

INSTITUTE FOR SUPERHARD MATERIALS

Department of technology of precision diamond abrasive and physico-technical processing and intricate-profile tools with SHM

Who we are

The department was established during the Soviet period and renewed in 2006, the total number of 19 employees. Total annual volume of work makes 1.5 million UAH. Under contracts the department supplies special precision dressing rollers by customer drawings, which are made by electroforming and universal and special grinding wheels with synthetic diamond and cBN

Collaboration interests

The Department of technology of precision diamond abrasive and physico-technical processing and intricate-profile tools with SHM is interested in various forms of participation in international projects in the following areas: machining of materials by cutting tools, opto-mechanical production etc. We are able to make diamond dressing tools that will satisfy customer requirements. Parameters of tool profile: tolerance on length, height, cylindrical tolerance, linear tolerance – 0,002 mm; radius tolerance range – 0,15 mm; angle tolerance – 3'; runout – 0,004 mm. Potential role: the main partner, scientific expert, a provider of technology.

Research Areas

- development of technology for the production of precision diamond abrasive intricate-profile dressing tools
- development of technology of the production of universal and special grinding wheels with synthetic diamond and cBN
- development of theoretical foundations of diamond-abrasive treatment as a stochastic process
- development of theoretical bases of processing tools with a cutting-arranged placement of elements in the diamond abrasive layer

Main achievements

USSR State Prize for the creation of competitive dressing tool – rollers with synthetic diamonds, substituting of synthetic diamonds for natural ones.

The transfer of manufacturing technology of diamond dressing tools to the aircraft building enterprises of Ukraine (Motorsich) and Russia (Perm Motors)

Reference projects

Scientific and technological project "Development, production and use of highly precise diamond ruling tool for the needs of energy and transport engineering Ukraine" under the order of the Presidium of NAS of Ukraine from 25.02.11 № 129

Contact information

Full name of the Research Department:

Department of technology precision diamond abrasive and physico-technical processing and intricate-profile tools with SHM

Full name of the Institute:

V.N. Bakul Institute for Superhard Materials of the National Academy of Sciences of Ukraine

Country: Ukraine

Number of employees working in the research division: 19

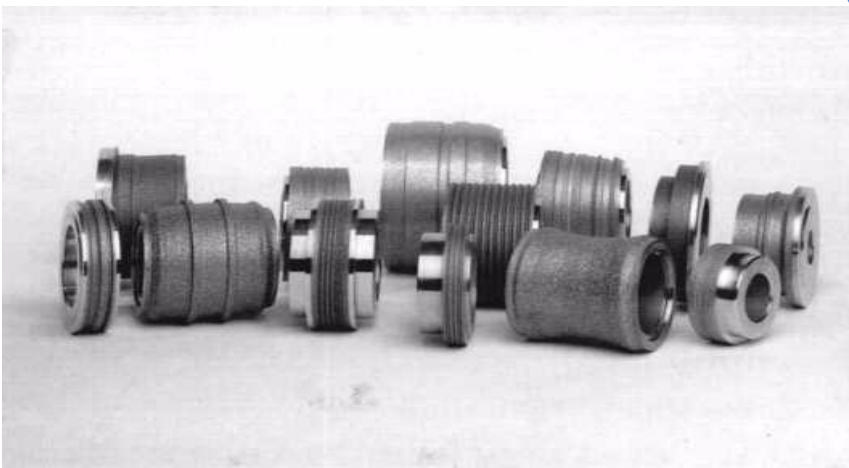
Working languages: English, Russian, Ukrainian

Contact person: Dr. V. Lavrinenko

Position: Head of the Department

e-mail: ceramic@ism.kiev.ua

tel.: +380444329515



Well-qualified researchers: 1 Dr. Sci., 3 Ph.D., 9 M.Sc.

Well-qualified workforces to operate with machines and tools, analytical and technological facilities.

Wide experience on speciality machining operations, machines and tools.

We have experience of co-operation with partners from Russia, Moldova, Belarus, China and USA.

What makes us a good partner

