



P-20 Cav Plus

AISI	P-20 Modified	Chemical Composition (Typical Values Weight %)				
WERKSTOFF	1.2311	<u>C</u>	<u>Si</u>	<u>Mn</u>	<u>Cr</u>	<u>Mo</u>
DIN	40CrMnMo7	0.38	0.30	1.50	1.90	0.20

Characteristics

P-20 Cav Plus is a chromium-manganese-molybdenum grade, supplied in the pre-hardened condition at approximately 300 HB

Applications

P-20 Cav Plus is typically used for:

- Plastic injection molds for thermoplastics
- Extrusion dies for thermoplastics
- Compression molds

Machining

P-20 Cav Plus performs well in drilling and milling using high speed steel or carbide tools. Cutting conditions (cutting speed, feed rate, etc..) depend on the tool, but P-20 is a well known grade for which any cutting tool supplier can provide cutting conditions adapted to its tools.

End milling (type of end mill)	Feed (f ₂) mm/tooth	Cutting speed (V _c) m/min
High speed steel	0,05 - 0,35 ² (Depending on slot or side milling cutting diameter)	17 ¹ (for TiN coated HSS end mill Vc~24 m/min)
Carbide indexable insert	0,08 - 0,20 ² (Depending on slot or side milling cutting diameter)	100 - 150
Solid carbide	0,03 - 0,20 ² (Depending on slot or side milling cutting diameter)	50

Face and side milling (Type of milling)	Feed (f ₂) mm/tooth	Cutting speed (V _c) m/min	Depth of cut (a _p) mm	ISO Machining group
Rough milling carbide	0,2 - 0,4	80-110	2 - 5	P20-P40 uncoated carbide
Fine milling carbide	0,1 - 0,2	110-130	- 2	P10-P20 uncoated carbide
Fine milling High speed steel	0,1	16	- 2	

For more information, contact:
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 (Please supply CAD files in .dwg or .dxf format)



Turning

Machining	Feed (f ₂) mm/turn	Cutting speed (V _c) m/min	Depth of cut (a _p) mm	ISO Machining group
Rough turning carbide	0,3 - 0,6	110 - 150	2 - 6	P20 - P30 coated carbide
Fine turning carbide	- 0,3	150 - 180	- 2	P10 - coated carbide or cermet
Fine turning High speed steel	- 0,3	15	- 2	

Drilling: High speed steel twist drills

	Feed (f), mm/turn Drill diameter mm			
Cutting speed (V _c) m/min	- 5	5 - 10	10 - 15	15 - 20
15* (for TiN-coated HSS drills V _c ~ 20 m/min.)	0,08 - 0,15	0,15 - 0,25	0,25 - 0,30	0,30

Carbide drills

Type of drill	Feed (f ₂) mm/turn	Cutting speed (V _c) m/min
Indexable insert drill	0,05 - 0,25 ²⁾ (depending on drill diameter)	130 - 180
Solid carbide	0,10 - 0,25 ²⁾ (depending on drill diameter)	45
Brazed carbide ¹⁾ (Drills with internal cooling channels and brazed carbide tip, i.e. COROMANT Delta or SUMITOMO multi-drill)	0,15 - 0,25 ²⁾ (depending on drill diameter)	55

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