


MC5100 SERIES

RECOMMENDED CUTTING CONDITIONS

NEGATIVE INSERTS (FOR EXTERNAL TURNING)

Material	Hardness	Cutting conditions	Grade	Vc
K Grey cast iron	< 350MPa	●	MC5105	230-700
		●	MC5105	210-640
		⊕	MC5105	195-605
	< 450MPa	⊕	MC5115	190-350
		●	MC5115	195-365
		●	MC5115	180-330
Ductile cast iron	< 800MPa	⊕	MC5125	95-190
		●	MC5115	175-325
		●	MC5115	160-295
		⊕	MC5125	85-170

Cutting range		f	ap
Light cutting	LK	0.10-0.50	0.50-2.50
Medium cutting	MK	0.20-0.55	0.50-4.00
Medium cutting	MA	0.20-0.50	0.30-4.00
Medium cutting	GK	0.25-0.60	1.50-5.00
Rough cutting	RK	0.20-0.60	1.50-6.00
Cast iron cutting	Flat	0.20-0.60	2.50-6.00

7° POSITIVE INSERTS (FOR EXTERNAL TURNING)

Material	Hardness	Cutting conditions	Grade	Vc
K Ductile cast iron	< 450MPa	●	MC5115	170-320
		●	MC5115	130-250
		⊕	MC5125	60-130
	< 800MPa	●	MC5115	125-240
		●	MC5115	105-200
		⊕	MC5125	55-115

Cutting range	Chipbreaker	f	ap
Medium cutting	MK	0.08-0.30	0.30-2.00

APPLICATION EXAMPLES

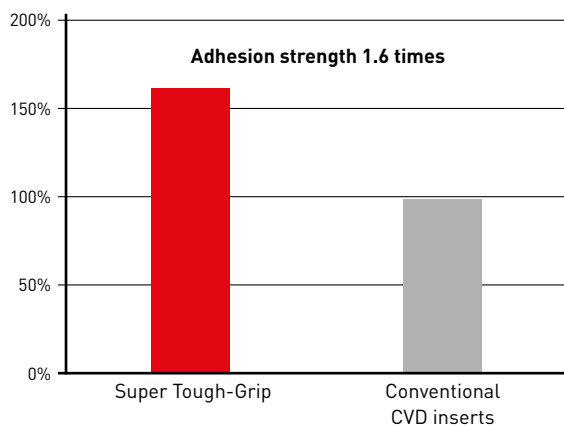
MC5105

COMPARISON OF WEAR RESISTANCE WHEN TURNING DIN GG30 AT CUTTING SPEEDS OF 1000 M/MIN

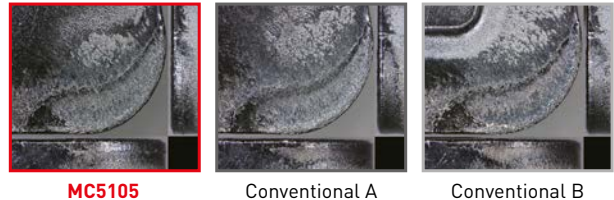
Adhesion strength evaluation:

Adhesion strength measurement is obtained from a scratch test that records the force needed to peel the coating layers.

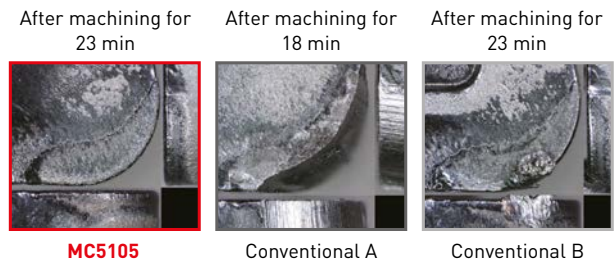
Material	DIN GG30
Tool	CNMA120412
Vc (m/min)	1.000
f (mm/rev.)	0.3
ap (mm)	2.0
Coolant	Dry cutting



After machining for 4 minutes



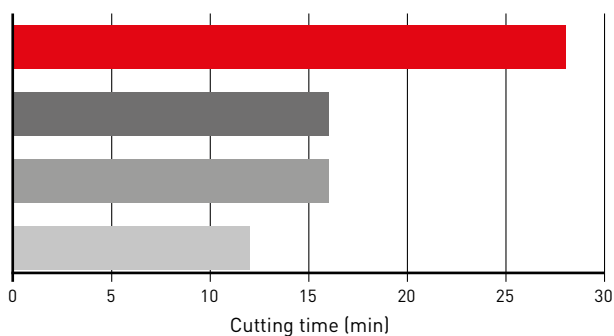
Final image



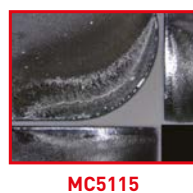
MC5115

COMPARISON OF WEAR RESISTANCE DURING CONTINUOUS CUTTING OF DIN GGG70

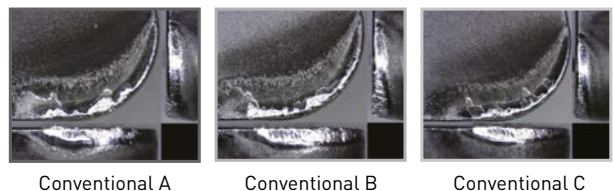
Material	DIN GGG70
Tool	CNMA120412
Vc (m/min)	250
f (mm/rev.)	0.3
ap (mm)	2.0
Coolant	Wet cutting



After machining for 16 min



After machining for 12 min



APPLICATION EXAMPLES

MC5125

COMPARISON OF FRACTURE RESISTANCE AFTER 10 PASSES OF INTERRUPTED CUTTING OF DIN GGG70

Material	DIN GGG70
Tool	CNMA120412
Vc (m/min)	250
f (mm/rev.)	0.3
ap (mm)	2.0
Coolant	Wet cutting

