

Quality	20MnCr5
According to Standard	EN 10084 : 1998
Number	1.7147



Comparable Standards	EN	W.N.	Finland	Afnor	Italy
	20MnCr5	1.7147	510	20MC5	20MnCr5

Chemical Analysis	C %	Si % max	Mn %	P% max	S%	Cr %
	0.17 to 0.22	0.40	1.10 to 1.40	0.035	≤ 0.035	1.00 to 1.30
	Mo %	Ni %	B			
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#### Hot Work and Heat Treatment Temperatures

End quench test Quenching <sup>2)</sup> °C	Carburizing temperature <sup>3)</sup> °C	Core-hardening temperature <sup>4), 5)</sup> °C	Case-hardening temperature <sup>4), 5)</sup> °C	Tempering <sup>6)</sup> °C
870	880 to 980	860 to 900	780 to 820	150 to 200

#### Mechanical Properties at Room Temperature

Mechanical Properties for the ruling section with a diameter  $\varnothing$  or for flat products thickness (f) of

Re min. MPa <sup>c</sup>	R <sub>m</sub>	A min. %	Z min. %	KV <sup>b</sup> min. J
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Hardness Requirements for Products Delivered in the Conditions 'treated to improve shearability' (+S), 'annealed to maximum hardness requirements' (+A), 'treated to hardness range' (+TH), or 'treated to ferrite - pearlite structure and hardness range' (+FP)

Brinell Hardness in the Condition						
+S	+A	+TH			+FP	
max.	max.	min.	max.	min.	max.	
255	217	170	217	152	201	