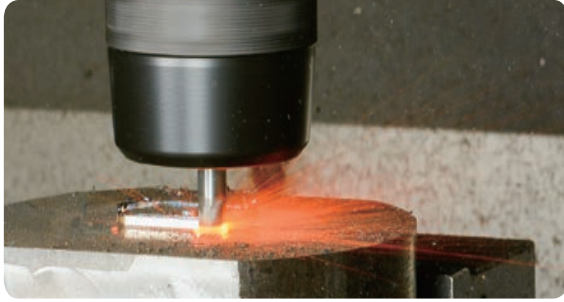


Ceramic Endmill (RCE) for HRSA Materials

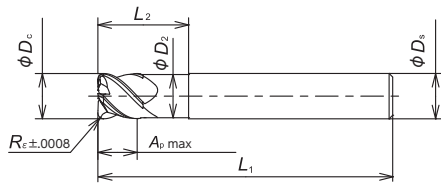


Aircraft Part: Frame Inconel 718		
End Mill:	Comp. Carbide	RCEI500H4R068S SX9
Speed	140 SFM	1900 SFM
Feed	0.001 IPT	SAME
DOC	0.050"	SAME
Coolant	dry	dry
Tool Life	1 Part	3 Parts
	3 times to tool life and better cycle time	

Aircraft Part: Fuel Manifold Inconel 625		
End Mill:	Comp. Ceramic	RCEI500J6R068S SX9
Speed	1855 SFM	1965 SFM
Feed	0.0012 IPT	SAME
DOC	0.300"	SAME
Coolant	dry	dry
Tool Life	1 Part	3 Parts
	3 times to tool life and better cycle time	

RCE-H4 (4-flute with Neck)

○ No center cutting edge



Slotting



Pocketing



Ramping



Z=4



35°

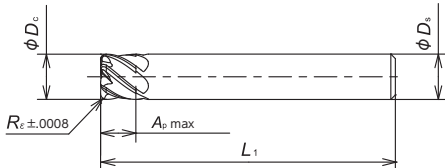


1.5°

Heat Resistant Alloy	S	●														
Item Number	Grade	Flute	ϕD_c		ϕD_s		ϕD_2		R_c		$A_p \text{ max}$		L_1		L_2	
	SX9		(Inch)	(mm)	(Inch)	(mm)	(Inch)	(mm)	(Inch)	(mm)	(Inch)	(mm)	(Inch)	(mm)	(Inch)	(mm)
RCEI375H4R047S	●	4	3/8		3/8		.359		.047		9/32		2.50		3/4	
RCEI500H4R068S	●	4	1/2		1/2		.484		.068		3/8		2.75		1	
RCEM080H4R100S	●	4	.315	8	.315	8	.299	7.6	.039	1.0	.236	6	2.362	60	0.630	16
RCEM100H4R125S	●	4	.394	10	.394	10	.378	9.6	.049	1.25	.295	7.5	2.559	65	0.787	20
RCEM120H4R150S	●	4	.472	12	.472	12	.457	11.6	.059	1.5	.354	9	2.756	70	0.945	24

RCE-J6 (6-flute)

○ No center cutting edge



Face Milling



Side Milling



Profiling



Ramping



Z=6

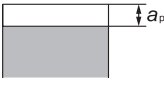


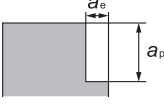
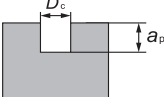







40°



1.5°

Heat Resistant Alloy	S	●										
Item Number	Grade	Flute	ϕD_c		ϕD_s		R_c		$A_p \text{ max}$		L_1	
	SX9		(Inch)	(mm)	(Inch)	(mm)	(Inch)	(mm)	(Inch)	(mm)	(Inch)	(mm)
RCEI375J6R047S	●	6	3/8		3/8		.047		9/32		2.50	
RCEI500J6R068S	●	6	1/2		1/2		.068		3/8		2.75	
RCEM080J6R100S	●	6	.315	8	.315	8	.039	1.0	.236	6	2.362	60
RCEM100J6R125S	●	6	.394	10	.394	10	.049	1.25	.295	7.5	2.559	65
RCEM120J6R150S	●	6	.472	12	.472	12	.059	1.5	.354	9	2.756	70

Application	Grade	ϕD_c	Flute	Cutting Speed (SFM)			Feed (IPT)	Depth of cut (a_p —inch)	Width of cut (a_e —inch)	Coolant
				500	2000	3500				
Face Milling 	SX9	3/8"	4/6/8		.0012	.056	—	DRY 		
		1/2"								
		5/8"								
		3/4"								
		8mm								
		10mm								
		12mm								
		16mm								
		20mm								
		Side Milling 							SX9	3/8"
1/2"										
5/8"										
3/4"										
8mm										
10mm										
12mm										
16mm										
20mm										
Slotting 	SX9		3/8"	4		.0012	.094	—		DRY 
		1/2"								
		5/8"								
		8mm								
		10mm								
		12mm								
		16mm								
		16mm								
	SX9	6	3/8"		.0012	.056	—	DRY 		
			1/2"							
			5/8"							
			8mm							
			10mm							
			12mm							
			16mm							
			16mm							
SX9	8	3/4"		.0012	.113	—	—			
		16mm								
		16mm								
		16mm								

For Maximum Productivity

- A continuous cut is recommended. An interrupted cut may cause chipping or breakage.
- When using a Hydraulic or Shrink chuck, blow air to the arbor body, DON'T blow air to the endmill itself.
- A Minimum speed of 980 SFM is required. (Don't run at lower speed.)
- A 1.5 degree ramping angle is recommended. Run at 50% lower feed rate when ramping cut.

When cutting HRSA materials

- Continue to machine even if you see BUE, removing BUE may cause chipping or breakage to the edge.
- High speed machining work hardens the material. For this reason, leave at least 0.3mm of material for a finishing process.



Material: Rene 65		
Ceramic End Mill: RCEI500J6R068S SX9		
	Test 1	Test 2
Speed	2300 SFM	1610 SFM
Feed	.0046 IPT	.0008 IPT
DOC	0.027"	0.200"
Coolant	dry	dry
Tool Life	24 Minutes	6 Minutes