PRECISION TOOLING · SINCE 2014

Cemented Carbide Cutting Tools

Solid Carbide End Mills for Precision CNC Machining

GENERAL MILLING · ALUMINUM · CHAMFERING · SPOTTING · DEEP GROOVE



WEBSITE
www.yaoxingtools.com

EMAIL
sunnyyaoxin98@gmail.com

WHATSAPP
+86 186 7219 9821

ABOUT US

Company Profile

Wuhan Yaoxing Tools Co., Ltd. is a professional manufacturer and exporter of CNC cutting tools, established in 2014 and serving overseas markets since 2017. From our base in Wuhan, China, we supply solid carbide end mills, indexable inserts, tool holders and precision measuring tools to distributors and machining shops in more than 30 countries.

We operate a stable supply chain with long-term partner factories, supporting both standard catalog items and OEM / customized production to drawings. Samples are available for evaluation before bulk orders, and every shipment is delivered with complete export documentation — Commercial Invoice, Packing List and Certificate of Origin — for smooth customs clearance at destination.

As an SGS-audited supplier (Report No. QIP-ASI2591605) with ISO 9001 quality management, we focus on consistent quality, honest specifications and long-term cooperation.

2014
ESTABLISHED

30+
EXPORT COUNTRIES

SGS
AUDITED SUPPLIER

OEM
CUSTOMIZATION

QUALITY & TRADE ASSURANCE

- SGS audited supplier — Report No. QIP-ASI2591605
- ISO 9001 quality management system
- Sample support & pre-shipment inspection
- Full export documents: CI · PL · Certificate of Origin

CONTENTS

Table of Contents

P — **Company Profile** — Supply chain · samples · OEM · export documents — 02

T — **Technical Guide** — ISO material groups · coatings · cutting symbols · packaging — 04

 **Square End Mills — 4 Flute** — TiSiN coated · HRC55 · steel & general machining — 05

 **Ball Nose & Corner Radius End Mills** — 2 / 4 flute · contouring & 3D finishing — 06

 **End Mills for Aluminum — 3 Flute** — DLC / uncoated · non-ferrous high-speed machining — 07

 **Chamfer End Mills — 60° / 90° / 120°** — Chamfering · deburring · countersinking — 08

 **NC Spot Drills — 90° / 120°** — Spotting · centering · V-groove — 09

 **Long Neck / Deep Groove End Mills** — Small diameter · long reach · rib machining — 10

G — **Grade Selection Chart** — Grade · coating · ISO material · working condition — 11

S — **Service & Support** — Samples · OEM & customization · documents — 12

TECHNICAL GUIDE

Materials, Coatings & Cutting Symbols

ISO MATERIAL GROUPS (ISO 513)

P	M	K	N	S	H
Steel	**Stainless**	**Cast Iron**	**Non-Ferrous**	**Super Alloys**	**Hardened**
Carbon, alloy & tool steel	Austenitic, ferritic, duplex	Gray, nodular, malleable	Aluminum, copper, brass	Titanium, Inconel, heat-resistant	45–65 HRC hardened steel

COATING / GRADE REFERENCE

GRADE	COATING	CHARACTERISTICS & TYPICAL USE
TiSiN	Titanium Silicon Nitride	High hardness & heat resistance; steel, stainless and general milling at elevated speeds.
TiAlN	Titanium Aluminum Nitride	Excellent oxidation resistance; universal grade for steel and cast iron.
AlCrN	Aluminum Chromium Nitride	Tough and thermally stable; stainless steel and difficult materials.
DLC	Diamond-Like Carbon	Low friction, anti-adhesion; ideal for aluminum and non-ferrous machining.
Bright	Uncoated / Polished	Sharp edge with mirror finish; first choice for aluminum and soft non-ferrous alloys.

CUTTING SYMBOLS

SYMBOL	MEANING (UNIT)
Vc	Cutting speed (m/min)
f / fz	Feed per revolution / per tooth (mm)
ap	Depth of cut, axial (mm)
ae	Width of cut, radial (mm)
D / d	Cutter diameter / shank diameter (mm)
Lc / L	Flute (cutting) length / overall length (mm)
Z	Number of flutes

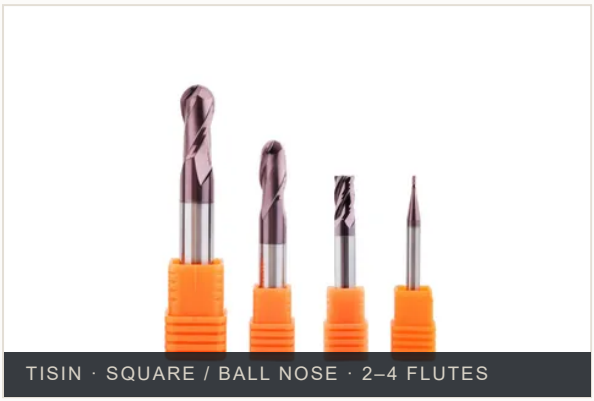
PACKAGING STANDARD

Each tool is individually packed in a protective plastic tube; 10 pcs per inner box with foam separation, then export cartons. Labels show Item No., grade and dimension. Customized packaging and private labeling are available on request.

Square End Mills — 4 Flute

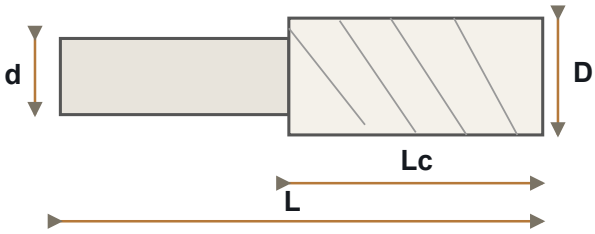
TiSiN coated micro-grain carbide · HRC55 · for steel & general machining

01



TISIN · SQUARE / BALL NOSE · 2–4 FLUTES

DIMENSION DRAWING



MICRO-GRAIN CARBIDE | TiSiN COATING | HRC 55 | 4 FLUTES | HELIX 30° | h6 SHANK TOLERANCE

STANDARD SIZES (MM)

Item No.	D	Lc	d	L	Z
YX-SE4-010-050	1.0	3	4	50	4
YX-SE4-015-050	1.5	4	4	50	4
YX-SE4-020-050	2.0	6	4	50	4
YX-SE4-025-050	2.5	7	4	50	4
YX-SE4-030-050	3.0	8	6	50	4
YX-SE4-040-050	4.0	11	6	50	4
YX-SE4-050-050	5.0	13	6	50	4
YX-SE4-060-050	6.0	16	6	50	4
YX-SE4-080-060	8.0	20	8	60	4
YX-SE4-100-075	10.0	25	10	75	4
YX-SE4-120-075	12.0	30	12	75	4

APPLICABLE MATERIALS (ISO 513)

P ● M ● K ○ N — S — H ○

● Highly suitable ○ Suitable — Not recommended

ISO	Vc (m/min)	fz (mm/tooth)	ap	ae
P Steel	120 – 180	0.03 – 0.06	0.5 × D	0.4 × D
M Stainless	80 – 120	0.02 – 0.05	0.5 × D	0.4 × D

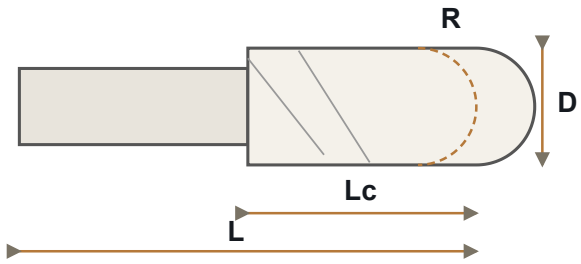
Ball Nose & Corner Radius End Mills

TiSiN coated · 2 / 4 flute · contouring, profiling & 3D finishing



BALL NOSE R0.5 – R6.0 · CORNER RADIUS R0.2 – R1.0

DIMENSION DRAWING



MICRO-GRAIN CARBIDE | TiSiN COATING | HRC 55 | 2F BALL NOSE | 4F CORNER RADIUS | 3D PROFILING

BALL NOSE — 2 FLUTE (MM)

Item No.	R	Lc	d	L
YX-BN2-R005-050	0.5	2	4	50
YX-BN2-R010-050	1.0	4	4	50
YX-BN2-R015-050	1.5	6	6	50
YX-BN2-R020-050	2.0	8	6	50
YX-BN2-R025-050	2.5	10	6	50
YX-BN2-R030-060	3.0	12	6	60
YX-BN2-R040-060	4.0	16	8	60
YX-BN2-R050-075	5.0	20	10	75
YX-BN2-R060-075	6.0	24	12	75

CORNER RADIUS — 4 FLUTE (MM)

Item No.	D	R	Lc	d	L
YX-CR4-030-R02	3	0.2	8	6	50
YX-CR4-040-R02	4	0.2	11	6	50
YX-CR4-040-R05	4	0.5	11	6	50
YX-CR4-060-R05	6	0.5	16	6	50
YX-CR4-060-R10	6	1.0	16	6	50
YX-CR4-080-R05	8	0.5	20	8	60
YX-CR4-080-R10	8	1.0	20	8	60
YX-CR4-100-R10	10	1.0	25	10	75
YX-CR4-120-R10	12	1.0	30	12	75

APPLICABLE MATERIALS (ISO 513)

P ● M ● K ○ N — S — H ○

● Highly suitable ○ Suitable — Not recommended

ISO	Vc (m/min)	fz (mm/tooth)	ap (finishing)
P Steel	130 – 200	0.02 – 0.05	0.1 – 0.3 × D
M Stainless	80 – 130	0.02 – 0.04	0.1 – 0.2 × D

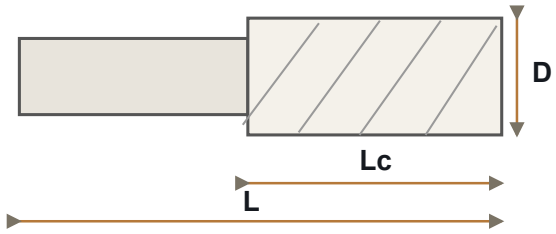
End Mills for Aluminum — 3 Flute

DLC / uncoated bright · large flute space · non-ferrous high-speed machining



DLC RAINBOW & BRIGHT · 3 FLUTES · 45° HELIX

DIMENSION DRAWING



MICRO-GRAIN CARBIDE | DLC / BRIGHT | 3 FLUTES | HELIX 45° | MIRROR FINISH | ANTI-ADHESION

STANDARD SIZES (MM)

Item No.	D	Lc	d	L	Z
YX-AL3-010-050	1.0	3	4	50	3
YX-AL3-020-050	2.0	6	4	50	3
YX-AL3-030-050	3.0	8	6	50	3
YX-AL3-040-050	4.0	11	6	50	3
YX-AL3-050-050	5.0	13	6	50	3
YX-AL3-060-050	6.0	16	6	50	3
YX-AL3-080-060	8.0	20	8	60	3
YX-AL3-100-075	10.0	25	10	75	3
YX-AL3-120-075	12.0	30	12	75	3

APPLICABLE MATERIALS (ISO 513)

P — M — K — N • S — H —

• Highly suitable ○ Suitable — Not recommended

ISO	Vc (m/min)	fz (mm/tooth)	ap	ae
N Aluminum & non-ferrous	200 – 400	0.05 – 0.12	1.0 × D	0.5 × D

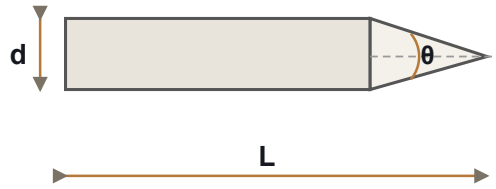
Chamfer End Mills — 60° / 90° / 120°

Chamfering · deburring · countersinking · one-pass edge finishing



BRIGHT FINISH · 60° / 90° INCLUDED ANGLE

DIMENSION DRAWING



MICRO-GRAIN CARBIDE | BRIGHT / TiSiN | 60° · 90° · 120° | SHARP EDGE | ONE-PASS CHAMFER

STANDARD SIZES (MM)

Item No.	Angle θ	D	d	L
60° INCLUDED ANGLE				
YX-CM60-030-050	60°	3	3	50
YX-CM60-060-050	60°	6	6	50
YX-CM60-100-075	60°	10	10	75
90° INCLUDED ANGLE				
YX-CM90-030-050	90°	3	3	50
YX-CM90-040-050	90°	4	4	50
YX-CM90-060-050	90°	6	6	50
YX-CM90-080-060	90°	8	8	60
YX-CM90-100-075	90°	10	10	75
YX-CM90-120-075	90°	12	12	75
120° INCLUDED ANGLE				
YX-CM120-060-050	120°	6	6	50
YX-CM120-100-075	120°	10	10	75

APPLICABLE MATERIALS (ISO 513)

P ● M ○ K ● N ● S — H —

● Highly suitable ○ Suitable — Not recommended

ISO	Vc (m/min)	f (mm/rev)	Note
P / K Steel · Cast iron	80 – 140	0.05 – 0.15	Chamfer width ≤ 0.5 × D
N Aluminum	150 – 300	0.08 – 0.20	Bright finish recommended

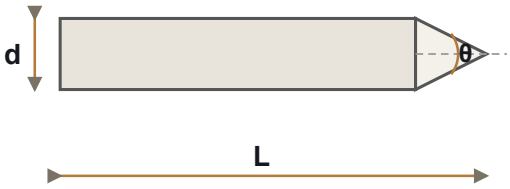
NC Spot Drills — 90° / 120°

Spotting · centering · V-groove · precise hole positioning



TISIN COATED · 90° POINT · 2 FLUTES

DIMENSION DRAWING



MICRO-GRAIN CARBIDE | TiSiN COATING | 90° / 120° POINT | 2 FLUTES | HIGH POSITIONING ACCURACY

STANDARD SIZES (MM)

Item No.	Point θ	D	d	L
YX-SD90-030-050	90°	3	3	50
YX-SD90-040-050	90°	4	4	50
YX-SD90-060-050	90°	6	6	50
YX-SD90-080-060	90°	8	8	60
YX-SD90-100-075	90°	10	10	75
YX-SD90-120-075	90°	12	12	75
YX-SD120-060-050	120°	6	6	50
YX-SD120-100-075	120°	10	10	75

APPLICABLE MATERIALS (ISO 513)

P ● M ● K ● N ○ S — H ○

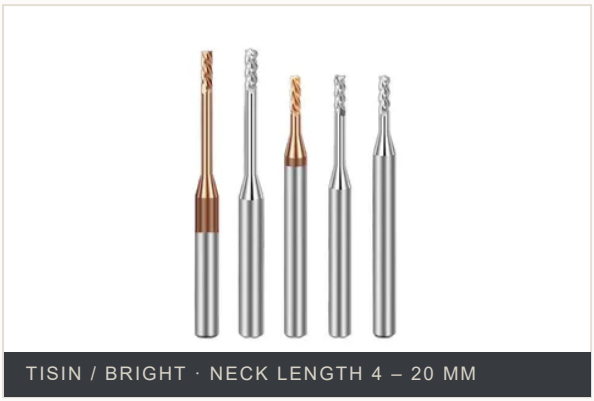
● Highly suitable ○ Suitable — Not recommended

ISO	Vc (m/min)	f (mm/rev)	Note
P / M / K	60 – 120	0.03 – 0.10	Spot depth 0.2 – 0.5 × D
N Aluminum	120 – 250	0.05 – 0.15	Use coolant or air blast

Long Neck / Deep Groove End Mills

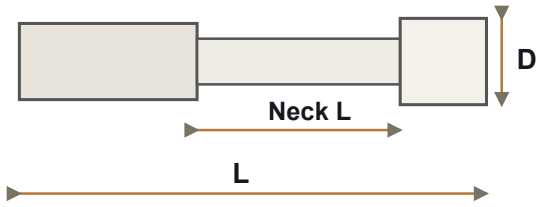
Small diameter · long reach · rib & deep cavity machining

06



TISIN / BRIGHT · NECK LENGTH 4 – 20 MM

DIMENSION DRAWING



MICRO-GRAIN CARBIDE | TiSiN / BRIGHT | 2 FLUTES | LONG REACH | DEEP CAVITY & RIB

STANDARD SIZES (MM)

Item No.	D	Neck L	Lc	d	L	Z
YX-LN2-005-N02	0.5	2	0.7	4	50	2
YX-LN2-008-N04	0.8	4	1.2	4	50	2
YX-LN2-010-N04	1.0	4	1.5	4	50	2
YX-LN2-010-N06	1.0	6	1.5	4	50	2
YX-LN2-015-N06	1.5	6	2.3	4	50	2
YX-LN2-015-N08	1.5	8	2.3	4	50	2
YX-LN2-020-N08	2.0	8	3	4	50	2
YX-LN2-020-N10	2.0	10	3	4	50	2
YX-LN2-025-N10	2.5	10	3.7	4	50	2
YX-LN2-030-N10	3.0	10	4.5	6	60	2
YX-LN2-030-N15	3.0	15	4.5	6	60	2
YX-LN2-040-N15	4.0	15	6	6	60	2
YX-LN2-040-N20	4.0	20	6	6	75	2

APPLICABLE MATERIALS (ISO 513)

P ● M ○ K — N ○ S — H ●

● Highly suitable ○ Suitable — Not recommended

ISO	Vc (m/min)	fz (mm/tooth)	ap
P Steel	80 – 130	0.02 – 0.04	0.3 × D
H Hardened ≤ 55 HRC	40 – 80	0.01 – 0.03	0.2 × D

SELECTION GUIDE

Grade Selection Chart

GRADE	COATING	ISO MATERIAL	RECOMMENDED WORKING CONDITION
TiSiN	TiSiN	P · M · K	General to high-speed milling of steel and stainless steel; good for both roughing and finishing.
TiAlN	TiAlN	P · K	Universal choice for steel and cast iron; strong oxidation resistance at elevated temperatures.
AlCrN	AlCrN	M · S	Stainless steel and heat-resistant alloys; tough grade for interrupted cuts.
DLC	DLC	N	Aluminum and non-ferrous; low friction prevents built-up edge and improves surface finish.
Bright	Uncoated	N	Sharp polished edge for aluminum and soft alloys; best chip evacuation at high speed.
Hard	TiSiN / AlTiN	H	Hardened steel 45–65 HRC; wear-resistant grades for finishing hardened surfaces.

Note: Grades above are our standard recommendations. Final grade and geometry are confirmed against the workpiece material, machine and cutting condition. Customized grades are available on request.

HOW TO ORDER

- Send the Item No. from the size tables (e.g. YX-SE4-060-050) together with quantity
- For non-standard sizes, send your drawing or workpiece requirement — we quote within 24 hours
- Samples are available for all standard items before bulk orders

SERVICE & SUPPORT

Working With Yaoxing

S

Sample Available

Samples of all standard catalog items are available for testing and evaluation before you place a bulk order. Sample lead time is typically 3–5 working days.

O

OEM & Customization

We produce customized geometries, coatings and dimensions to your drawings, and support private labeling and OEM branding for distributors.

D

Documents Support

Full export paperwork is supplied with every shipment: Commercial Invoice (CI), Packing List (PL) and Certificate of Origin for smooth customs clearance.

CONTACT

- Email — sunnyyaoxin98@gmail.com
- Phone / WhatsApp — +86 186 7219 9821
- Website — www.yaoxingtools.com

WUHAN YAOXING TOOLS CO., LTD.

ADDRESS	Room 1801, Building 1, Wuhan Ligong New Energy Research Base, Tangxunhu North Road, Jiangxia District, Wuhan, Hubei, China
EMAIL	sunnyyaoxin98@gmail.com
PHONE / WHATSAPP	+86 186 7219 9821
PRODUCTS	Solid carbide end mills, CNC cutting tools & precision tooling

www.yaoxingtools.com

© 2026 WUHAN YAOXING TOOLS CO., LTD. · SGS AUDITED SUPPLIER · ISO 9001