



case 1

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work piece	end mill, 4 flutes
diameter	16mm = .630"
flute length	40mm = 1.574"
helix angle	2 stages with different angles
material	solid carbide
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machine	Walter Helitronic Power
coolant	Oil

process	Naxo Flute D54	STARTEC XP-P D54
infeed	3mm = .118"	same
cutting speed	22m/s = 4,330 sfpm	18m/s = 3,540 sfpm
feed rate	60mm/min = 2.362 ipm	120mm/min = 4.724 ipm
stock removal	.278 cinch/min inch	.557 cinch/min inch

summary	SlipNaxos	Tyrolit
sharpening	after 7 parts	after 50 parts
wheel wear	0.014mm = .0006"	0.002mm = .00008"
		50% reduction of grinding time





case	2
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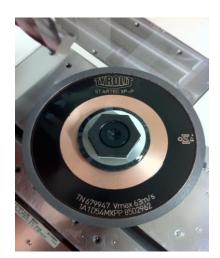
work piece	end mill, 4 flutes
diameter	10mm = .393"
flute length	23mm = .905"
helix angle	37 deg
material	solid carbide



machine	Walter Vision
coolant	Oil, 8 bar, 90l/min

process	Q Flute2 D54	STARTEC XP-P D54
infeed	2.4mm = .094"	same
cutting speed	22m/s = 4,330 sfpm	18m/s = 3,540 sfpm
feed rate	80mm/min = 3.149 ipm	180mm/min = 7.086 ipm
stock removal	.296 cinch/min inch	.666 cinch/min inch

summary	Winter	Tyrolit
sharpening	after 30 parts	after 80 parts
wheel wear	0.020mm = .0008"	0.002mm = .00008"
		55% reduction of grinding time





case	3
case	

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work piece	micro drill, 2 flutes
diameter	2.5mm = .098"
flute length	16mm = .629"
helix angle	30 deg
material	solid carbide



machine	Reinecker WZS60
coolant	Oil, 8 bar, 80l/min

process	D46 metal bond	STARTEC XP-P D46
infeed	0.875mm = .034"	same
cutting speed	20m/s = 3,940 sfpm	18m/s = 3,540 sfpm
feed rate	75mm/min = 2.952 ipm	100mm/min = 3.937 ipm
stock removal	.100 cinch/min inch	.134 cinch/min inch

summary	SAID	Tyrolit
sharpening	after 100 parts	after more than 200 parts
wheel wear	0.010mm = .0004"	0.0016mm = .00006"
		25% reduction of grinding time





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work piece	drill, 2 flutes
diameter	13.5mm = .530"
flute length	152.4mm = 6"
helix angle	30 deg
material	solid carbide



machine	Anca MX7
coolant	Oil

process	Univel G-Force D54	STARTEC XP-P D54
infeed	3 passes at .057"	full depth .172"
cutting speed	22m/s = 4,330 sfpm	20m/s = 3,940 sfpm
feed rate	3 ipm	3 ipm
stock removal	.171 cinch/min inch	.516 cinch/min inch

summary	St. Gobain	Tyrolit
sharpening	after 1 parts	after 10 parts
wheel wear	.0001"	.00005"
		66% reduction of grinding time