



HARD & BRITTLE MATERIAL MACHINING

Electroplated Diamond Tools

for machining quartz glass & ceramics (hard, brittle materials)



PRECISION-FOCUSED

Electroplated diamond tools specialized for machining hard and brittle materials on machining centers and grinding centers.

FULL LINEUP

We offer an extensive lineup to meet a wide variety of machining needs. As a full-line diamond tool manufacturer, we can also recommend non-electroplated tools to suit your application.

GLOBAL SUPPLY

With dedicated electroplated factories in Japan and Thailand, we have a global production and supply network. *We also handle special products not listed in our lineup.

■ LINEUP

**Lineup is currently expanding*

CTE Center Through End Mill

RCS R Chamfering Tool

EDS / EDC End Mill

THG Taper Tool · Electric / Air Grinders

CDE Contouring Tool

BRT Tip R Tool

CHS Tapered Chamfering Tool

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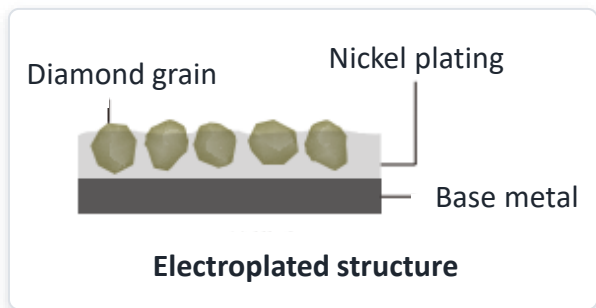
OVERVIEW

Electroplated Diamond Tools



■ WHAT ARE DIAMOND ELECTROPLATED TOOLS?

This is a grinding tool (abrasive) with diamond grains plated and fixed to the surface of a base metal such as steel. A tool with an integrated diamond grinding wheel and shank can be used like a milling cutter to machine hard and brittle materials into complex shapes on a machining center or grinding center.



■ FEATURES OF ELECTROPLATED TOOLS

The bond holds the diamond grains firmly and the high diamond protrusion delivers excellent sharpness.

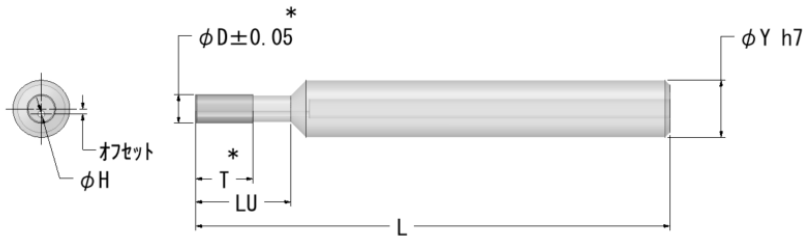
■ MAIN APPLICABLE MATERIALS

Brittle material	Ceramics	Other
Quartz glass : ◎ Silicon : ◎ Sapphire / Ruby : ◎ Various glass materials : ◎	Alumina ceramics : ◎ Silicon nitride ceramics : ○ Silicon carbide ceramics : ○ Zirconia ceramics : ○ Cordierite ceramics : ◎	Cemented Carbide : ◎ Carbon : ◎ MMC : ○ FRP : ○ CFRP : ○

* ◎ : Optimal ○ : Machinable

CTE

Electroplated diamond center-through end mill

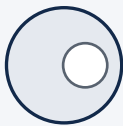


* Electroplated area

DRILLING ILLUSTRATION



Standard



Eccentric (CTE)

With a normal center-through hole, $A \times 2$ is the smallest diameter that will not leave a residual core when drilling. By drilling an eccentric hole, an even smaller diameter can be achieved.

SPECIFICATIONS

Product No.	D	T	LU	H	Y	L	Grain size
CTE-3D	3	6	10	0.7	6	50	#170
CTE-3.5D	3.5	8	13	0.8	6	50	#120
CTE-4D	4	10	15	1	6	55	#120
CTE-5D	5	10	18	1	6	60	#120
CTE-6D	6	10	20	1.2	6	60	#120

We can also manufacture tools other than those specified above. Please contact us using the example below as a reference.

ORDER CODE EXAMPLE

CTE – 5.5D – 10T – 18LU – 6Y – 60L - #200

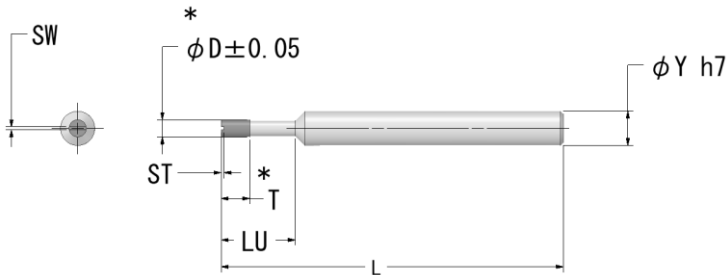
(Model) (Diameter) (Electroplated length) (Neck length) (Shank size) (Overall length) (Grain size)

FEATURES

- This is an electroplated diamond center-through end mill for machining quartz glass and ceramics.
- The center-through design allows coolant to pass through, providing excellent chip evacuation, extending tool life and preventing a decrease in grinding performance.
- The tip features an eccentric hole, allowing for helical machining of smaller diameters without residual core.

EDS

Electroplated diamond end mill, 1-slit type



* Electroplated area

SPECIFICATIONS

Product No.	D	T	LU	SW	ST	Y	L	Grain size
EDS-2.5D	2.5	5	10	0.4	0.5	3	50	#120
EDS-3D	3	5	13	0.5	0.5	6	60	#120
EDS-3.5D	3.5	5	13	0.5	0.5	6	60	#120
EDS-4D	4	5	15	1	1	6	60	#120
EDS-5D	5	5	20	1	1	6	60	#120

* We can also manufacture tools other than those specified above. Please contact us using the example below as a reference.

ORDER CODE EXAMPLE

EDS – 5.5D – 10T – 20LU – 6Y – 60L - #200

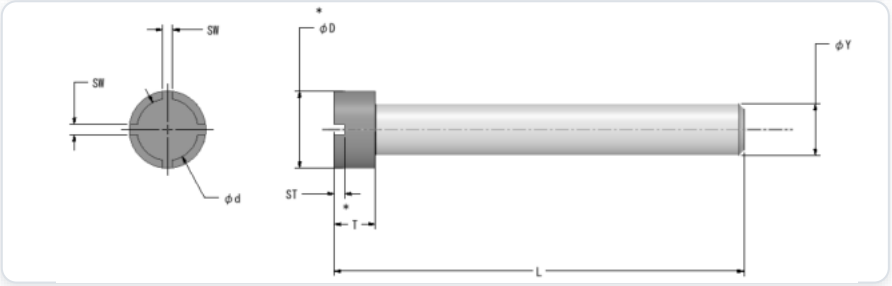
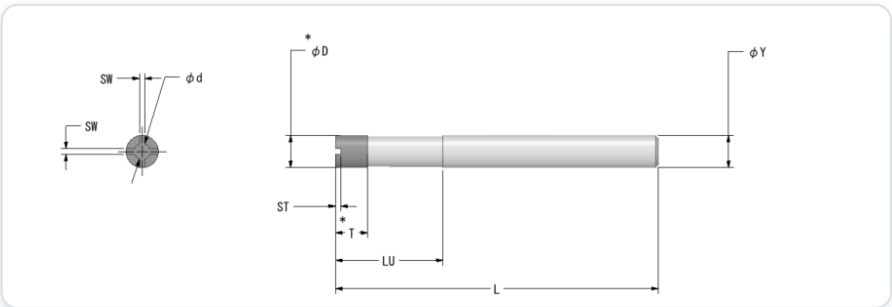
(Model) (Diameter) (Electroplated length) (Neck length) (Shank size) (Overall length) (Grain size)
Slit example) 1SW – 1.5ST (Width) (Depth) * Slit dimensions are restricted by the tip outer diameter; please consult us.

FEATURES

- Diamond electroplated end mill for machining quartz glass and ceramics.
- End mill with a slit at the tip to promote chip evacuation.
- Slits reduce grinding resistance and improve sharpness.
- A versatile tool for helical drilling, grooving, and counterboring.

EDC

Electroplated diamond end mill, counterbore 2-slit type



* Electroplated area

SPECIFICATIONS

Product No.	D	T	LU	d	SW	ST	Y	L	Grain Size
EDC-6D	6	6	20	3	1	1	6	60	#120
EDC-8D	8	6	—	5	1.5	1.5	6	60	#120
EDC-10D	10	8	20	7	1.5	1.5	10	70	#120
EDC-12D	12	8	—	9	2	2	10	80	#120
EDC-15D	15	8	—	12	2	2	10	80	#120

* We can also manufacture tools other than those specified above. Please contact us using the example below as a reference.

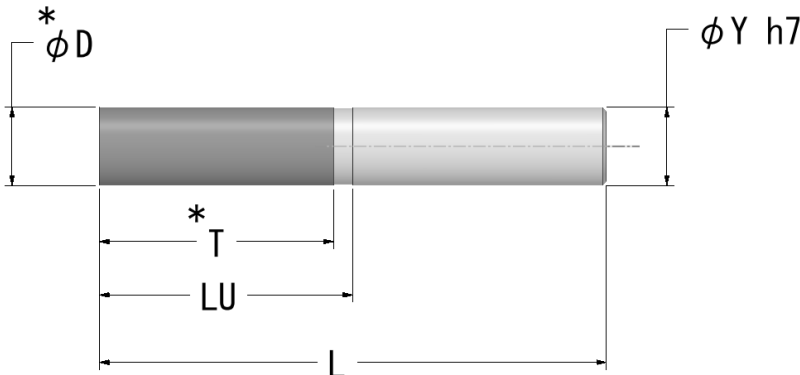
ORDER CODE EXAMPLE

EDC – 5.5D – 10T – 20LU – 6Y – 60L - #200

(Model) (Diameter) (Electroplated length) (Neck length) (Shank size) (Overall length) (Grain size)
Slit example 1SW – 1ST (Width) (Depth) * Slits are limited by the outer diameter, please consult us.

FEATURES

- Electroplated diamond end mill for machining Quartz Glass and Ceramics.
- End mill with a slit at the tip to promote chip evacuation.
- Slits reduce grinding resistance and improve sharpness.
- A versatile tool for helical drilling, grooving, and countersinking.



* Electroplated area



Slit width

* Tools with slits and counterbores can also be manufactured. Please contact us for details.

SPECIFICATIONS

Product No.	D	T	LU	Y	L	Grain Size
CDE-20D-30T	20	30	35	20	100	#120
CDE-20D-60T	20	60	65	20	130	#120

* We can also manufacture tools other than those specified above. Please contact us using the example below as a reference.

ORDER CODE EXAMPLE

CDE - 20D - 40T - 45LU - 20Y - 100L - #200

(Model) (Diameter) (Electroplated length) (Neck length) (Shank size) (Overall length) (Grain size)

FEATURES

- Electroplated diamond contouring tool for machining quartz glass and ceramics.
- A highly rigid tool with a $\phi 20$ shaft diameter that minimizes deflection even during long tool overhang machining.
- The long cutting edge (T dimension) enables side finishing in a single tool path.
- A tool optimized for external contouring and vertical-wall machining.



* Electroplated area

SPECIFICATIONS

Product No.	D	V	Y	LS	Grain Size
CHS-90V-3Y	3.25	90	3	40	#170
CHS-60V-3Y	3.25	60	3	40	#170
CHS-90V-6Y	6.25	90	6	60	#170
CHS-60V-6Y	6.25	60	6	60	#170
CHS-90V-10Y	10.25	90	10	70	#170
CHS-60V-10Y	10.25	60	10	70	#170

* We can also manufacture tools other than those specified above. Please contact us using the example below as a reference.

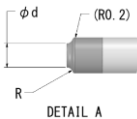
ORDER CODE EXAMPLE

CHS – 3.25D – 90V – 3Y – 40LS - #200

(Model) (Diameter) (Angle) (Shank size) (Overall length) (Grain size)

FEATURES

- Electroplated diamond tapered chamfering tool for machining quartz glass and ceramics.
- Tool for chamfering the hole opening after drilling and chamfering the edges of each feature.



* Electroplated area

SPECIFICATIONS

Product No.	D	R	d	T	LU	Y	L	Fig	Grain Size
RCS-3D-0.5R	3	0.5	2	3	—	3	50	A	#230
RCS-4D-1R	4	1	3	4	10	6	60	B	#170
RCS-6D-2R	6	2	2	5	—	6	60	A	#170

* We can also manufacture tools other than those specified above. Please contact us using the example below as a reference.

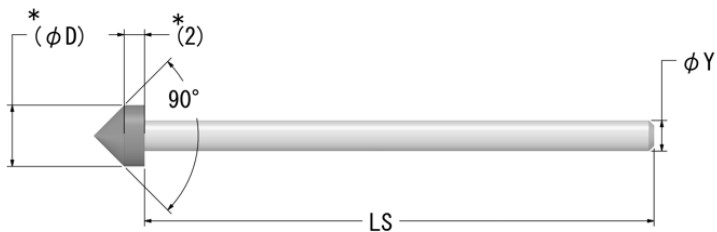
ORDER CODE EXAMPLE

RCS – 3D – 0.5R – 2d – 3T – 3Y – 50L — #325

(Model) (Diameter) (R) (Tip Diameter) (Electroplated length) (Shank size) (Straight length) (Grain size)

FEATURES

- Electroplated diamond R (radius) chamfering tool for machining quartz glass and ceramics.
- A tool for R-chamfering the hole opening after drilling and the edges of each feature.



* Electroplated area

SPECIFICATIONS

Product No.	D	Y	LS	Grain Size
THG-6D-#120	6	3	50	#120
THG-6D-#230	6	3	50	#230
THG-6D-#400	6	3	50	#400
THG-10D-#120	10	6	50	#120
THG-10D-#230	10	6	50	#230
THG-10D-#400	10	6	50	#400
THG-20D-#120	20	6	45	#120
THG-20D-#230	20	6	45	#230
THG-20D-#400	20	6	45	#400

* We can also manufacture tools other than those specified above. Please contact us using the example below as a reference.

ORDER CODE EXAMPLE

THG - 6D - 3Y - 50LS - #325

(Model) (Diameter) (Shank size) (Overall length) (Grain size)

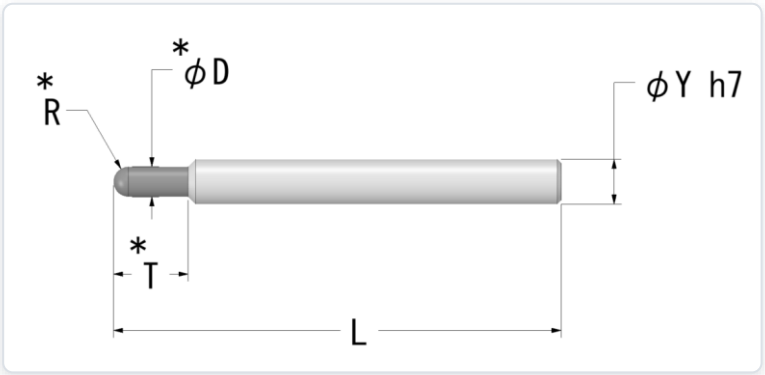
FEATURES

- Electroplated diamond taper tool for electric and air grinders. When machining brittle materials, chipping (small fractures) often occurs along the edges of the workpiece; this tool is ideal for correcting such chipping.

* φD (outer diameter) is a reference dimension shown in parentheses; D is the nominal diameter.

BRT

Electroplated diamond tip R tool



* Electroplated area

SPECIFICATIONS

Product No.	D	R	T	Y	L	Grain Size
BRT-2D	2	1	6	3	45	#120
BRT-4D	4	2	10	6	60	#120
BRT-6D	6	3	10	10	70	#120
BRT-8D	8	4	10	10	70	#120

* We can also manufacture tools other than those specified above. Please contact us using the example below as a reference.

ORDER CODE EXAMPLE

BRT - 6D - 3R - 10Y - 70L - #200

(Model) (Diameter) (R) (Shank size) (Overall length) (Grain size)

FEATURES

- Diamond electroplated tip R tool.
- The hemispherical (radiused) tip makes it versatile for both machine tools and hand grinders.
- When drilling holes in glass, it can effectively reduce chipping at the entry and exit edges.

* Because the abrasive surface is uneven, this tool is not suited to high-precision 3D machining like a cutting ball end mill.