



Safety Notes of Cutting Tools

Precaution for using cutting tools

Target Products	Precariousness	Countermeasures
General Cutting Tools	⊙ Direct touch to a sharp cutting edge may cause injury.	* When you set up tools to the machine or take tools out of the case, please wear protective gloves.
	⊙ Misuse or inappropriate working conditions may cause tool breakage or dispersion of broken pieces.	* Please use safety items, such as safety glasses and protective gloves. * Please use in the range of our recommended machining condition. See our catalog or instruction manuals.
	⊙ Excessive impact or heavy wear will increase cutting resistance and may cause tool breakage and dispersion of broken pieces.	* Please use safety items, such as safety glasses and protective gloves. * Early exchanging tools is preferable.
	⊙ Dispersion of heated or prolonged chips may cause injury or burn.	* Please use safety items, such as safety glasses and protective gloves. * For chips removal, please stop the machine beforehand and use safety items, such as safety glasses and protective gloves.
	⊙ Tools and materials become high temperature during cutting operation. Direct touch to the tools and materials shortly after machining may cause burn.	* Please prepare safety items, such as safety glasses and protective gloves.
	⊙ Sparks, generation of heat or chips in high temperature during operation may cause fire.	* Please do not operate around Hazardous zone, in which there is some possibility of fire or explosion. * In case of using oil-coolant, please be sure of enough system for fire-prevention.
	⊙ Lack of dynamic balance in high-speed revolution cause tool-broken by vibration.	* Please use safety items, such as safety glasses and protective gloves. * Please conduct test-operation before cutting, and confirm that there is no vibration or unusual sound.
	⊙ Direct touch to burrs which were generated on the rough surface of the workpiece may cause injury.	* Do not touch workpiece with bare hand.
Indexable Cutting Tools	⊙ If inserts or parts are not installed well, falling off or dispersion of them may occur and cause injury.	* Please clean up insert pockets or clamping parts before setting insert. * Please set up inserts with supplied wrench only, and confirm that the inserts or parts are clamped completely. Never use inserts or parts other than those prescribed.
	⊙ If inserts are clamped too tightly by supplementary tools like pipe etc, inserts or body may be broken.	* Do not use aids such as pipes. Please set up using supplied wrench only.
	⊙ When tools are used in high-speed revolution, inserts or parts may burst out of the body due to centrifugal force. For handling, please pay extra attention for safety.	* Please use in the range of our recommended machining conditions. See our catalog or instruction manuals.
Milling Cutters and other Milling Tools	⊙ Since milling cutters have sharp edges, direct contact with bare hands may cause injury.	* Please use safety items, such as safety glasses and protective gloves.
	⊙ If a cutter lacks balance, tools would cause vibration and it may cause injury by dispersion of broken pieces.	* Please use in the range of our recommended machining condition. * Accuracy and balance of machine spindle should be checked and adjusted regularly to prevent from eccentric rotation or run out due to wear of bearing portion.
Drilling	⊙ When drilling through hole with running work, a disc sometimes flies out from the end of drilling with high speed. This is very dangerous since the disc has sharp edge.	* Please use safety items, such as safety glasses and protective gloves. Also attach a cover on a chuck part.
Brazed Tools	⊙ Dispersion of broken inserts or falling off may cause injury.	* Please check chips are brazed firmly before use. * Please do not use brazed tools in the condition that requires high cutting temperature.
Others	⊙ If brazing is carried out many times, the strength of carbide insert is deteriorated and becomes easy to be broken during cutting.	* Please do not use tools which are brazed several times. Since tool strength have been deteriorated.
	⊙ It is dangerous to use tools except for the fixed application. It may damage tools and machines.	* Please keep our recommended usage of tools.