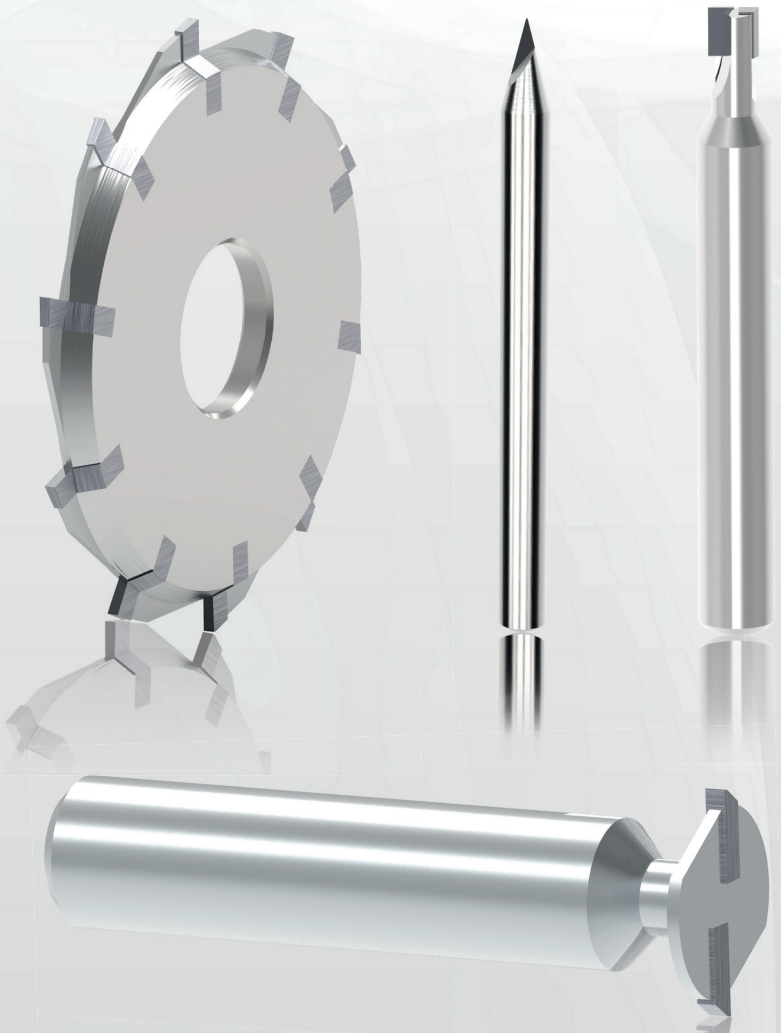
LOUIS BELET®
Swiss Cutting tools

CUTTING TOOLS

PCD

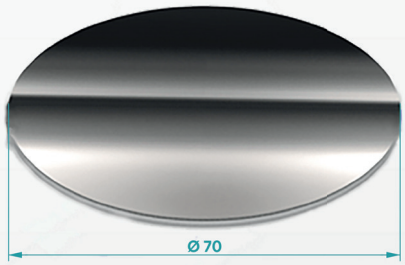


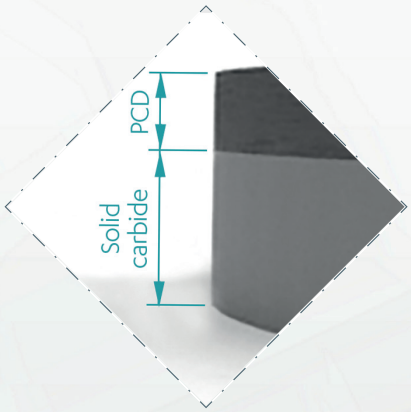
SWISS MADE

What is PCD?

PCD is short for “polycrystalline diamond”. PCD is made from synthetic diamond grains bonded with cobalt, sintered together on a tungsten carbide support.

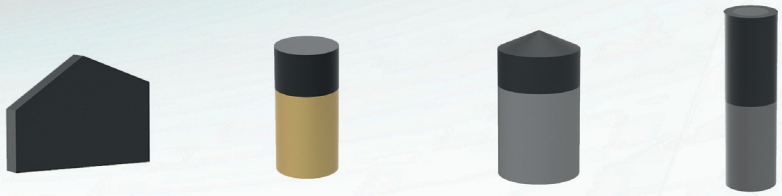
It comes in the following form :



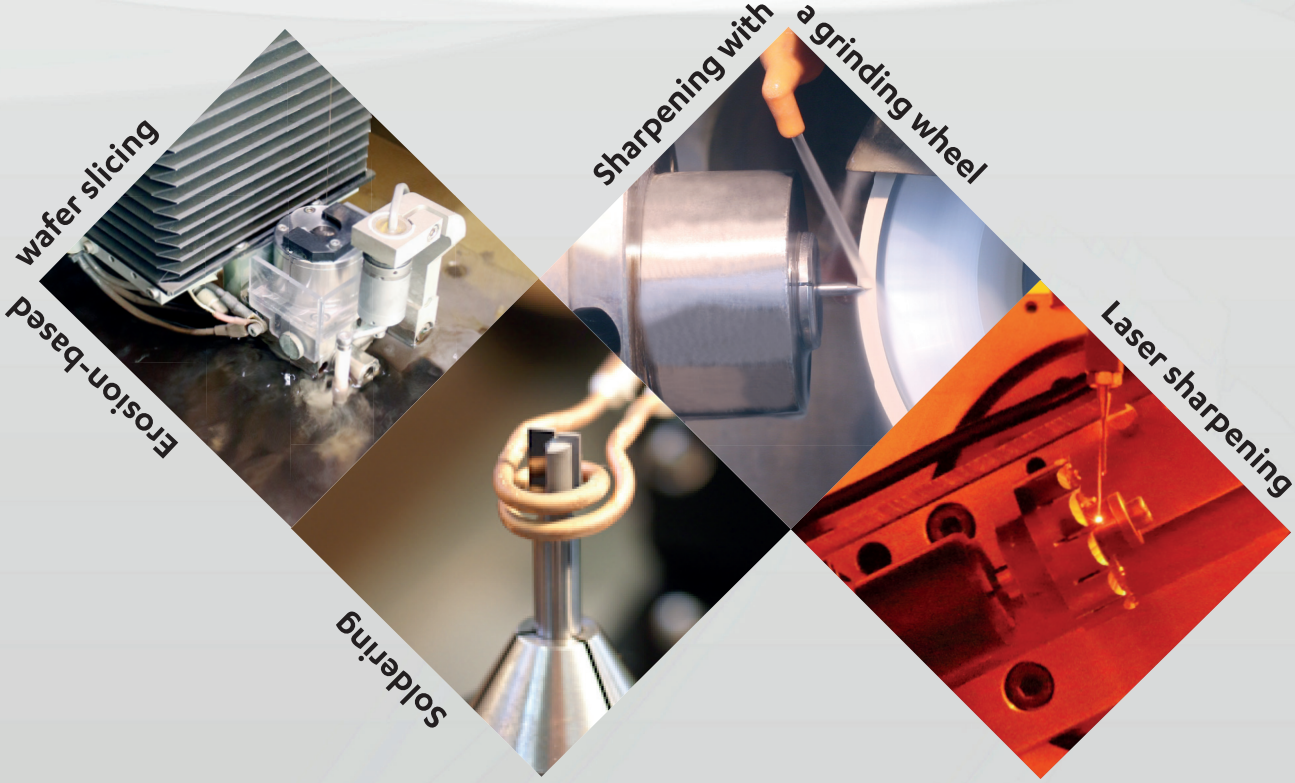


	Min.	Max.
Size of the diamond grains	0.5 µm	30 µm
Hardness	3500 HV30	7000 HV30
PCD thickness	0.3 mm	1.5 mm

Other blank options :



Shaping



Use

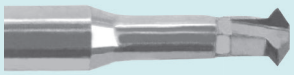
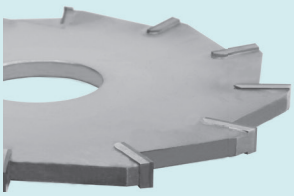
Our PCD tools are very effective in numerous materials, with the exception of ferrous metals :

Precious metals	Non-ferrous metals	Polymers and other materials
Silver	Aluminium	Rubber
Bronze	Copper	Ceramic
Gold	Tin	Plywood
Platinum	Brass	Carbon fibers
	Nickel	Glass fibers
	Lead	PEEK
	Titanium	Plexiglas
	Zinc	Acrylic glass

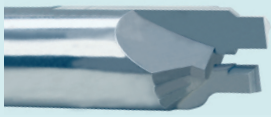
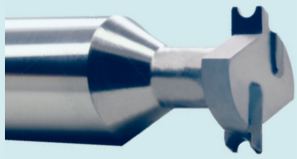
Benefits

- ♦ Long tool service life
- ♦ Higher cutting parameters
- ♦ Resistance to wear
- ♦ Resistance to heat
- ♦ Surface condition similar to that obtained with natural diamond
- ♦ Excellent dimensional accuracy (no temperature variations)

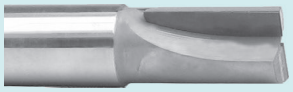
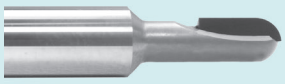
SPECIAL PCD TOOLS

Tools	Benefits and customer applications
 Centering tool	♦ PCD monobloc tip machined from a solid part. ♦ Highly rigid, vibration-reducing tool.
 Whirling tool	♦ For all threads, shapes, metrics and NIHS of min. S0.8
 Insert with chip breaker	♦ The breakers are split even in tough materials such as copper and platinum.
 Slitting saw	♦ Large number of teeth. ♦ Possible with very fine saw thicknesses.

SPECIAL PCD TOOLS

Tools	Benefits and customer applications
 **Micro end mill**	♦ Micro diameter PCD thanks to the monobloc process: min. 0.10 mm. ♦ It enables finishing of very small shapes.
 **End mill for machining dots and pockets**	♦ Machining dots and pockets with a single tool over a very large production run is now possible with the PCD groove-machining tool from Louis Bélet.
 **T-slot cutter**	♦ All shapes, even the most complicated ones, are possible.
 **Snailing mill**	♦ “With this PCD snailing mill, we can create our decorative elements directly on our CNCs. What’s more, PCD offers us fantastic production stability with identical components from start to finish.”

STANDARD PCD TOOLS

Tools	Tool specifications	Sample application
 **Ref. 4010/4015/4020**	♦ 4010 : l_1=1xd_1 / Ø 0.5 - Ø 20.0 ♦ 4015 : l_1=1.5xd_1 / Ø 1.0 - Ø 12.0 ♦ 4020 : l_1=2xd_1 / Ø 2.0 - Ø 8.0	♦ The universal PCD mill for non-ferrous metals. ♦ Excellent edge sharpness.
 **Ref. 4100**	♦ T-slot cutter ♦ Ø 3.0 - Ø 16.0 mm	♦ Perfect for high-productivity hollowing out of interiors.
 **Ref. 4200**	♦ End mills with ball end ♦ Ø 1.0 - Ø 12.0 mm	♦ Excellent radius shape. ♦ Central cutting.
 **Ref. 4119-3**	♦ Engraving mill – 3/4 – flat at the tip ♦ Ø 3.0 mm	♦ "With the PCD engraving mill from Louis Bélet, we have reduced our consumption by 30 percent! What's more, we no longer rectify wear and tear during the day because PCD makes the process stable. It's a breath of fresh air in our department."

STANDARD PCD TOOLS

Tools	Tool specifications	Sample application
 **Ref. 4120**	♦ Countersink ♦ Ø 3.0 - Ø 6.0 mm	♦ "Our sinks are perfect thanks to the PCD countersink! And the service life is brilliant." ♦ Ideal in copper, platinum, and silver and bronze alloys.
 **Ref. 45200**	♦ Thread mill ♦ M 2.0 - M8.0	♦ Extreme profile precision. ♦ Possibility of customized threading.
 **Ref. 4500**	♦ Drill with 2 helical flutes ♦ Ø 0.48 - Ø 2.50 mm	♦ "The consistency of the holes created are amazing, both from a dimensional and a geometrical standpoint."

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10.2018