

FRAISE Z3 · ENDMILL Z3 · FRÄSER Z3

28139A-4-6 Version 11.09.2026



SWISS MADE

E2

SUBMICRON GRAIN GRADE HIGH-SPEED MACHINING OF ABRASIVE MATERIALS

$\lambda = 48^\circ$
 $\gamma = 0^\circ$

HELIX ANGLE 48° AND CUTTING ANGLE 0°

0.05-0.15
45°

CHAMFER AT 45° / HEIGHT 0.05 TO 0.15 MM

SIDE AND CENTER CUT

l_1
1.5xD

CUTTING EDGE LENGTH 1.5xD

l_3

CUTTING LENGTH

FITTING LENGTH STANDARD

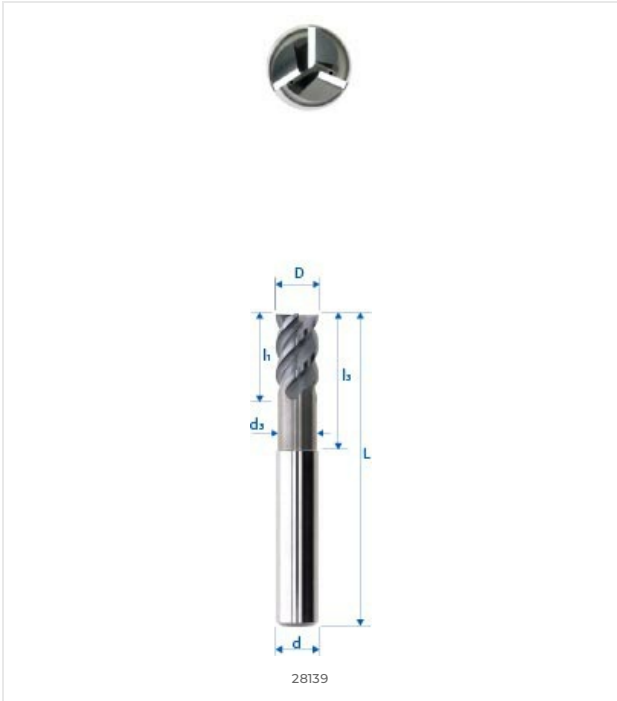
IRREGULAR TOOTHING

MATERIAL COMPATIBILITY

●●● Excellent (3/3) ●●○ Good (2/3) ●○○ Possible (1/3) ○○○ Not recommended

Product material compatibility				
CATEGORY	MATERIAL	SPECIFICATION	GRP	28139A-4-6
Alloyed and non-alloyed steels	Non-alloyed steels	Rm < 450 N/mm²	1a	●●● 3/3
		Rm 450–700 N/mm²	1b	●●● 3/3
		Rm 700–900 N/mm²	1c	●●● 3/3
		Rm > 1200 N/mm²	1d	●●○ 2/3
Stainless steels	Stainless steels	Rm < 650 N/mm²	2a	●●● 3/3
		Rm 650–950 N/mm²	2b	●●● 3/3
		Rm > 950 N/mm²	2c	●●● 3/3
Hardened steels	Hardened steels	44–56 HRC	3a	●●○ 2/3
		57–67 HRC	3b	●○○ 1/3
Exotic materials	Special alloys	< 32 HRC	4a	●●● 3/3
		> 32 HRC	4b	●●● 3/3
Graphite	Industrial graphite		5	○○○ 0/3
Cast iron	Grey / nodular cast iron	< 32 HRC	6a	●●● 3/3
		> 32 HRC	6b	●●● 3/3
Titanium	Titanium alloys	Rm < 600 N/mm²	7a	●●● 3/3
		600 < Rm N/mm²	7b	●●● 3/3
Nickel alloys	Inconel, Hastelloy	Rm < 1000 N/mm²	8a	●●● 3/3
		Rm > 1000 N/mm²	8b	●●● 3/3
Copper, brass, bronze	Copper-based	Rm < 850 N/mm²	9a	○○○ 0/3
		Rm > 850 N/mm²	9b	○○○ 0/3
Aluminum	Aluminum alloys	Si < 0.5%	10a	○○○ 0/3
		0.5% < Si < 5%	10b	○○○ 0/3
		Si > 5%	10c	○○○ 0/3
Synthetic materials	Engineering plastics	Thermoplastic	11a	○○○ 0/3
		Thermoset	11b	○○○ 0/3
Composite materials	Reinforced composites	Glass fiber / GFK	12a	○○○ 0/3
		Carbon fiber / KFK	12b	○○○ 0/3
Precious metals	Gold, platinum, silver	Gold	13a	○○○ 0/3
		Platinum	13b	●●○ 2/3

TECHNICAL DRAWING



DIMENSIONS

NOMINAL DIMENSIONS	
D (0 / -0.01)	4 mm
d (h5)	6 mm
L	57 mm
l1	6 mm
l3	13 mm
d3	–
R	–
e	–
Z	3
Chamfer K	0.1
w° collision angle	3.5°

