CASE STUDY

Tungaloy - IMC Group, Japan

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SYNOVA S.A.
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PRODUCT

CBN blanks for ferrous alloys

Polycrystalline cubic boron nitride (CBN) is a material with excellent hot hardness that can be used at very high cutting speeds. It also exhibits good toughness and thermal shock resistance. CBN tools are ideal for the use with hardened steel, cast irons and sintered irons as well as powder metallurgy components.

LMJ used for:
- Cutting CBN blanks into inserts
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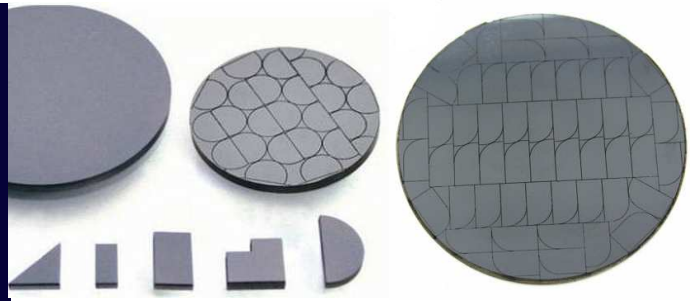


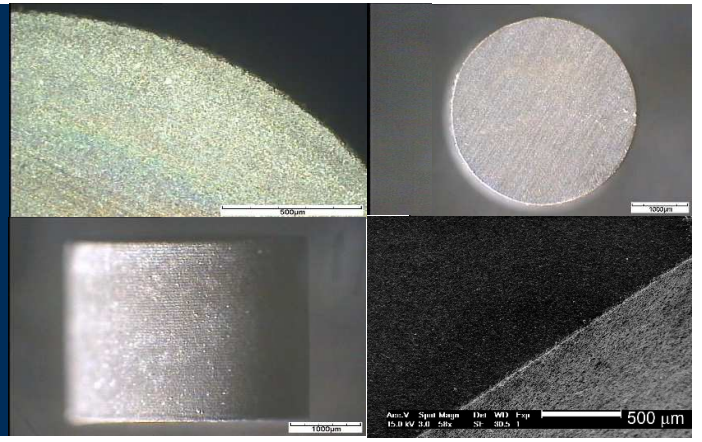
CHALLENGE

Exceed the quality of dry laser cutting

Dry lasers generate too much heat damages and rough edges; no straight walls. The new technology should solve these problems. .

Main processing criteria:
- Straight walls
- No HAZ
- Smooth edges
- No burrs
- No micro cracks
- Narrow tolerances
- Low porosity

Machining technologies able to reach these criteria:
- Dry laser
- Laser MicroJet (LMJ) - water jet guided laser technology



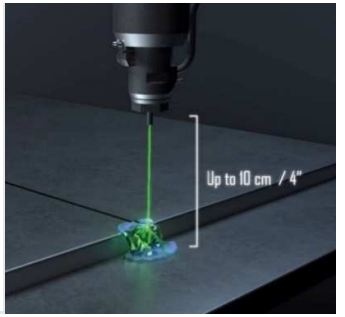
SOLUTION

No HAZ, production-proven, better ROI

LMJ advantages versus EDM:
- Much higher edge quality
- Production-proven
- Able to cut thick CBN
- High flexibility

Installed machine type:
- 1 x LCS 303
- 100 W green laser

LCS 303



Sources: Tungaloy and IMC websites, Synova