

# PASARGAD ALLOY STEEL

MATERIAL SPECIFICATION SHEET



## PASCO-20MnCr5

<b>Material No:</b> 1.7147	<b>Material group</b> Case hardening steels	<b>International steel grades</b> SAE: 5120 AFNOR: 20MC5 JIS: SMnC420H
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Chemical composition is according to the DIN EN 10084

Chemical composition: (Typical analysis in wt %)	Steel Grade	C	Mn	Si	P	S	Cr
	20Mn-Cr5	0.2%	1.3%	0.25%	0.01%	0.005%	1.1%

**Application:** Average size cog wheels, arbors, for vehicle- and gear building

<b>Hot forming and heat treatment temperature</b>	Hot working	850-1150 °C
	Soft annealing	650-700 °C/furnace
	Carburising	880-980 °C
	Normalising	840-870 °C/air
	Surface hardening	780-820 °C
	Quenching media	Oil/water
	Carburizing	880-980 °C
Tempering	150-200 °C	

<b>Delivery condition</b>	As rolled
<b>Dimensional tolerance</b>	According to the EN 10060
<b>ASTM grain size number</b>	5-10
<b>Cleanliness test K4 DIN 50602</b>	<10
<b>Bulk hardness test (HBW)</b>	170-220
<b>Surface quality</b>	Class D according to the EN 10221

### Hardenability (Jominy Test)

Standard	Austenitizing temperature	Distance (mm)	1.5	3	5	7	9	11	13
ISO 642/EN 10084	870°C	HRC	47	45	45	44	42	39	37
		Distance (mm)	15	20	25	30	35	40	45
		HRC	33	30	29	27	25	25	24