

# E90SO D06/D08 Endmills Machining Recommendations for SOMT 0402 inserts

ISO	Material		Condition	Tensile Strength [N/mm <sup>2</sup> ]	Hardness HB	Material No. <sup>(1)</sup>	Insert Geometry				Coolant
							SOMT 0402...PNTR		SOMT 040208 PNR-FF		
							For Max. DOC=3.5mm		DOC=0.1-0.5mm		
							Cutting Diameter		Cutting Diameter		
							Dc=Ø6	Dc=Ø8	Dc=Ø6	Dc=Ø8	
							f <sub>z</sub> (mm/tooth)		f <sub>z</sub> (mm/tooth)		
P	Non-alloy steel and cast steel, free cutting steel	< 0.25 %C	Annealed	420	125	1	0.035-0.045	0.06-0.1	0.1-0.4	0.1-0.5	Dry/Wet
		>= 0.25 %C	Annealed	650	190	2					
		< 0.55 %C	Quenched and tempered	850	250	3					
		>= 0.55 %C	Annealed	750	220	4					
			Quenched and tempered	1000	300	5					
	Low alloy steel and cast steel (less than 5% of alloying elements)		Annealed	600	200	6					
		Quenched and tempered		930	275	7					
				1000	300	8					
	High alloyed steel, cast steel and tool steel		Annealed	680	200	10					
			Quenched and tempered	1100	325	11					
	Stainless steel and cast steel		Ferritic/martensitic	680	200	12					
			Martensitic	820	240	13					
	M	Stainless steel and cast steel		Austenitic	600	180					
K	Grey cast iron (GG)		Ferritic/pearlitic		180	15	0.035-0.045	0.08-0.1	0.1-0.4	0.1-0.5	Dry
			Pearlitic		260	16					
	Cast iron nodular (GGG)		Ferritic		160	17					
			Pearlitic		250	18					
S	High temp. alloys	Ni or Co based	Annealed		250	33	0.035-0.045	0.05-0.08	0.1-0.3	0.1-0.4	Wet
			Cured		350	34					
			Cast		320	35					
	Titanium alloys		Pure	Rm = 400 <sup>(2)</sup>		36					
			Alpha+beta alloys cured	Rm = 1050		37					
H	Hardened steel		Hardened		55 HRC	38	-	-	0.1-0.2	0.1-0.3	Dry/Wet
					60 HRC	39	-	-	-	-	
	Chilled cast iron		Cast		400	40	-	-	0.1-0.4	0.1-0.5	
	Cast iron		Hardened		55 HRC	41	-	-	0.1-0.3	0.1-0.4	

<sup>(1)</sup> in accordance with VDI3323 standard

<sup>(2)</sup> Rm - ultimate tensile strength, MPa