Solid Carbide Cutters

Multi-Application

MC-X



The Right Tool at the Right Time

DORMER

Features&***Benefits***

MC-X

MATERIAL
Micrograin carbide, with high hardness and toughness properties, for excellent wear resistance and long tool life.

SURFACE TREATMENT
Bright finish.

FLUTE GEOMETRY
2, 3 and 4 flute cutters to cover contouring (semi-finishing and finishing), ramping and slotting operations. Centre cutting.

SHANK
To DIN 6535 HA.

LENGTH
Medium cut length.

CHAMFER
Robust chamfer design on the end teeth, to reduce chipping.

HELIX ANGLE
30º right hand helix.

S902



S903



S904



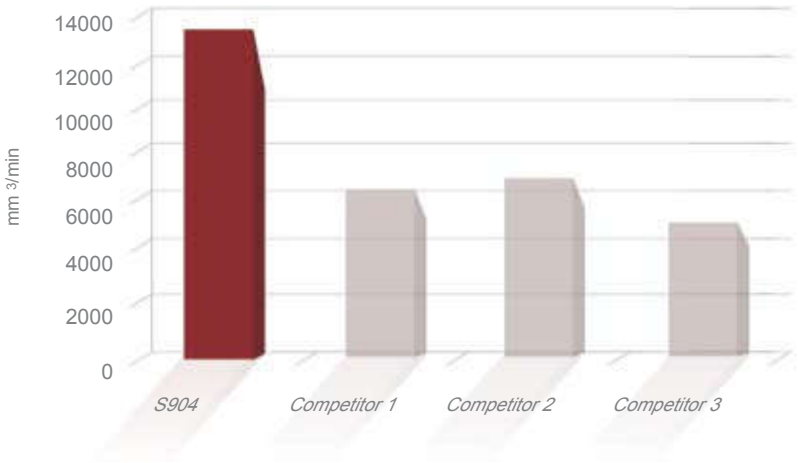
RANGE
S902 2.00 - 20.00 mm
S903 2.00 - 20.00 mm
S904 2.00 - 20.00 mm

CUSTOMER *BENEFITS*

- **High productivity**, as well as **excellent value for money** designed and priced to promote a **highly competitive milling operation**.
- **Multi-application – one tool for milling in many materials**, with the added benefit of **reduced inventory**.
- Stable design for **contouring (semi-finishing and finishing), ramping** and **slotting operations**.
- Flutes designed for good swarf evacuation and a **continuous, trouble-free machining operation**.
- **High wear resistance** and **long tool life**.
- Reinforced end teeth to **reduce chipping**, particularly important on materials with low machinability.

Test*Results*

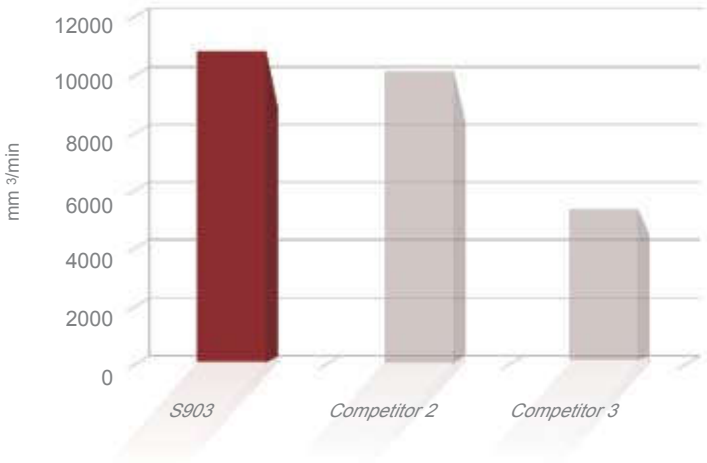
Productivity S904



The graph shows the productivity during this finishing operation on AMG 1.4, W.nr.1.2311. The S904 achieved almost twice the productivity of its nearest competitor at the manufacturers' recommended feed rates.

Radial Depth [mm] 0,1 x Ø = 1,2
Axial Depth [mm] 1,5 x Ø = 18

Productivity S903



The graph shows the productivity during this slotting operation on AMG 1.4, W.nr.1.2311. Competitor 2 achieved 5% lower productivity compared to the Dormer S903. Competitor 3 achieved less than half the productivity of the S903 at the manufacturers' recommended feed rates.

Radial Depth [mm] 1 x Ø = 12
Axial Depth [mm] 0,5 x Ø = 6

Application*MaterialGroups*

S902	S903	S904
N	N	N
		

- ■ Excellent for Application
- • Good for Application

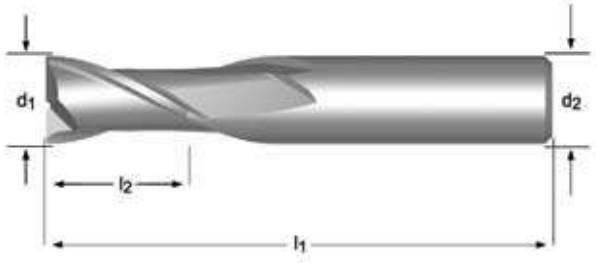
Example
65 = Peripheral speed in metres/minute +/- 10%
B = Feed range

Z				Ø mm mm/z ± 25%										
				2	3	4	5	6	8	10	12	14	16	20
3-4		↕ 1,5 ↔ 0,1	A	0.012	0.019	0.028	0.036	0.048	0.048	0.070	0.080	0.090	0.107	0.134
			B	0.015	0.022	0.034	0.042	0.057	0.057	0.079	0.094	0.110	0.126	0.155
			C	0.016	0.025	0.038	0.047	0.063	0.063	0.088	0.106	0.123	0.141	0.176
3-4		↕ 1,5 ↔ 0,25	A	0.010	0.015	0.023	0.028	0.038	0.038	0.053	0.064	0.075	0.085	0.107
			B	0.012	0.018	0.027	0.034	0.046	0.046	0.063	0.076	0.088	0.100	0.125
			C	0.013	0.020	0.030	0.038	0.051	0.051	0.070	0.084	0.099	0.113	0.141
2-3		↕ 0,5 ↔ 1	A	0.005	0.007	0.009	0.013	0.016	0.024	0.033	0.040	0.046	0.053	0.053
			B	0.006	0.008	0.011	0.016	0.019	0.029	0.040	0.048	0.056	0.064	0.064
			C	0.006	0.009	0.012	0.017	0.021	0.031	0.043	0.051	0.060	0.068	0.068
2-3		↕ 1 ↔ 1	A	0.002	0.004	0.006	0.007	0.011	0.013	0.019	0.027	0.032	0.037	0.042
			B	0.004	0.007	0.009	0.013	0.015	0.023	0.032	0.038	0.045	0.051	0.051
			C	0.005	0.007	0.010	0.014	0.016	0.025	0.034	0.041	0.048	0.055	0.055

Application Material Groups (AMG)		Hardness HB	Tensile Strength N/mm²	HM	HM	HM
				D	D	D
				DIN 6535 HA	DIN 6535 HA	DIN 6535 HA
				h10	h10	h12
				λ 30°	λ 30°	λ 30°
				2.00 - 20.00	2.00 - 20.00	2.00 - 20.00
				NEW 2008.09	NEW 2008.09	NEW 2008.09
				5	6	7
1.Steel	1.1 Magnetic soft steel	<120	<400	■65B	■65B	■95B
	1.2 Structural Steel / case carburising steel	<200	<700	■65B	■65B	■95B
	1.3 Plain Carbon steel	<250	<850	■55B	■55B	■80B
	1.4 Alloy steel	<250	<850	■50B	■50B	■70B
	1.5 Alloy steel/ Hardened and tempered steel	>250 <350	>850 <1200	•30B	•30B	•55B
	1.6 Alloy steel/ Hardened and tempered steel	>350	>1200 <1620			•30B
	1.7 Alloy steel Hardened	49-55HRC	>1620			
	1.8 Alloy steel Hardened	55-63HRC	<1960			
2. Stainless Steel	2.1 Free machining Stainless Steel	<250	<850			
	2.2 Austenitic	<320	<1100			
	2.3 Ferritic + Austenitic, Martensitic	<300	<1000			
	2.4 Precipitation Hardened	>320 <410	>1100 <1400			
3. Cast Iron	3.1 Lamellar graphite	<150	<500	■55B	■55B	■80B
	3.2 Lamellar graphite	>150 <300	>500 <1000	•30B	•30B	•55B
	3.3 Nodular graphite/ Malleable Cast Iron	<200	<700	■55B	■55B	■70B
	3.4 Nodular graphite/ Malleable Cast Iron	>200 <300	>700 <1000	•30B	•30B	•55B
4. Titanium	4.1 Titanium, unalloyed	<200	<700	■65B	■65B	■95B
	4.2 Titanium, alloyed	<270	<900	•30B	•30B	•40B
	4.3 Titanium, alloyed	>270 <350	>900 <1250	•15B	•15B	•30B
5. Nickel	5.1 Nickel, unalloyed	<150	<500	■65B	■65B	■135B
	5.2 Nickel, alloyed	<270	<900			•30A
	5.3 Nickel, alloyed	>270 <350	>900 <1200			•25A
6. Copper	6.1 Copper	<100	<350	■145C	■145C	■200C
	6.2 ß-Brass, Bronze	<200	<700	■145C	■145C	■200C
	6.3 α-Brass	<200	<700	■145C	■145C	■200C
	6.4 High Strength Bronze	<470	<1500	•28B	•28B	•30B
7.Aluminium Magnesium	7.1 Al, Mg, unalloyed	<100	<350	•550C	•550C	•640C
	7.2 Al alloyed, Si<0.5%	<150	<500	•550C	•550C	•640C
	7.3 Al alloyed, Si>0.5%<10%	<120	<400	•160C	•160C	•320C
	7.4 Al alloyed, Si>10% Whisker reinforced Al-alloys, Mg alloys	<120	<400			
8.Synthetic Materials	8.1 Thermoplastics	---	---	•160C	•160C	•160C
	8.2 Thermosetting plastics	---	---	•65C	•65C	•95C
	8.3 Reinforced plastic materials	---	---	•30B	•30B	•55B
9. Hard Materials	9.1 Cermets (Metal-ceramics)	<550	<1700			
10.Graphite	10.1 Standard graphite	---	<100			
			a_z	0.8	0.8	0.8

S902

- End Mill
- Schaftfräser
- Vingerfrezen
- Fraises de finition
- Fresas de acabado
- Fresa de Acabamento



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MC-X

S902



■ 1.1 1.2 1.3 1.4 3.1 3.3 4.1 5.1 6.1 6.2 6.3

● 1.5 3.2 3.4 4.2 4.3 6.4 7.1 7.2 7.3 8.1 8.2 8.3

d_1 Ø	d_2 Ø	l_2	l_1		
mm	mm	mm	mm	z	e-Code
2.00	3	6	38	2	**S9022.0**
2.50	3	9	38	2	**S9022.5**
3.00	3	12	38	2	**S9023.0**
4.00	4	14	50	2	**S9024.0**
5.00	5	16	50	2	**S9025.0**
6.00	6	19	57	2	**S9026.0**
7.00	8	19	63	2	**S9027.0**
8.00	8	19	63	2	**S9028.0**

d_1 Ø	d_2 Ø	l_2	l_1		
mm	mm	mm	mm	z	e-Code
9.00	10	21	72	2	**S9029.0**
10.00	10	22	72	2	**S90210.0**
12.00	12	25	73	2	**S90212.0**
14.00	14	30	83	2	**S90214.0**
16.00	16	32	92	2	**S90216.0**
18.00	18	32	92	2	**S90218.0**
20.00	20	38	104	2	**S90220.0**

S903

- End Mill
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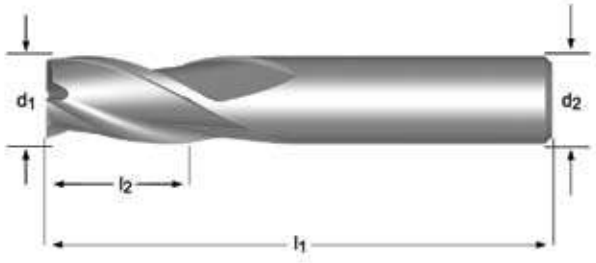

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MC-X

S903



■ 1.1 1.2 1.3 1.4 3.1 3.3 4.1 5.1 6.1 6.2 6.3

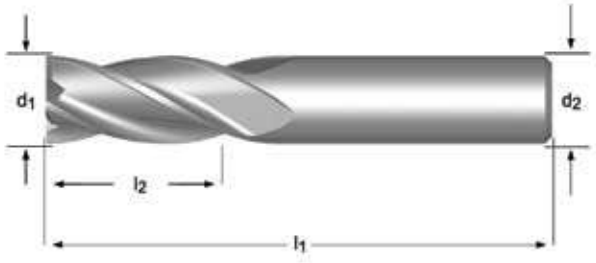
● 1.5 3.2 3.4 4.2 4.3 6.4 7.1 7.2 7.3 8.1 8.2 8.3

d_1 Ø	d_2 Ø	l_2	l_1		
mm	mm	mm	mm	z	e-Code
2.00	3	6	38	3	**S9032.0**
2.50	3	9	38	3	**S9032.5**
3.00	3	12	38	3	**S9033.0**
4.00	4	14	50	3	**S9034.0**
5.00	5	16	50	3	**S9035.0**
6.00	6	19	57	3	**S9036.0**
7.00	8	19	63	3	**S9037.0**
8.00	8	19	63	3	**S9038.0**

d_1 Ø	d_2 Ø	l_2	l_1		
mm	mm	mm	mm	z	e-Code
9.00	10	21	72	3	**S9039.0**
10.00	10	22	72	3	**S90310.0**
12.00	12	25	73	3	**S90312.0**
14.00	14	30	83	3	**S90314.0**
16.00	16	32	92	3	**S90316.0**
18.00	18	32	92	3	**S90318.0**
20.00	20	38	104	3	**S90320.0**

S904

- End Mill
- Schaftfräser
- Vingerfrezen
- Fraises de finition
- Fresas de acabado
- Fresa de Acabamento



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S904



■ 1.1 1.2 1.3 1.4 3.1 3.3 4.1 5.1 6.1 6.2 6.3

● 1.5 1.6 3.2 3.4 4.2 4.3 5.2 5.3 6.4 7.1 7.2 7.3 8.1 8.2 8.3

d_1 Ø	d_2 Ø	l_2	l_1		
mm	mm	mm	mm	z	e-Code
2.00	3	6	38	4	**S9042.0**
2.50	3	9	38	4	**S9042.5**
3.00	3	12	38	4	**S9043.0**
4.00	4	14	50	4	**S9044.0**
5.00	5	16	50	4	**S9045.0**
6.00	6	19	57	4	**S9046.0**
7.00	8	19	63	4	**S9047.0**
8.00	8	19	63	4	**S9048.0**

d_1 Ø	d_2 Ø	l_2	l_1		
mm	mm	mm	mm	z	e-Code
9.00	10	21	72	4	**S9049.0**
10.00	10	22	72	4	**S90410.0**
12.00	12	25	73	4	**S90412.0**
14.00	14	30	83	4	**S90414.0**
16.00	16	32	92	4	**S90416.0**
18.00	18	32	92	4	**S90418.0**
20.00	20	38	104	4	**S90420.0**



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The Right Tool at the Right Time

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