

NEW HIGH PERFORMANCE SPINWORX® CUTTING MATERIALS FOR SAH-MACHINING, SYSTEM SIZE DR12

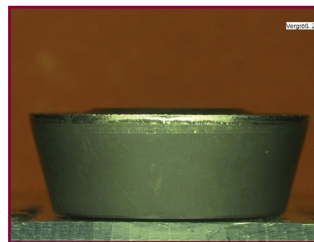


- ➔ SPINWORX® inserts for SAH machining, radius 6 mm
- ➔ Optimized cutting edge and chip groove for the greatest possible stability and low cutting forces
- ➔ Two clearance angle versions: 11° (DR12-8B3) or 15° (DR12-8B7, preferred for titanium alloys)
- ➔ The extremely tough and wear-proof M35 quality guarantees especially high cutting-edge stability
- ➔ The 7 µm thick CVD coating ensures high temperature and wear resistance
- ➔ Preferably machine stainless steel with MQL or dry with high cutting speeds, wet machining max. 140m/min
- ➔ When machining titanium alloys or high temperature alloys, emulsion is required as a coolant
- ➔ From September 2016 also for systems DR07, DR10 und DR16

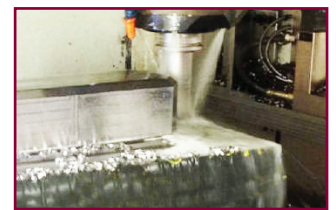
SPINWORX® DR12 Inserts	Catalogue No.	DIN Specification	Carbide Grade	Coating	d	s	r	M
	DR12-8B3	RORM 1245 M0EN	M35	CVD	12	4.5	6	
	DR12-8B7	RDRM 1245 M0EN	M35	CVD	12	4.5	6	

Machining material Inconel 718

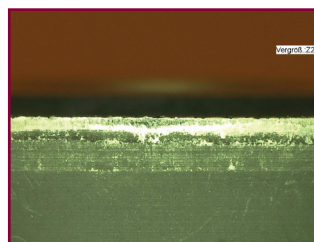
Inserts	Competitors insert	SPINWORX® DR12-8B3
Milling cutter body	High Feed Cutter	DR12-052-A22-06
Arbor	HSK 63	HSK 63
Cooling	Emulsion	Emulsion
Insert	Competition, 4 blades	DR12-8B3
Carbide grade / Coating	n.a.	CVD
v_c [m/min]	30	44
v_f [mm/min]	300	243
$n(s)$ [min ⁻¹]	150	269
d_c [mm]	63	52
f_z [mm]	0.4	0.15
a_p [mm]	0.5	1.5
a_e [mm]	40 66%	32 62%
Tool life [min]	60 per blade	180 - 300
Stock removal rate [cm ³ /min]	6	12



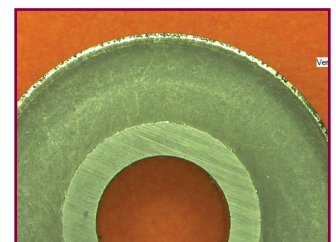
DR12-8B3 after 195 minutes



Inconel machining with the new SPINWORX® DR12-8B3 insert



Wear limit not reached yet



Up to 5 hours operating life possible

Clear winner when machining aircraft components made of Inconel 718: The entire roughening and finishing time with the DR12-8B3 cutting insert from the SPINWORX® system is a mere 37 hours compared to 74 hours with a conventional tool. Moreover, with SPINWORX® only 7 machine stops are needed to replace the cutting insert compared to 74 stops with standard tools. Under ideal conditions, up to 5 hours can be achieved with the new DR12-8B3 insert!

TECHNICAL INFORMATION

Cutting speed (V_c in m/min) | Feed per tooth (f_z in mm/tooth) | d.o.c. (a_p in mm)

Radius (r mm)	Dia- meter (d mm)	Material		Application*	V_c (m/min)		f_z (mm/Zahn)		a_p (mm)	
		Major group	Minor group		min	max	min	max	min	max
6	12	Steel	Free machining steel / Mild steel	<i>roughing</i>	100	200	0.4	0.8	0.75	2
				<i>pre-finishing</i>	100	200	0.2	0.45	0.5	1.2
			Normal tool steel / Steel castings	<i>roughing</i>	100	180	0.4	0.8	0.75	2
				<i>pre-finishing</i>	100	200	0.2	0.45	0.5	1.2
			Tool steel and steel castings. both difficult to machine	<i>roughing</i>	80	160	0.35	0.65	0.6	2
				<i>pre-finishing</i>	100	180	0.2	0.4	0.4	1
		Stainless Steel	all kinds	<i>roughing</i>	80	180	0.2	0.7	0.6	2.5
				<i>pre-finishing</i>	100	210	0.15	0.4	0.3	1.5
		High-temperature Alloys	High-temperature Alloys	<i>roughing</i>	30	80	0.15	0.4	0.5	2.2
				<i>pre-finishing</i>	40	70	0.1	0.3	0.3	1.3
			Titanium Alloys	<i>roughing</i>	40	90	0.2	0.5	0.5	2.2
				<i>pre-finishing</i>	50	90	0.15	0.4	0.3	1.3

* major application minor application



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