

## Diamond and CBN cutting tool bits

To ensure safety, be sure to carefully read before using the diamond and CBN cutting tool bits (below referred to as 'tool' ), the instruction manual of the tool, the instruction manual of the used machine, and the instruction manual of the coolant (cutting oil).

After reading the manuals, be sure to sufficiently explain the instructions to operators, and to keep it within their easy reach. Improper handling may result in faults or injuries.

### Meaning of warning and caution

The Instruction Manual and Attention in the diamond tool security as follows according to the extent of risk and injury that could be caused by improper handling.



**Warning** Improper handling may result in death or serious injury.



**Caution** Improper handling may result in a minor injury or only material damage.

#### Prohibited action symbols



Prohibited



Do not touch

#### Instructed action symbols



Follow the instruction



Wear safety glasses



Wear safety shoes



Wear a safety hat



Wear a mask



Wear earplugs



Unplug the machine

## 1. Work environment, Clothing, Protective outfit



### Warning




Be sure to properly install the safety cover specified by the manufacturer of the used machine. When a tool or material breaks, the resulting dispersed fragments can hit nearby operators and cause serious injury.

In addition, a safety cover prevents an operator from touching the tool.




No person other than authorized personnel is allowed to enter working zone of the used machine. Especially keep away from the rotary tool, a table and other parts of the used machine, and travel range of the machine.


 Sparks may be generated by contact between the tool and a material. Do not use the tool in flammable or explosive environments.



Be sure that operators wear dust goggles, safety shoes, hard hats and other protective outfits as well as work clothing with tight sleeves and trousers furled at the bottom.


### **Caution**

 Be sure that operators wear dust masks. Provide sufficient ventilation to remove coolant (cutting oil) mist, dust and other particles from the air.


 Clean the floor around the used machine, and keep things around the machine tidy and in order.


## 2. Before use

### **Caution**

 Check whether dimensions of the tool fit the mounting dimensions of the used machine.


 Remove the protection materials (Seal Peel, plastic film, etc.) from the tool. Keep the removed materials in an enclosure.


 After cleansing rust-preventive compound off the tool, check for blade cracking and chipping, bonding defects, etc.

 Check for bends and warps of the tool.

## 3. Tool set up

### **Warning**


 When mounting the tool on the used machine, make sure that power turns off.


 Clean the tool mounting part of the machine used, and check for scratches and foreign matter.


 Mount the tool on the used machine while aligning the height of the center precisely. Never allow the tool to protrude more than necessary.

## 4. Idling

### **Warning**


 Check whether the material is securely fastened and material is rotated in the proper direction. When the tool or the material is broken, dispersed fragments may cause an injury.


 Perform no-load test run for 1 - 3 min. before operating, and check whether there occurs abnormal sound and vibration.


 Check whether the tool is securely fastened, and whether the feed mechanism operates properly. The tool may get loose, and the tool or the material may break, fly, and cause injury.

## 5. Grinding

### Warning

 Never touch the tool with your hand during the cutting operation. Touching the tool in the machine may result in a serious injury.


 If abnormal sound or vibration occurs, escape the tool immediately, and fully stop the operation. If one continues operation in this state, the tool and/or material may break and scatter, causing injury.


 Never turn the switch of the tool main shaft on or off when the tool is in contact with a material. When the tool or the part is broken, flying fragments may cause a serious injury.


After completion of cutting operations, turn the switch of the tool main shaft off.

When removing the tool from the main spindle of the used machine, make sure that power turns off.

### Caution


 In a cutting test, make sure that feed, cutting depth, cycle time and other settings are implemented properly.  
Do not use the tool under overload conditions.


 Perform cutting operations after the spindle has reached the working speed, and make sure that working fluid or coolant is supplied sufficiently to the surface of contact with the material.


 Please consult with us if there is any problem in the cutting condition or tool specifications in terms of cutting performance, etc.

## 6. Storage, Handling

### Caution

 Do not touch the blade edge with your bare hands, or you may be injured.  
Impact to the tool may result in defecting, cracking, and such, and be damaged.

 Be sure to inspect the working surfaces of the tool, and to check for abnormal wear, cracks, chips, abrasion and other damage.

 When unpacking and storing the tool, rustproof it, protect the blades (with Seal Peel, plastic, etc.) and keep it in a dry place protected from falls and impacts.

Do not modify the shape of the tool.  
Please consult with us if necessary.