**PRECISION DIAMOND TOOLS**

**Description**
Production of precision diamond tools is based upon high-performance technologies of BARS pressless high-pressure growing of crystals and their subsequent thermal-chemical treatment by catalytic gasification at 600-1300°C. The weight of crystals varies from 0.02 to 0.50 carat depending on the tool type.

**Technical appraisal and economic benefits**
The possibility to cut diamond crystals along any crystallographic orientation ensures production of high-quality diamond microsurgical knives, lathe round-nose tools, and other kinds of tools hard to achieve with the usual machining.

**Application areas**
Diamond tools are used in many modern industries for working of nonferrous metals and non-metallic materials (machine building, instrument-making, radio electronics, optics, etc.), as well as in medicine and biology for obtaining superfine sections of tissues.

**Development stage**
Production and supply of pilot models by the Institute of Mineralogy and Petrography, Siberian Branch of the Russian Academy of Sciences.

**Patent situation**
Patents of the Russian Federation, 1999-2001; patent holders are KTI MK and OOO "MAIN".
Commercial offers
Production and supply contracts.

Estimated cost
10 – 200 US$ for a piece, depending on the tool type.

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