



The Fluting Wheel You Should Have Been Using All Along!

HQ

S E R I E S

Next Generation Superabrasive Wheels for Cutting Tools

- Very low power draw
- High Q-prime and material removal rates
- Outstanding form-holding
- Self-dressing, wear-resistant bond system
- Total cost reduction



TOOLGAL
Grinding Wheels

What can HiQ do for you?

▶ Case study

	Inch	Metric
▪ Work piece	ø1"x4" Solid	ø25X100 mm Solid
▪ Material	Sub-Micron Tungsten Carbide	Sub-Micron Tungsten Carbide
▪ Tool	ø1", 4 flute 35° End Mill	ø25 mm, 4 flutes 35° End mill
▪ Flute length	2"	50 mm
▪ Grinding Wheel	1V1 V80° ø5"X1/2"	1V1 V80° ø125X12
▪ Grinding Parameters	V _c = 3,000 SFPM , a _e = 0.16"	V _c = 15 m/s , a _e = 4.2 mm
	V _f = 5" IPM	V _f = 125 mm/min
▪ Q _w '	8.4 mm ³ /mm/s	8.4 mm ³ /mm/s
▪ Machine	Walter Helitronic 24 kW	Walter Helitronic 24 kW
▪ Coolant	Grinding Oil "Shell Garia" 2429-S-8	Grinding Oil "Shell Garia" 2429-S-8

▶ Benefits

Very low power draw	▶	Reduced residual stress in the workpiece
High material removal rates	▶	Faster cycle time
Outstanding form holding	▶	Better part geometry and more parts per dress
Self-dressing bond system	▶	Wheel always stays sharp with great finish characteristics

▶ Product range

Wheel diameter: 2"-8" (50-200mm)
 Grit size: D64-D91
 Bond type: HiQ

▶ Application guide

Peripheral speed, V_c = 3,000-4,000 SFPM (15-20 m/s)
 Specific material removal rate, Q_w' 4-10 mm³/mm/s

$$Q_w' = \frac{V_f \times a_e}{60}$$

a_e - infeed (depth of cut) in mm

V_f - feed rate in mm/min

