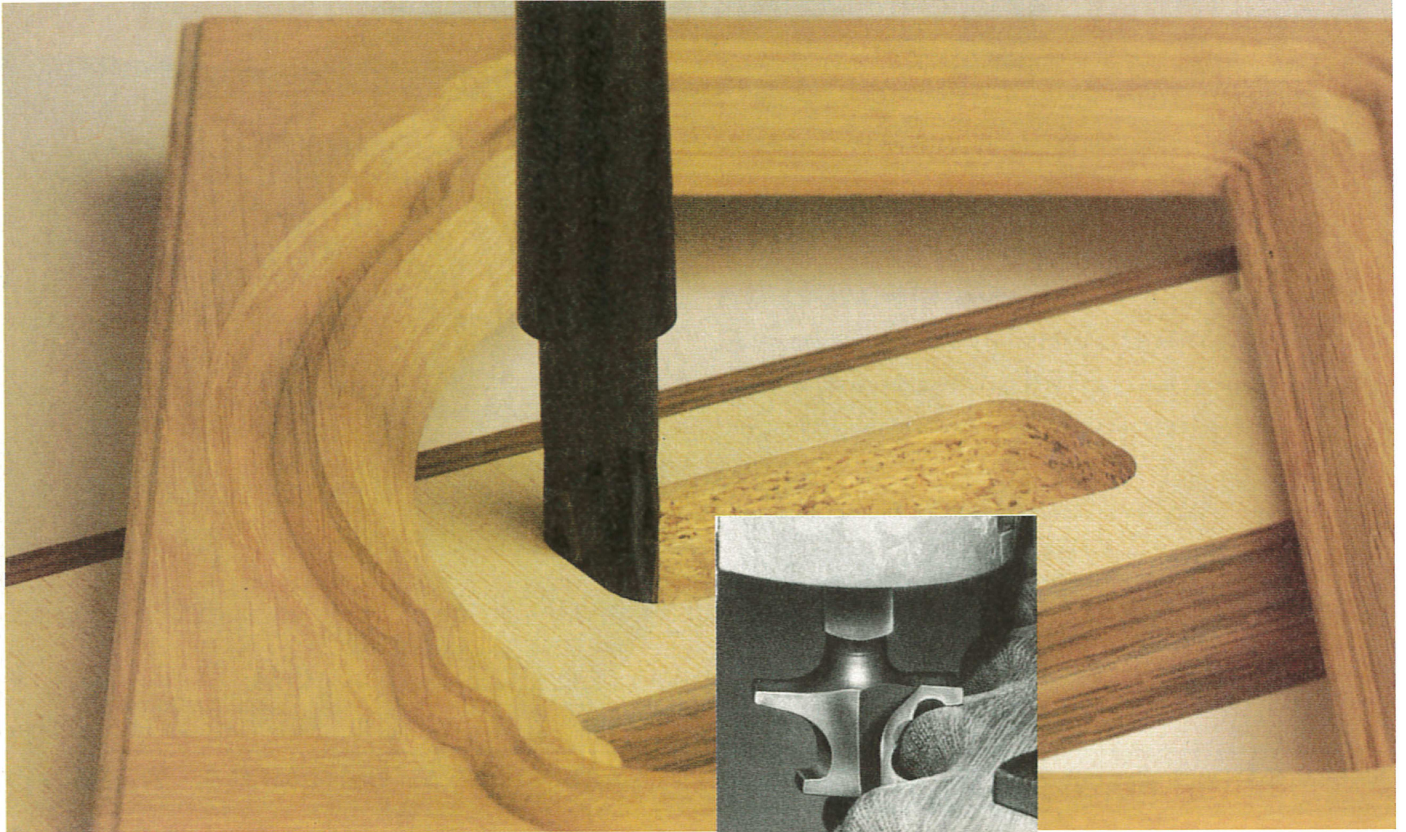


# Woodworking review

No. 3—1987

## Diamond tools for woodworking



### Where can diamond tools be used?

Wherever carbide tools have been used in the past, diamond tools can now do successful service.

#### Applications

Moulding Routing Cutting Edge moulding Grooving	Sawing Rebating Cutting to size Joint moulding Chamfering Scoring	Profile shaping Chipping with scoring Chipping without scoring Chipping, folding system T-slot moulding
---	--	---

#### Machines

Routers Shapers NC moulders	NC routers Planing machines Moulders	Edge-working machines Circular saws Panel sizing systems
-----------------------------------	--	--

#### Materials which can be worked with diamond

Hardwood Tropical hardwood Plastic Fibre glass Parquetry wood Particle board Cement-bonded particle board	Mineral fibre board Solid wood Coated board Phenolic resin board Thermoset plastics Thermoplastics	Coreboard Veneered furniture board Laminated wood Softwood Fibre board Plywood Hard fibre board
---	---	---

Tools can be manufactured to customer's drawings or profile sample.



*Polycrystalline diamond tools have won a firm place for themselves in modern-day woodworking; the photo shows diamond tools for routing work*

*Polycrystalline profile shapers being used on natural hardwood*

The introduction of polycrystalline synthetic diamond tools for working wood and plastic around the middle of the 1970s was quite a gamble. Still relatively expensive at the time, the new tools had to compete with cheaper, established cutting materials for use on the two products generally considered easy to machine—wood and plastic. Nevertheless, polycrystalline diamond quickly acquired the reputation of being an economical alternative and was soon available in different grades to suit specific applications. Today polycrystalline

diamond is fully accepted, especially now that newly developed grinding systems have eliminated the problems of diamond tool maintenance. For the woodworking company, the use of these tools means a tool life longer by between 200 and 300 fold, so that the initial outlay is recouped as early as the second regrind. Assuming an average ten to twelve regrinds per cutter, the cost-savings possible over the entire tool life are enormous.

Diamond tools are made of an isotropic material with orientation-independent mechanical properties without split levels. They comprise a cutting insert firmly attached to a carbide base, are extremely hard and strong and can withstand even dynamic loads from knocks and shocks. Nowadays diamond tools are available in the most diverse forms and for any number of different applications (see Table)

(Lach)

**Code No. 427**