

SYMBOL DESCRIPTIONS

Tool material



Ultra micro grain carbide

Ultra micro grain carbide is used as the substrate material.



Cubic boron nitride

Mitsubishi's original CBN is used.



High hardness powder metallurgy HSS

High hardness powder metallurgy HSS is used as the substrate material.

Tolerances



Outside diameter tolerance

Indicates the diameter tolerance of the end mill.



R tolerance

Indicates the radial tolerance of a ball nose end mill.



R tolerance

Indicates the radial tolerance of an end mill with a corner radius.



Tolerance of Taper angle

Indicates the tolerance of the taper angle.



Tolerance of Point diameter

Indicates the tolerance of the point diameter.



R tolerance

Indicates the radial tolerance of a cutter with a corner radius.



Shank diameter tolerance

Indicates the shank diameter tolerance.

Coating



(Al, Ti)N coating

(Al,Ti)N offers higher versatility.



(Al,Ti,Cr)N multilayer coating

Offers higher versatility for carbon steel, alloy steel and hardened steel.



IMPACT MIRACLE Coating

Single phase nano crystal coating technology for higher film hardness and heat resistance.



VQ Coating

New smooth and dense coating technology for high efficiency milling of difficult to cut materials.



CRN Coating

Newly developed CrN coating for Copper Electrodes machining.



DLC Coating

Hardness similar to that of CVD diamond coating achieved with high adhesion strength. (Jointly developed with NAGATA SEIKI CO.,LTD.)



Diamond Coating

Suitable for CFRP and CFRP-Aluminium materials.



Diamond Coating

Suitable for graphite machining.



Violet Coating

Increased tool life of 2—3 times that of TiN coated products.

Angle and sharp corner edge



Helix angle

Indicates the helix angle of the end mill.



Sharp corner edge

Indicates the end mill has a sharp corner edge.



Gash land

Indicates the end mill cutting edge has a gash land.