



INDUSTRIAL SOLUTIONS FOR **AEROSPACE**



SUMITOMO

CARBIDE - CBN - DIAMOND

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Sumitomo continues to develop innovative tooling solutions for the aerospace manufacturing industry.

In aerospace, improving fuel efficiency takes top priority. The search continues for lighter materials that reduce airframe weight, materials such as high temperature alloys, composite materials, and aluminum alloys.

Sumitomo presents tooling products for a variety of applications uniquely suited for high efficiency machining of super alloys as well as other difficult-to-machine aerospace materials.



TOOLING FOR HIGH-TEMP ALLOYS: INCONEL HASTELLOY WASPALLOY

WDX Indexable Drill



- New balanced design for stability and three chipbreakers for superior chip control
- New insert grades yield longer tool life in steel and cast iron
- Four cornered insert design for easy tool management
- Available in 2XD, 3XD, and 4XD drills



SMD Replaceable Tip Drill



- Available in metric and inch diameters ranging from 0.4688" - 1.2008"
- Available in 3XD, 5XD, and 8XD hardened steel coolant through bodies that can accept multiple diameters
- Three styles of DEX™ drill tips to maximize performance in steels, stainless steels, cast irons, and exotic materials
- Ground serrations on back of drill tip allow for precise assembly and superior repeatability



MSX High Feed Endmill

- High feed rates - up to 0.055 IPT
- Higher clamping rigidity due to double clamping system
- Air holes provide improved chip evacuation
- Capable of both ramping and helical boring applications



SumiTurn Capto System



- Quick change modular system for high productivity with a unique tapered polygon coupling that provides extreme rigidity and highly dependable accuracy



PVD Coated AC510U & AC520U

- PVD coated carbide for roughing, finishing, and medium cut machining of exotic material
- Tool life is extended due to increased Super ZX™ coating hardness
- Multilayered coating is alternately stacked and allows for higher speeds and wear resistance



SSEH-R Solid Carbide Endmill



- Using a strong twist angle (45°), the SSEH boasts improved sharpness, as well as smooth and sure chip control
- Mirror-like finish on the relief surface as well as a specialized coating allow for both high adhesion resistance and high wear resistance
- A smooth, unique radial shape softens the impact of cutting and exhibits better anti-chipping



For machining engine components



For machining airframe components

TOOLING FOR HIGH-TEMP ALLOYS: INCONEL HASTELLOY W/ASP/LOY

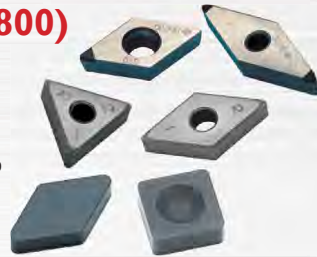


SUMIBORON PCBN (BN700, SV Breaker, & BNS800)



• Machines super alloy material effectively with multi-corner (BN700) and solid CBN (BNS800)

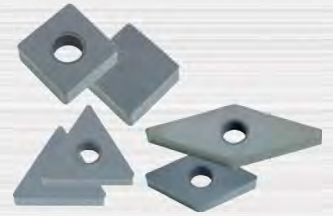
• Excellent chip control due to SV chipbreaker specifically designed to reduce long, stringy chips that may damage the workpiece



Whisker Reinforced Ceramic WX2000

• For high speed finishing and roughing of super alloys

• Superior flank and notch wear resistance over conventional whisker-reinforced ceramics



GS/HGS Solid Carbide Drills



• Increased wear resistance due to the high oxidation temperature of the Sumitomo DEX™ coating

• Point and flute geometry of the GS drill reduce thrust and horsepower consumption

• Available in coolant through and non-coolant through geometries



Grooving Inserts

• Coated carbide grades that excel in super alloy materials

• Internal and external holders available

• Wide variety of widths available to suit most applications

• Flat-top and chipbreaker insert geometries available

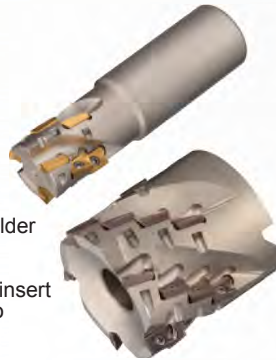


WRX Wave Repeater Endmill



• High efficiency deep shoulder milling

• Uses the same geometry insert as the 90° WEX endmill to reduce inventory costs



WEX Indexable Endmill



• The unique shape and strength of the cutting edge has been optimized resulting in reduced cutting forces

• A wide range of machining applications due to the new "Super ZX", "Super FF", and diamond-like carbon coatings

• Cutter body and insert strength provide for high feed rate capabilities

• Efficient chip removal due to air/coolant hole design



Deep Hole Carbide Drill

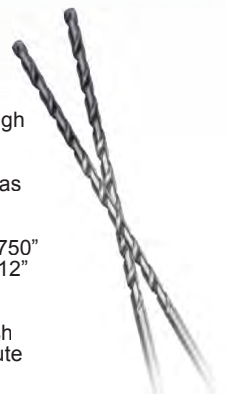


• Solid carbide coolant through drills for deep hole drilling

• 12XD and 20XD available as stock standard items

• Diameters from 0.118" - 0.750" in 12XD, and 0.118" - 0.5512" in 20XD

• Excellent hole surface finish due to its double margin flute design



For machining engine components

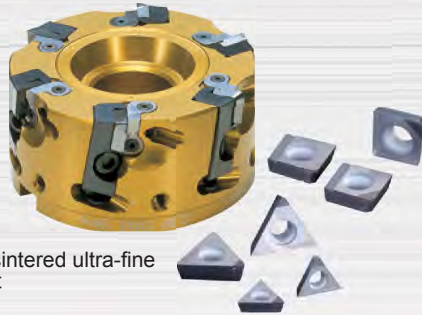


For machining airframe components

TOOLING FOR ALUMINUM ALLOYS

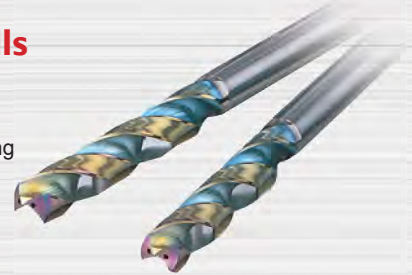
SUMIDIA DAI000

- High-density, sintered ultra-fine diamond insert
- Superior strength and wear resistance; 1.5X tougher than conventional PCD grade
- High performance, high precision, high efficiency machining of non-ferrous materials



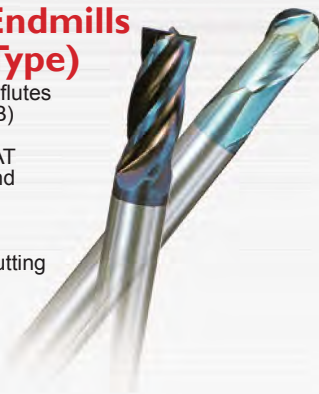
DLC Coated Drills (NHGS Type)

- Combination of AURORA COAT and special web thinning reduce cutting resistance
- Special cutting edge design improves hole quality
- Longer tool life due to both advanced coating and cutting edge design



DLC Coated Endmills (ASM & SNB Type)

- Available in two and four flutes (ASM) and ballnose (SNB)
- Advanced AURORA COAT provides low adhesion and superior surface finish
- Suitable for low rigidity machines due to lower cutting forces and rigidity



WRCX Indexable Shell Mill

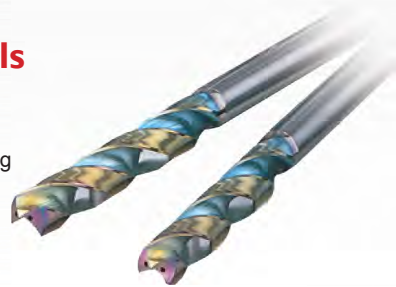
- Round style DLC coated QPET inserts with wiper can withstand extraordinary feed rates while providing improved finishes
- Pocket design eliminates insert rotation and breakage during aggressive machining
- Created specifically for the interpolation of complex three-dimensional tooling surfaces and for maximum roughing capabilities



TOOLING FOR COMPOSITE MATERIALS

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- Special cutting edge design improves hole quality
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Master Tool offers specialized tooling systems designed specifically to meet demands unique to the aerospace industry.



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