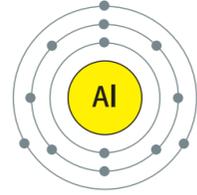


Solid Carbide High Performance

End Mills for Aluminium and other Non-Ferrous Materials

铝、其他有色金属材料专用

高性能整体硬质合金立铣刀



The current market trend is towards the increasing use of aluminium substrate in the manufacture of die cut and moulds. Aluminium substrate offers many advantages, such as excellent machinability and good thermal conductivity, as well as being light in weight, with a high strength-to-weight ratio.

铝基体在冲切和模具制造中的应用日益增多。铝基体具有许多优点，如卓越的可加工性和良好的导热性能，以及重量轻，具有很高的强度重量比。

Due to the relative softness of aluminium, specific characteristics and geometries in solid carbide end mills are required for efficient machining of this ductile material.

由于铝材质相对较软，因此加工这种延展性材料需要整体硬质合金立铣刀具有独特特点和结构。

Somta's high efficiency carbide end mill range with optimal flute geometry provides all the required features for high performance machining of aluminium, with the added benefits of greater stock removal rates at high speeds and feeds, excellent surface finish quality and extended tool life.

SOMTA高性能硬质合金立铣刀系列产品拥有完美的槽型几何结构，能提供所有高性能铝用铣刀所拥有的特点：高速高进给下更大的大量削去率，卓越的表面加工品质和更长的刀具寿命。

The range allows for roughing and finishing applications in aluminium and other non-ferrous materials and competes favourably with current global state-of-the-art solid carbide cutting tool designs.

该系列用于铝和其他有色金属材料上的粗加工和精加工，在全球整体硬质合金刀具领域具有竞争优势。

Somta has integrated a state of the art Walter Helicheck Basic 3 into its quality check management process.

The Walter Helicheck is a 4-axis CNC measuring machine for non-contact complete measurement of rotationally symmetrical precision tools with complex geometry.

SOMTA将先进的4轴数控瓦尔特HELICHECK Basic3测量机应用于质量检查管理。针对几何形状复杂的旋转对称精密工具进行非接触式测量。

360° 旋转，多角度测量，自动续数

HELICHECK Basic3测量机应用于质量检查管理。针对几何形状复杂的旋转对称精密工具进行非接触式测量。



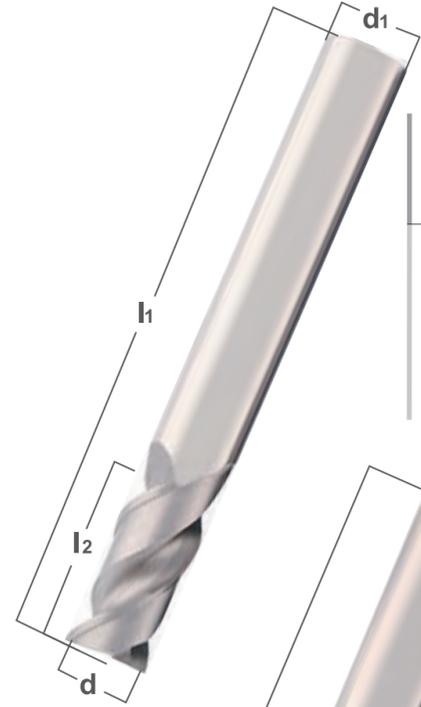
360° 旋转，多角度测量，自动续数



02S
Solid Carbide 3 Flute
Ball Nose End Mill
整体硬质合金球头立铣刀—3槽
REGULAR LENGTH, UNCOATED 常规型—无涂层

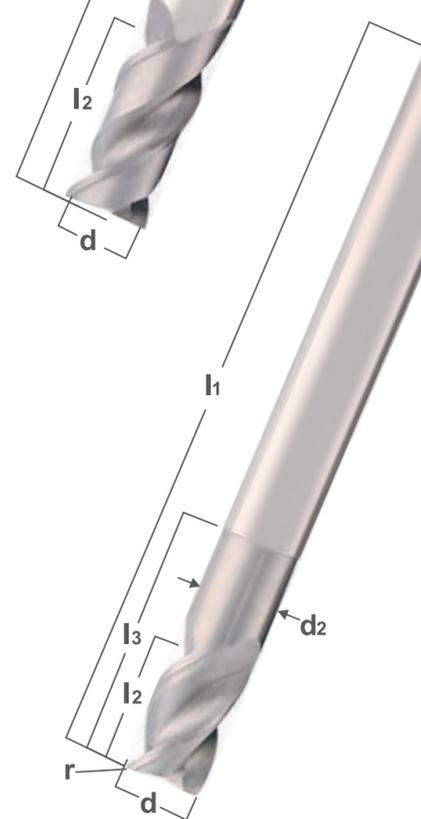
Features 特点:
Designed with an unequal flute spiral design for chatter-free performance.
不规则的螺旋槽设计使之拥有无颤振性能

d	d1	l2	l1	Code 货号
3	3	12	38	02S0300
4	4	15	51	02S0400
5	5	20	64	02S0500
6	6	20	64	02S0600
8	8	20	64	02S0800
10	10	25	70	02S1000
12	12	25	76	02S1200
16	16	35	89	02S1600



02A
Solid Carbide 2
Flute End Mill
整体硬质合金立铣刀—2槽
REGULAR LENGTH, UNCOATED 常规型—无涂层

d	d1	l2	l1	Code 货号
1	6	3	50	02A0200
2	6	6	50	02A0100
3	6	8	57	02A0300
4	6	11	57	02A0400
5	6	13	57	02A0500
6	6	13	57	02A0600
8	8	19	63	02A0800
10	10	22	75	02A1000
12	12	26	83	02A1200
16	16	32	92	02A1600



02U
Solid Carbide 3 Flute
Toroidal End Mill with Neck
整体硬质合金环形颈立铣刀—3槽
REGULAR LENGTH, UNCOATED 常规型—无涂层

Features 特点:
Designed with an unequal flute spiral design for chatter-free performance.
不规则的螺旋槽设计使之拥有无颤振性能

d	d1	d2	l3	l2	l1	r	Code 货号
3	3	2.8	12	4.5	55	0.2	02U0300
3	3	2.8	12	4.5	55	0.5	02U0301
4	4	3.8	12	6	55	0.2	02U0400
4	4	3.8	12	6	55	0.5	02U0401
5	5	4.8	15	7.5	58	0.2	02U0500
5	5	4.8	15	7.5	58	0.5	02U0501
6	6	5.8	18	9	63	0.2	02U0600
6	6	5.8	18	9	63	0.5	02U0601
6	6	5.8	18	9	63	1	02U0602
8	8	7.7	24	12	76	0.5	02U0800
8	8	7.7	24	12	76	1	02U0801
10	10	9.7	30	15	89	0.5	02U1000
10	10	9.7	30	15	89	1	02U1001
12	12	11.6	36	18	100	0.5	02U1200
12	12	11.6	36	18	100	1	02U1201
16	16	15.5	48	24	110	1	02U1600
16	16	15.5	48	24	110	2	02U1601



03C
Solid Carbide 3 Flute Roughing End Mill
整体硬质合金粗加工立铣刀—3槽
REGULAR LENGTH, KNUCKLE FORM, COARSE PITCH, UNCOATED 常规型—弧顶—粗齿—无涂层

d	d1	l2	l1	Code 货号
6	6	13	57	03C0600
8	8	16	63	03C0800
10	10	22	72	03C1000
12	12	26	83	03C1200
16	16	32	92	03C1600
20	20	38	104	03C2000

Parameters based on ideal conditions.
For improved surface finish, reduce feed per tooth.
以下参数基于理想条件下。
为了改善表面粗糙度，减少每齿进给



02R
Solid Carbide 3 Flute
End Mill
整体硬质合金立铣刀—3槽
REGULAR LENGTH, UNCOATED 常规型—无涂层

d	d1	l2	l1	Code 货号
2	6	3	50	02R0200
3	6	6	50	02R0300
4	6	8	57	02R0400
5	6	11	57	02R0500
6	6	13	57	02R0600
8	8	13	57	02R0800
10	10	19	63	02R1000
12	12	22	75	02R1200
16	16	26	83	02R1600



END MILL RANGES FEEDS AND SPEEDS / 立铣刀系列产品进给量和转速

Material Type 材料类型	Hardness 硬度 (HB)	Tensile Strength 抗拉强度 (N/mm²)	Recommended Surface Speed 推荐转速 (m/min)	Recommended feed in mm per tooth for Carbide End Mills based on 1.0 x D cutting depth with 0.5 x D cutting width. For slotting up to 1.0 x D, reduce by 30%. End Mill Diameter in mm 针对硬质合金立铣刀推荐进给量 (毫米/齿)，基于1.0 x D切深和0.5 x D切宽为了开槽至1.0 x D，减少30% 立铣刀直径 (mm)												
				推荐转速 (m/min)		立铣刀直径 (mm)										
				min	max	1	2	3	4	5	6	8	10	12	16	20
02A Solid Carbide 2 Flute End Mill REGULAR LENGTH, UNCOATED 02A 整体硬质合金立铣刀—2槽—常规型—无涂层	Aluminium wrought alloys 锻铝合金	< 100	< 350	500	2000	0.014	0.018	0.027	0.036	0.045	0.054	0.072	0.090	0.108	0.144	-
Aluminium cast alloys > 5% Si <10% Si	< 120	< 400	500	1500	0.012	0.016	0.024	0.032	0.041	0.049	0.065	0.081	0.097	0.130	-	
5% 硅 < 铸造铝合金 < 10%硅	< 120	< 400	500	1500	-	-	-	-	-	0.059	0.079	0.099	0.119	0.158	0.198	
03C Solid Carbide 3 Flute Roughing End Mill REGULAR LENGTH, KNUCKLE FORM, COARSE PITCH, UNCOATED 03C 整体硬质合金粗加工立铣刀—3槽—弧顶—粗齿—无涂层	Aluminium wrought alloys 锻铝合金	< 100	< 350	500	2000	-	-	-	-	-	0.066	0.088	0.110	0.132	0.176	0.220
Aluminium cast alloys > 5% Si <10% Si	< 120	< 400	500	1500	-	-	-	-	-	-	0.059	0.079	0.099	0.119	0.158	0.198
5% 硅 < 铸造铝合金 < 10%硅	< 120	< 400	500	1500	-	-	-	-	-	-	0.059	0.079	0.099	0.119	0.158	0.198
02R Solid Carbide 3 Flute End Mill REGULAR LENGTH, UNCOATED 02R 整体硬质合金立铣刀—3槽—常规型—无涂层	Aluminium wrought alloys 锻铝合金	< 100	< 350	500	2000	-	0.018	0.027	0.036	0.045	0.054	0.072	0.090	0.108	0.144	-
Aluminium cast alloys > 5% Si <10% Si	< 120	< 400	500	1500	-	0.016	0.024	0.032	0.041	0.049	0.065	0.081	0.097	0.130	-	
5% 硅 < 铸造铝合金 < 10%硅	< 120	< 400	500	1500	-	0.016	0.024	0.032	0.041	0.049	0.065	0.081	0.097	0.130	-	
02S Solid Carbide 3 Flute Ball Nose End Mill REGULAR LENGTH, UNCOATED 02S 整体硬质合金球头立铣刀—3槽—常规型—无涂层	Aluminium wrought alloys 锻铝合金	< 100	< 350	500	2000	-	-	0.032	0.041	0.049	0.060	0.080	0.100	0.120	0.160	-
Aluminium cast alloys > 5% Si <10% Si	< 120	< 400	500	1500	-	-	0.027	0.036	0.045	0.054	0.072	0.090	0.108	0.144	-	
5% 硅 < 铸造铝合金 < 10%硅	< 120	< 400	500	1500	-	-	0.027	0.036	0.045	0.054	0.072	0.090	0.108	0.144	-	
02U Solid Carbide 3 Flute Toroidal End Mill with Neck REGULAR LENGTH, UNCOATED 02U 整体硬质合金环形颈立铣刀—3槽—常规型—无涂层	Aluminium wrought alloys 锻铝合金	< 100	< 350	500	2000	-	-	0.032	0.041	0.049	0.060	0.080	0.100	0.120	0.160	-
Aluminium cast alloys > 5% Si <10% Si	< 120	< 400	500	1500	-	-	0.027	0.036	0.045	0.054	0.072	0.090	0.108	0.144	-	
5% 硅 < 铸造铝合金 < 10%硅	< 120	< 400	500	1500	-	-	0.027	0.036	0.045	0.054	0.072	0.090	0.108	0.144	-	



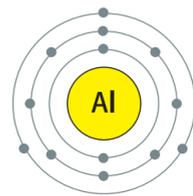
SOLID CARBIDE END MILLS FOR ALUMINIUM
高性能整体硬质合金立铣刀—铝材专用

Solid Carbide High Performance

End Mills for Aluminium and other Non-Ferrous Materials

铝、其他有色金属材料专用

高性能整体硬质合金立铣刀



The current market trend is towards the increasing use of aluminium substrate in the manufacture of die cut and moulds. Aluminium substrate offers many advantages, such as excellent machinability and good thermal conductivity, as well as being light in weight, with a high strength-to-weight ratio. 铝基体在冲切和模具制造中的应用日益增多。铝基体具有许多优点，如卓越的可加工性和良好的导热性能，以及重量轻，具有很高的强度重量比。

Due to the relative softness of aluminium, specific characteristics and geometries in solid carbide end mills are required for efficient machining of this ductile material. 由于铝材质相对较软，因此加工这种延展性材料需要整体硬质合金立铣刀具有独特特点和结构。

Somta's high efficiency carbide end mill range with optimal flute geometry provides all the required features for high performance machining of aluminium, with the added benefits of greater stock removal rates at high speeds and feeds, excellent surface finish quality and extended tool life.

SOMTA高性能硬质合金立铣刀系列产品拥有完美的槽型几何结构，能提供所有高性能铝用铣刀所拥有的特点：高速高进给下更大的大量削去率，卓越的表面加工品质和更长的刀具寿命。

The range allows for roughing and finishing applications in aluminium and other non-ferrous materials and competes favourably with current global state-of-the-art solid carbide cutting tool designs.

该系列用于铝和其他有色金属材料上的粗加工和精加工，在全球整体硬质合金刀具领域具有竞争优势。

Somta has integrated a state of the art Walter Helicheck Basic 3 into its quality check management process.

The Walter Helicheck is a 4-axis CNC measuring machine for non-contact complete measurement of rotationally symmetrical precision tools with complex geometry.

SOMTA将先进的4轴数控瓦尔特HELICHECK Basic3测量机应用于质量检查管理。针对几何形状复杂的旋转对称型精密工具进行非接触式测量。



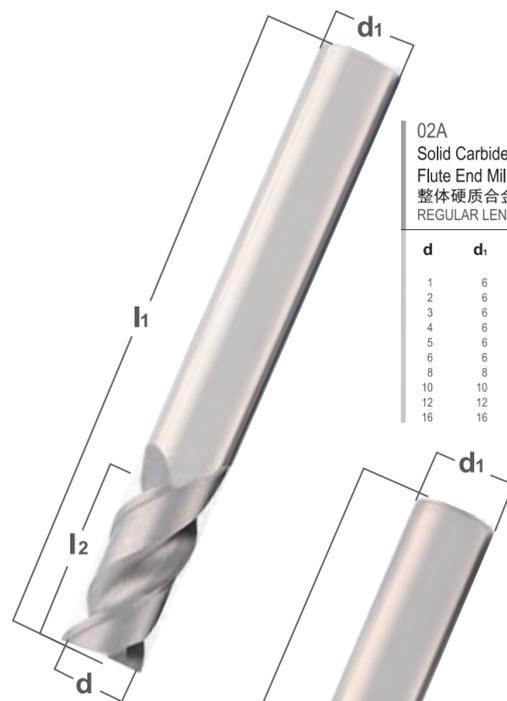
360° 旋转，多角度测量，自动读数



02A
Solid Carbide 2
Flute End Mill
整体硬质合金立铣刀—2槽
REGULAR LENGTH, UNCOATED 常规型—无涂层

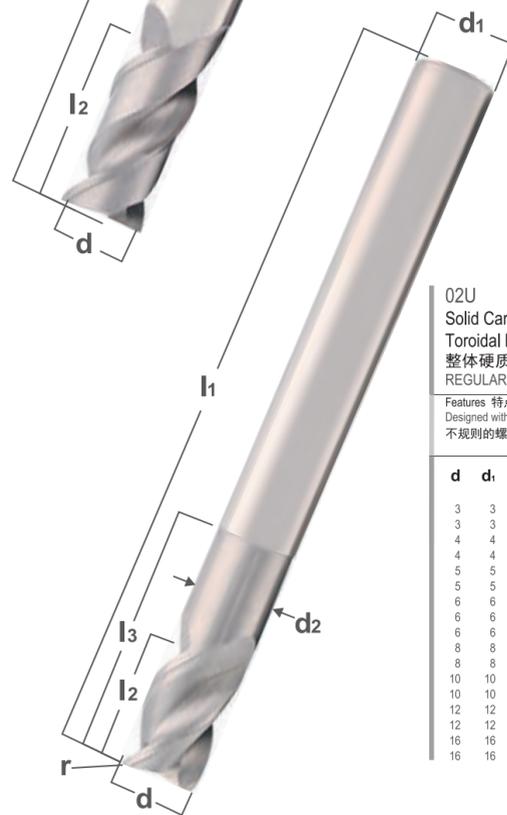
Features 特点:
Designed with an unequal flute spiral design for chatter-free performance. 不规则的螺旋槽设计使之拥有无颤振性能

d	d1	l2	l1	Code 货号
3	3	12	38	02A0300
4	4	15	51	02A0400
5	5	20	64	02A0500
6	6	20	64	02A0600
8	8	20	64	02A0800
10	10	25	70	02A1000
12	12	25	76	02A1200
16	16	35	89	02A1600



02R
Solid Carbide 3 Flute
End Mill
整体硬质合金立铣刀—3槽
REGULAR LENGTH, UNCOATED 常规型—无涂层

d	d1	l2	l1	Code 货号
1	6	3	50	02R0200
2	6	6	50	02R0300
3	6	8	57	02R0400
4	6	11	57	02R0500
5	6	13	57	02R0600
6	6	13	57	02R0600
8	8	19	63	02R0800
10	10	22	75	02R1000
12	12	26	83	02R1200
16	16	32	92	02R1600



02U
Solid Carbide 3 Flute
Toroidal End Mill with Neck
整体硬质合金环形颈立铣刀—3槽
REGULAR LENGTH, UNCOATED 常规型—无涂层

Features 特点:
Designed with an unequal flute spiral design for chatter-free performance. 不规则的螺旋槽设计使之拥有无颤振性能

d	d1	d2	l3	l2	l1	r	Code 货号
3	3	2.8	12	4.5	55	0.2	02U0300
3	3	2.8	12	4.5	55	0.5	02U0301
4	4	3.8	12	6	55	0.2	02U0400
4	4	3.8	12	6	55	0.5	02U0401
5	5	4.8	15	7.5	58	0.2	02U0500
5	5	4.8	15	7.5	58	0.5	02U0501
6	6	5.8	18	9	63	0.2	02U0600
6	6	5.8	18	9	63	0.5	02U0601
6	6	5.8	18	9	63	1	02U0602
8	8	7.7	24	12	76	0.5	02U0800
8	8	7.7	24	12	76	1	02U0801
10	10	9.7	30	15	89	0.5	02U1000
10	10	9.7	30	15	89	1	02U1001
12	12	11.6	36	18	100	0.5	02U1200
12	12	11.6	36	18	100	1	02U1201
16	16	15.5	48	24	110	1	02U1600
16	16	15.5	48	24	110	2	02U1601



03C
Solid Carbide 3 Flute Roughing End Mill
整体硬质合金粗加工立铣刀—3槽
REGULAR LENGTH, KNUCKLE FORM, COARSE PITCH, UNCOATED 常规型—弧顶—粗齿—无涂层

d	d1	l2	l1	Code 货号
6	6	13	57	03C0600
8	8	15	63	03C0800
10	10	22	72	03C1000
12	12	26	83	03C1200
16	16	32	92	03C1600
20	20	38	104	03C2000



02S
Solid Carbide 3 Flute
Ball Nose End Mill
整体硬质合金球头立铣刀—3槽
REGULAR LENGTH, UNCOATED 常规型—无涂层

d	d1	l2	l1	Code 货号
2	6	3	50	02S0200
3	6	6	50	02S0300
4	6	8	57	02S0400
5	6	11	57	02S0500
6	6	13	57	02S0600
8	8	13	57	02S0800
10	10	19	63	02S1000
12	12	22	75	02S1200
16	16	26	83	02S1600

Parameters based on ideal conditions.
For improved surface finish, reduce feed per tooth.
以下参数基于理想条件下。
为了改善表面粗糙度，减少每齿进给

END MILL RANGES FEEDS AND SPEEDS / 立铣刀系列产品进给量和转速

Material Type 材料类型	Hardness 硬度 (HB)	Tensile Strength 抗拉强度 (N/mm ²)	Recommended Surface Speed 推荐转速 (m/min)		Recommended feed in mm per tooth for Carbide End Mills based on 1.0 x D cutting depth with 0.5 x D cutting width. For slotting up to 1.0 x D, reduce by 30%. End Mill Diameter in mm 针对硬质合金立铣刀推荐进给量 (毫米/齿)，基于1.0 x D切深和0.5 x D切宽为了开槽至1.0 x D，减少30%立铣刀直径 (mm)											
			min	max	1	2	3	4	5	6	8	10	12	16	20	
02A Solid Carbide 2 Flute End Mill REGULAR LENGTH, UNCOATED 02A 整体硬质合金立铣刀—2槽—常规型—无涂层	Aluminium wrought alloys 锻铝合金	< 100	< 350	500	2000	0.014	0.018	0.027	0.036	0.045	0.054	0.072	0.090	0.108	0.144	-
	Aluminium cast alloys > 5% Si < 10% Si	< 120	< 400	500	1500	0.012	0.016	0.024	0.032	0.041	0.049	0.065	0.081	0.097	0.130	-
	5% 硅 < 铸造铝合金 < 10% 硅	< 120	< 400	500	1500	-	-	-	-	-	0.059	0.079	0.099	0.119	0.158	0.198
03C Solid Carbide 3 Flute Roughing End Mill REGULAR LENGTH, KNUCKLE FORM, COARSE PITCH, UNCOATED 03C 整体硬质合金粗加工立铣刀—3槽—弧顶—粗齿—无涂层	Aluminium wrought alloys 锻铝合金	< 100	< 350	500	2000	-	-	-	-	0.066	0.088	0.110	0.132	0.176	0.220	
	Aluminium cast alloys > 5% Si < 10% Si	< 120	< 400	500	1500	-	-	-	-	0.059	0.079	0.099	0.119	0.158	0.198	
	5% 硅 < 铸造铝合金 < 10% 硅	< 120	< 400	500	1500	-	-	-	-	0.059	0.079	0.099	0.119	0.158	0.198	
02R Solid Carbide 3 Flute End Mill REGULAR LENGTH, UNCOATED 02R 整体硬质合金立铣刀—3槽—常规型—无涂层	Aluminium wrought alloys 锻铝合金	< 100	< 350	500	2000	-	0.018	0.027	0.036	0.045	0.054	0.072	0.090	0.108	0.144	-
	Aluminium cast alloys > 5% Si < 10% Si	< 120	< 400	500	1500	-	0.016	0.024	0.032	0.041	0.049	0.065	0.081	0.097	0.130	-
	5% 硅 < 铸造铝合金 < 10% 硅	< 120	< 400	500	1500	-	0.016	0.024	0.032	0.041	0.049	0.065	0.081	0.097	0.130	-
02S Solid Carbide 3 Flute Ball Nose End Mill REGULAR LENGTH, UNCOATED 02S 整体硬质合金球头立铣刀—3槽—常规型—无涂层	Aluminium wrought alloys 锻铝合金	< 100	< 350	500	2000	-	-	0.032	0.041	0.049	0.060	0.080	0.100	0.120	0.160	-
	Aluminium cast alloys > 5% Si < 10% Si	< 120	< 400	500	1500	-	-	0.027	0.036	0.045	0.054	0.072	0.090	0.108	0.144	-
	5% 硅 < 铸造铝合金 < 10% 硅	< 120	< 400	500	1500	-	-	0.027	0.036	0.045	0.054	0.072	0.090	0.108	0.144	-
02U Solid Carbide 3 Flute Toroidal End Mill with Neck REGULAR LENGTH, UNCOATED 02U 整体硬质合金环形颈立铣刀—3槽—常规型—无涂层	Aluminium wrought alloys 锻铝合金	< 100	< 350	500	2000	-	-	0.032	0.041	0.049	0.060	0.080	0.100	0.120	0.160	-
	Aluminium cast alloys > 5% Si < 10% Si	< 120	< 400	500	1500	-	-	0.027	0.036	0.045	0.054	0.072	0.090	0.108	0.144	-
	5% 硅 < 铸造铝合金 < 10% 硅	< 120	< 400	500	1500	-	-	0.027	0.036	0.045	0.054	0.072	0.090	0.108	0.144	-



SOLID CARBIDE END MILLS FOR ALUMINIUM
高性能整体硬质合金立铣刀—铝材专用