

## SOLID MILLING Strategies & tool Characteristics

## **TYPICAL TOOL DESIGN & FEATURES**

Machining strategy: Range:	General Machining JABRO®-SOLID <sup>2</sup>	Advanced Roughing JABRO®-SOLID <sup>2</sup>	High-Speed Machining JABRO®-DIAMOND JABRO®-TORNADO	High-Performance Machining JABRO®-HPM	High-Feed Machining JABRO®-HFM	High-Speed Steel JABRO®-HSS-Co	Micro Machining JABRO®-MINI
V <sub>f</sub> (feed rate)							
N (RPM)							
Q (volume)							
F (cutting force)							
P (kW)							
Most used in SMG:	PMSKN (universal)	PMSKN (universal)	H & GR1	PMKNSH	PKMSH	S (Ti-alloys), M	H, N11, GR1
ae * ap	$a_e = D_c$ $a_p = 1^* D_c$	$\begin{array}{l} a_{e} \leq 0,15^{*}\text{D}_{c} \\ a_{p} = 2\text{-}4^{*}\text{D}_{c} \end{array}$	a <sub>e</sub> < D <sub>c</sub> a <sub>p</sub> = D <sub>c</sub>	$a_e = D_c$ $a_p = 1,5*D_c$	a <sub>e</sub> = 0,5*D <sub>c</sub> a <sub>p</sub> < rε1	$a_e = D_c$ $a_p = 1*D_c$	$a_{e} \leq D_{C}$ $a_{p} < D_{C}$
Tool design							
Features	<ul> <li>Double-core designs for more stability</li> <li>High helix angles for light cutting motion</li> <li>Reinforced tips</li> <li>Differential pitch for vibration-free cutting</li> <li>Defined edge hone with PVD coatings</li> </ul>	<ul> <li>Double and conical core for additional stability and strength</li> <li>Differential pitch for vibration-free cutting</li> <li>Chip splitters for small and light chips, which aids with chip removal</li> <li>Open frontal teeth design for controlled helical interpolation ramping</li> </ul>	<ul> <li>Short cutting length</li> <li>Non-cutting back end radii</li> <li>Large core diameter</li> <li>Neck reductions</li> <li>Corner radii</li> <li>PVD coatings</li> <li>Diamond coated range for graphite applications</li> </ul>	<ul> <li>Defined flutes for higher fz</li> <li>Roughing profiles for reduced cutting forces</li> <li>Differential pitch for vibration-free cutting</li> <li>Curved helix for vibration-free cutting</li> <li>Defined edge hone with polished PVD coatings</li> </ul>	<ul> <li>Chip thinning geometry for optimised feed speeds</li> <li>Neck reductions</li> <li>Forces in axial plane, ideal for long overhang</li> </ul>	<ul> <li>Variable face profile for vibration-free cuts</li> <li>Polished flutes for optimised chip removal</li> <li>Large diameter and lengths for high metal removal</li> </ul>	<ul> <li>Standard cutters from D<sub>C</sub> 0.1 to 2 mm</li> <li>Specific geometries for hard and soft materials, universal and graphite</li> <li>Additional strength due to tapered neck designs</li> <li>Thin coatings for main- taining sharp cutting edge conditions</li> <li>Diamond-coated tools for abrasive resistance in graphite applications</li> </ul>
Holder system	AII	Weldon / High- precision collet chucks	Shrinkfit / High- precision collet chucks	Weldon/Safe-Lock™	Shrinkfit / High- precision collet chucks	Weldon	Shrinkfit / High- precision collet chucks

## TROUBLESHOOTING



This overview represents the majority of cases. For specific situations in unfavourable circumstances or for specific solid milling operations, please contact your business partner at Seco.

