

## PCD

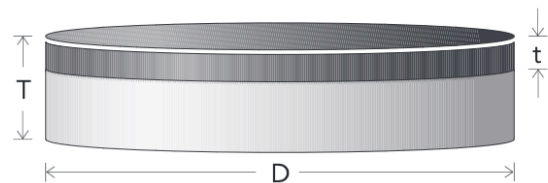
EID offers three industrial standard grade (fine, medium, coarse) PCDs for machining both non-ferrous and non-metallic materials. For optimum performance, EID engineers have developed two new innovative PCD properties in addition to standard-type ("S"-type) in each grade PCD as shown below. Two new properties are tougher-type PCD ("X"-type) for higher toughness/thermal stability and ultra-hard-type PCD ("U"-type) for higher diamond concentration/higher wear resistance.

In addition EID offers new grade for submicron PCD as "SF".

PCD Grades Types	FINE 2-4 Microns	MEDIUM 8-10 Microns	COARSE 25-35 Microns	Application
STANDARD (S)	ESF	ESM	ESC	For machining standard ferrous and non ferrous metals
EXTRA TOUGH (X)	EXF	EXM	EXC	For machining higher toughness
ULTRA TOUGH (U)	EUF	EUM	EUC	For higher diamond concentration
SUB MICRON (SF)	Super fine: SF 0.5-0.9			Fine finishing & Milling



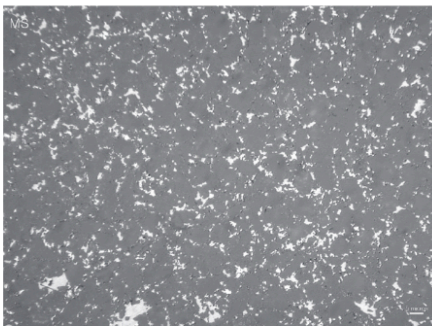
Blanks



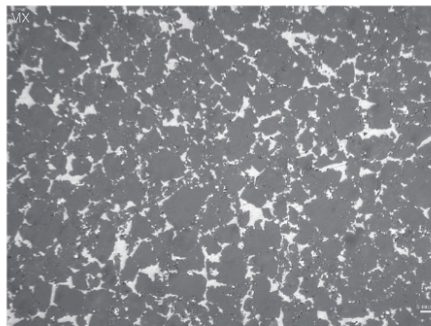
D (Blank Diameter): 52, 62, 75

T (Blank Thickness): 1.6, 2.0, 3.2, 4.8

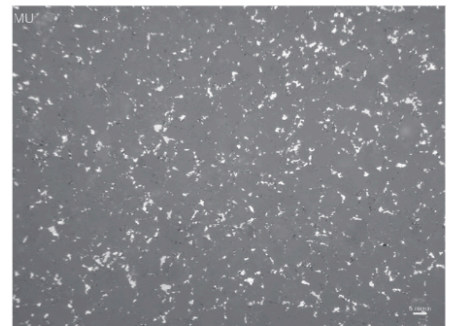
t (Diamond Thickness): 0.5±0.1: Standard  
0.35±0.1: Thin  
1.0±0.1: Thick



ESM



EXM



EUM

**EID PCD Cutting Tool Blank Application Areas**

<b>EID PCD</b>  Workpiece Materials —	<b>Application Industries</b> (Automotive, Hydraulic, Aircraft, Aerospace, Construction)  Non-ferrous alloys, Plastics, Woods, MMC, Composites
<b>Fine grain PCD ("F-grade")</b> ESF —————  EXF —————  EUF —————  SF ————— (submicron)	<b>Aluminium alloys &amp; Copper alloys</b> Si-Al alloys (for higher Si-content) Plastics, Fiberglass  Si-Al alloys Plastics, Fiberglass  More wear-resistant material (ex. best surface finish for fuselage)  High impact resistance, Mirror finishing Al alloys, composite material, Titanium, etc
<b>Medium grain PCD ("M-grade")</b> ESM —————   EXM —————  EUM —————	<b>Woodworking &amp; Metalworking</b> Metal working (reaming, milling, machining) (ex. automotive parts) Good where specific problems exist in Woodworking (ex. abrasive plastics, abrasive wood-based boards)  Woodworking Particle board, MDF, Cement board Ceramic coated wooden-floor  Difficult-to-machine material (carbon-fibre composite, ceramic parts, plastic lens, Al <sub>2</sub> O <sub>3</sub> -coated laminated floor)
<b>Coarse grain PCD ("C-grade")</b> ESC —————  EXC —————  EUC —————	<b>More impact required &amp; interrupted cutting</b>  For special purpose with higher diamond content (ex. MMC-milling, ceramics, WC-machining)  High Si-Al alloys (20% Si) Metal matrix composites (MMC) Plastic composites (glassfiber) Soft gray cast iron (ex. crank-shaft bore machine)  For even more useful for machining difficult-to-machine material (ex. carbon-fibre composite body, PCB, SiC reinforced Al-alloys, Kevlar)