

RECOMMENDATIONS FOR USE AND CUTS

# Three steps to your perfect tungsten carbide burr

STEP 1

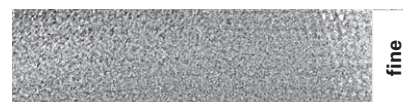
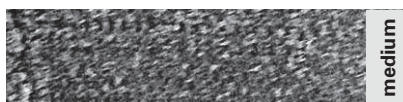
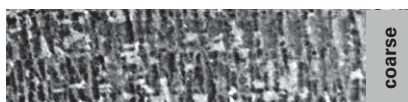
STEP 2

Begin by selecting the right **material** and **machining mode** (coarse to fine) from the table.

Read off the recommended **cut** and **cutting speed**.

Material	Strength (N/mm <sup>2</sup> )	Machining	Cut	Recommended cutting speed v <sub>c</sub> (m/min)
● Steel, cast steel	up to 800	coarse	Z3, Z7 Steel, ZX	500–700
		medium	Z5, Z42 Inox/Steel	300–500
		fine	ZF3	500–700
	800 to 1,200	coarse	Z7 Steel, ZX	400–600
		medium	Z5	300–400
		fine	ZF3	400–600
	from 1,200	coarse	Z7 Steel, Z4	300–500
		medium	Z5	300–400
		fine	ZF3	400–600
● Stainless steel	up to 800	coarse	Z2, Z6	400–500
		medium	Z3, Z7 Steel, Z4, Z5, Z42 Inox/Steel	300–500
		fine	ZF3	400–600
● Cast material	150 to 300	coarse	Cast, Z6	400–600
		medium	Z7 Steel	300–500
	300 to 450	coarse	Cast, Z7 Steel	300–500
		medium	Z5	300–500
		fine	ZF3	400–700
● Aluminium	up to 450	coarse	Z9 Alu	600–1,000
		medium	Z1	500–900
● Brass and bronze	up to 450	coarse	Z9 Alu, Z1	400–800
	from 450	medium	Z2	400–600
		fine	ZF3	500–600
● Titanium	up to 900	coarse	Z6	300–500
		medium	Z7 Steel	300–400
		fine	ZF3	500–700
	900 to 1,500	coarse	Z4	300–400
		medium	Z5	400–500
		fine	ZF3	400–600
● Plastic and wood	20 to 400	coarse	Composite coarse/fine, Z1, Z9 Alu	600–1,000
		fine	Composite coarse/fine, Wood	500–900
	400 to 1,000	coarse	Composite coarse/fine, Z1	500–800
		fine	Composite coarse/fine, Z2, Wood	400–800

MACHINING



## STEP 3




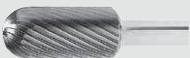
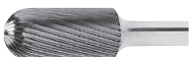


Determine the appropriate **speed** for your power tool in the second table, based on the tool diameter and cutting speed.



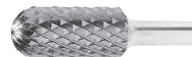


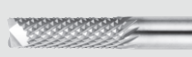

		Recommended cutting speed $v_c$ (m/min)							
		300	400	500	600	700	800	900	1,000
Tool diameter (mm)	2	48,000	64,000	80,000	95,000	111,000	127,000	143,000	159,000
	3	32,000	42,000	53,000	64,000	74,000	85,000	95,000	106,000
	4	24,000	32,000	40,000	48,000	56,000	64,000	72,000	80,000
	6	16,000	21,000	27,000	32,000	37,000	42,000	48,000	53,000
	8	12,000	16,000	20,000	24,000	28,000	32,000	36,000	40,000
	10	10,000	13,000	16,000	19,000	22,000	25,000	29,000	32,000
	12	8,000	11,000	13,000	16,000	19,000	21,000	24,000	27,000
	16	6,000	8,000	10,000	12,000	14,000	16,000	18,000	20,000
	20	5,000	6,000	8,000	10,000	11,000	13,000	14,000	16,000
		Speed (rpm)							

**TIP:** You can find the full overview of shapes for your perfect burr on **page 13**.



## CUTS

Cut	Properties	Page
 Z9 Alu	very coarse single cut with faceting for soft materials	31/32
 Z1	coarse cut for soft materials	30
 Z2 Brass	robust single cut for high stock removal	30
 Z3	medium single cut	26/27, 37, 39
 Z5 Hard	very fine single cut for high-quality surfaces	25, 34/35
 ZF1 to ZF3	fine cross cuts from coarse to very fine for perfect surfaces	33/34
 Wood	rasp cut for pattern construction	29

Cut	Properties	Page
 Z42 Inox/Steel	robust faceted toothing for Inox and steel	20
 Z4	fine cross cut for hard materials	22/23
 Z6	robust cross cut	23
 Z7 Steel	medium cross cut	17–19, 38
 Cast	robust cross cut specially designed for cast materials	21
 Composite Coarse and Fine	cross cut for machining plastic	28
 ZX	universal cross cut for almost all applications	40–42