL	max	46	46	44	42	39	37	36	34	32	30	29	28	27
20MnCrS5+HL	1,7149+HL	min	41	39	36	33	30	28	26	25	23	21	-	-	-

USUALLY AVAILABLE EX STOCK

M.T. Coloration	Quality	Heat treatment	Surface
	20MnCr5	Soft-annealed	rolled forged turned drawn / peeled h11
	20MnCr5 high machinability	Annealed	rolled peeled