



C U T T I N G   T O O L S

## Machining of HRSA Material



# High productivity when machining heat resistant superalloys

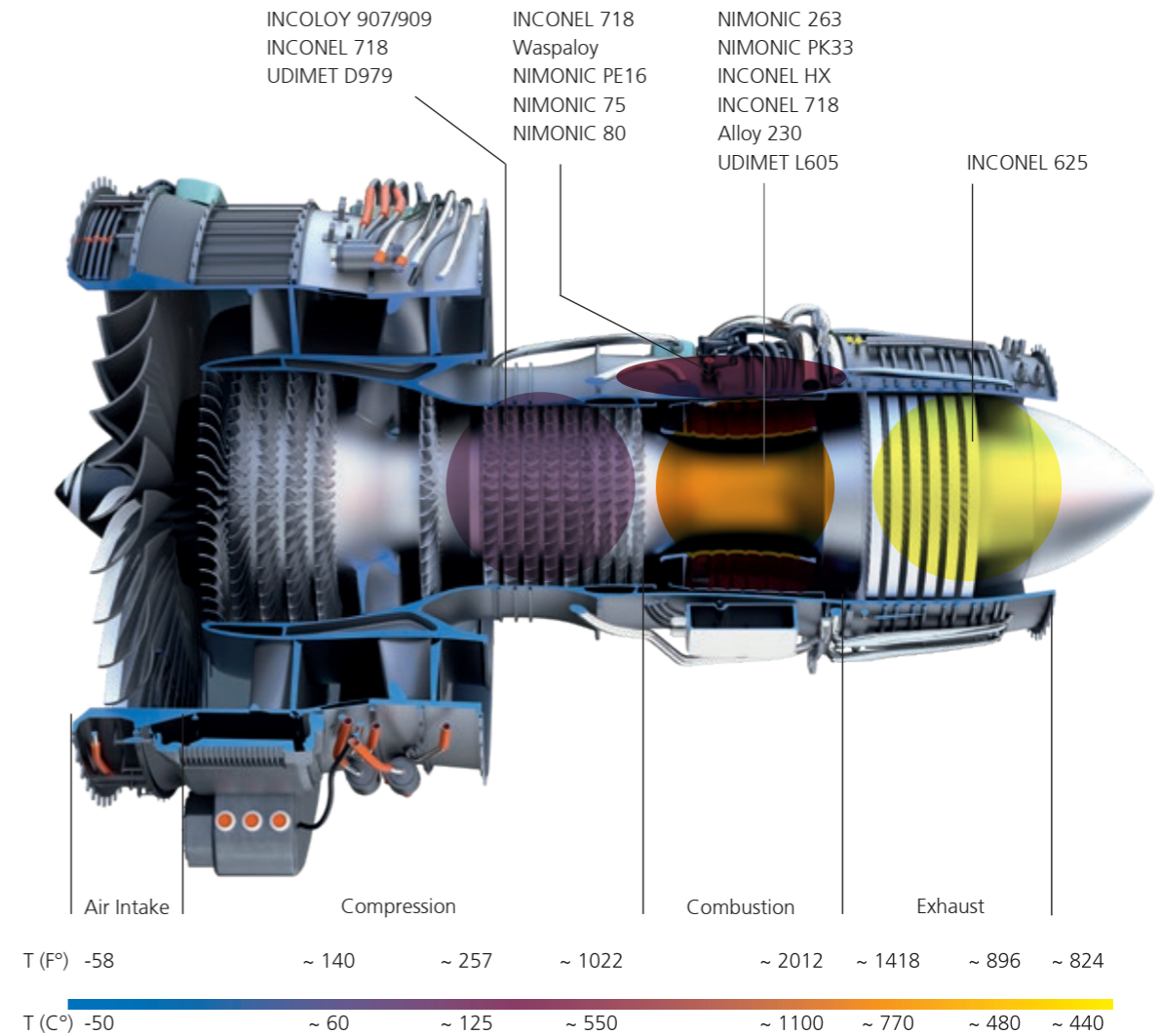
## Machining of HRSA Material

HRSA Materials (heat resistant super alloys) are used in different industry areas. Mainly in the Aerospace, energy and gas industry. This materials are mainly used for components which must keep their material properties such as high strength and hardness at high temperature application and in a corrosive environment. This is the case in combustion chambers of turbines or in connections and flanges of the gas industry.

HRSA materials can be divided into three alloy groups: nickel, iron and cobalt-based alloys. The cutting materials from CeramTec focus on the machining of nickel-based alloys.



## Application Example of HRSA Material used in a Aircraft Turbine







# Cutting material for HRSA machining

CeramTec offers two different grades of cutting material for machining these materials – SiAlON and SiC-whisker reinforced ceramics. They are perfectly balanced between toughness and wear resistance. This enables high cutting

parameters for roughing and semi-finishing. Different chamfer geometries are available, which are precisely tuned to the application. Special geometries for turning and grooving inserts are available upon request.

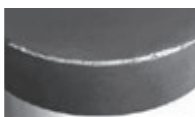
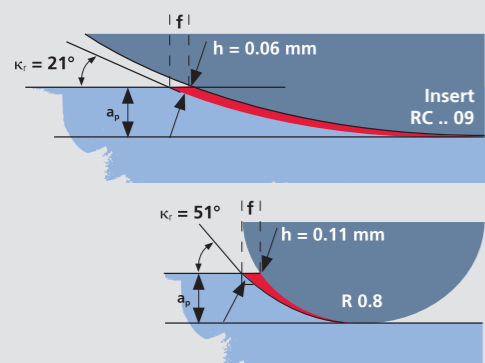
CeramTec Grade	RST 330	LST 320	LST 370
Cutting Material	SiC whisker reinforced ceramic	SiAlON ceramic	Polymorphe SiAlON ceramic
Application	Turning, Grooving	Turning, Grooving	Turning, Grooving
Machining	Roughing, Semi-Finishing Profiling, Pocketing	Roughing, Semi-Finishing Profiling, Pocketing	Roughing, Semi-Finishing Profiling, Pocketing
Materials	Nickel based alloys	Nickel based alloys	Nickel based alloys

## Recommended cutting data range

CeramTec Grade	RST 330	LST 320	LST 370
Cutting Material	SiC whisker reinforced ceramic	SiAlON ceramic	Polymorphe SiAlON ceramic
$v_c$ (m/min)	250 - 400 m/min.	200 - 350 m/min	200 - 350 m/min
$f$ (mm)	0,10 - 0,20 mm	0,15 - 0,25 mm	0,10 - 0,35 mm
$a_p$ (mm)	1,0 - 2,0 mm	2,0 - 3,0 mm	1,0 - 4,0 mm
Coolant	yes	yes	yes

## QUICK TIP P

Reduce load on insert by choosing the biggest insert radius applicable. This reducing breakage on cutting edge at same doc, feed and speed!



Insert size 9.52 mm



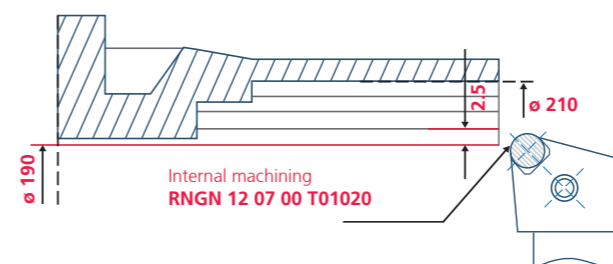
Corner radius 0.8 mm

Pictures not scaled

## Application Example RST 330

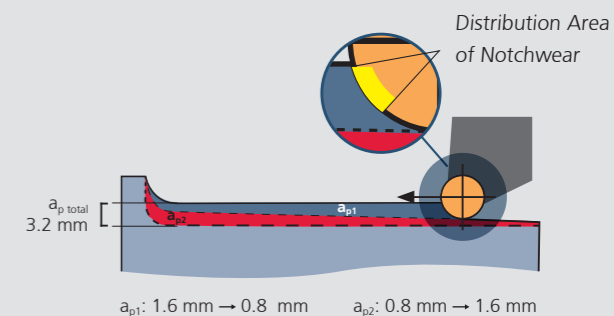
Workpiece: Bell  
Material: Inconel 718 / 38 HRC  
Slightly interrupted cut  
Coolant supply  
Tool life: 4 cuts per cutting edge

**Cutting data:**  
 $v_c = 300$  m/min.  
 $f = 0,25$  mm  
Length of cut,  $l = 85$  mm  
 $doc = 2,5$  mm



## QUICK TIP P

When using SiCw – inserts for several cuts on the same length, ramping in longitudinal turning will avoid notching and increase tool life significantly.



## Inserts LST 320 / LST 370 ceramic

INSERT	ISO	GRADE	K												H	S	P	SPK-REF. NO.			
			GJL			GJS			ADI		SI GJS		GJV		HARD STEEL CHILLED CAST IRON DIE CASTING	HSRA	STEEL				
			EN-GJL 150	EN-GJL 200	EN-GJL 250	EN-GJL 300	EN-GJL 350	EN-GJS 400-15	EN-GJS 500-7	EN-GJS 600-3	EN-GJS 700-2	EN-GJS 800-2	EN-GJS 800-8	EN-GJS 1000-5					EN-GJS 1200-2	EN-GJS 1400-0	EN-GJS 450-18
	CNGN 12 07 08 S01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.50.022.18.4		
	CNGN 12 07 08 T01020	LST 320	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	15.50.022.15.8		
		LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.50.022.15.4		
		LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.50.022.15.4		
		LST 320	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	15.50.023.15.8		
		LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.50.023.18.4		
	CNGX 12 07 08 S01020-H10M	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.50.439.18.4		
	CNGX 12 07 08 T01020-H10M	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.50.439.15.4		
		LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.50.449.18.4		
		LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.50.449.15.4		
		LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.50.450.18.4		
		LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.50.450.15.4		
	DNGN 15 07 08 S01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.50.077.18.4		
	DNGN 15 07 08 T01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.50.077.15.4		
		LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.50.078.18.4		
		LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.50.078.15.4		
		LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.50.079.18.4		
		LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.50.079.15.4		
	DNGX 15 07 08 S01020-H10M	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.50.459.18.4		
	DNGX 15 07 08 T01020-H10M	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.50.459.15.4		
		LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.50.460.18.4		
		LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.50.460.15.4		
		LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.50.461.18.4		
		LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.50.461.15.4		

ISO application group

K ■ Cast iron
H ■ Hard materials
S ■ HSRA
P ■ Steel
Main application ◆
Secondary application ◇

INSERT	ISO	GRADE	K												H	S	P	SPK-REF. NO.			
			GJL			GJS			ADI		SI GJS		GJV		HARD STEEL CHILLED CAST IRON DIE CASTING	HSRA	STEEL				
			EN-GJL 150	EN-GJL 200	EN-GJL 250	EN-GJL 300	EN-GJL 350	EN-GJS 400-15	EN-GJS 500-7	EN-GJS 600-3	EN-GJS 700-2	EN-GJS 800-2	EN-GJS 800-8	EN-GJS 1000-5					EN-GJS 1200-2	EN-GJS 1400-0	EN-GJS 450-18
	RCGX 06 06 00 S01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.42.331.18.4		
	RCGX 06 06 00 T01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.42.331.15.4		
	RCGX 09 07 00 S20015	LST 320	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	15.42.103.26.8		
	RCGX 09 07 00 S01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.42.103.18.4		
	RCGX 09 07 00 T01020	LST 320	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	15.42.103.15.8		
	RCGX 09 07 00 T01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.42.103.15.4		
	RCGX 12 07 00 P86	LST 320	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	15.42.104.86.8		
	RCGX 12 07 00 T01020	LST 320	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	15.42.104.15.8		
	RCGX 12 07 00 S01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.42.104.18.4		
	RCGX 12 07 00 T01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.42.104.15.4		
	RNGN 09 04 00 S01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.40.018.18.4		
	RNGN 09 04 00 T01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.40.018.15.4		
	RNGN 12 07 00 T01020	LST 320	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	15.40.002.15.8		
	RNGN 12 07 00 S01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.40.002.18.4		
	RNGN 12 07 00 T01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.40.002.15.4		
	RNGN 15 07 00 T00520	LST 320	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	15.40.023.03.8		
	RNGN 15 07 00 S01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.40.023.18.4		
	RNGN 15 07 00 T01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◇	◇	◇	◆	21.40.023.15.4		

ISO application group

K ■ Cast iron
H ■ Hard materials
S ■ HSRA
P ■ Steel
Main application ◆
Secondary application ◇

INSERT	ISO	GRADE	K													H	S	P	SPK-REF. NO.													
			GJL			GJS			ADI			SI GJS			GJV																	
			EN-GJL 150	EN-GJL 200	EN-GJL 250	EN-GJL 300	EN-GJL 350	EN-GJS 400-15	EN-GJS 500-7	EN-GJS 600-3	EN-GJS 700-2	EN-GJS 800-2	EN-GJS 800-8	EN-GJS 1000-5	EN-GJS 1200-2	EN-GJS 1400-0	EN-GJS 450-18	EN-GJS 500-14	EN-GJS 600-10	EN-GJV 300	EN-GJV 350	EN-GJV 400	EN-GJV 450	EN-GJV 500	HARD STEEL	CHILLED-CAST IRON	DIE CASTING	HSRA	STEEL			
<b>RNGN 19 07</b> 	RNGN 19 07 00 P85	LST 320	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆										◆		15.40.005.85.8	
<b>RNGN 25 07</b> 	RNGN 25 07 00 S20015	LST 320	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆										◆		15.40.038.27.8	
<b>RNGX 12 07 .. H10</b> 	RNGX 12 07 00 S01020-H10M	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆										◆		21.40.201.18.4	
	RNGX 12 07 00 T01020-H10M	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆										◆		21.40.201.15.4
<b>RNGX 15 07 .. H10</b> 	RNGX 15 07 00 S01020-H10M	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆										◆		21.40.202.18.4
	RNGX 15 07 00 T01020-H10M	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆									◆		21.40.202.15.4
<b>RPGN 09 04 ..</b> 	RPGN 09 04 00 S01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆										◆		21.42.054.18.4
	RPGN 09 04 00 T01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆									◆		21.42.054.15.4
<b>RPGN 12 04 ..</b> 	RPGN 12 04 00 S01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆										◆		21.42.055.18.4
	RPGN 12 04 00 T01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆									◆		21.42.055.15.4
<b>RPGX 06 04 ..</b> 	RPGX 06 04 00 T01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆										◆		21.42.341.15.4
<b>RPGX 09 07 ..</b> 	RPGX 09 07 00 S01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆										◆		21.42.340.18.4
	RPGX 09 07 00 T01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆									◆		21.42.340.15.4

ISO application group

K ■ Cast iron
H ■ Hard materials
S ■ HSRA
P ■ Steel
Main application ◆
Secondary application ◆

INSERT	ISO	GRADE	K													H	S	P	SPK-REF. NO.													
			GJL			GJS			ADI			SI GJS			GJV																	
			EN-GJL 150	EN-GJL 200	EN-GJL 250	EN-GJL 300	EN-GJL 350	EN-GJS 400-15	EN-GJS 500-7	EN-GJS 600-3	EN-GJS 700-2	EN-GJS 800-2	EN-GJS 800-8	EN-GJS 1000-5	EN-GJS 1200-2	EN-GJS 1400-0	EN-GJS 450-18	EN-GJS 500-14	EN-GJS 600-10	EN-GJV 300	EN-GJV 350	EN-GJV 400	EN-GJV 450	EN-GJV 500	HARD STEEL	CHILLED-CAST IRON	DIE CASTING	HSRA	STEEL			
<b>RPGX 12 07</b> 	RPGX 12 07 00 T01020	LST 320	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆											◆		15.42.337.15.8
	RPGX 12 07 00 S01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆										◆		21.42.337.18.4
	RPGX 12 07 00 T01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆										◆		21.42.337.15.4
<b>SNGN 12 04 ..</b> 	SNGN 12 04 08 T01020	LST 320	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆										◆		15.10.009.15.8
	SNGN 12 04 16 T01020	LST 320	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆										◆		15.10.059.15.8
<b>SNGN 12 07</b> 	SNGN 12 07 08 S01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆										◆		21.10.021.18.4
	SNGN 12 07 08 T01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆										◆		21.10.021.15.4
	SNGN 12 07 12 S01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆										◆		21.10.022.18.4
	SNGN 12 07 12 T01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆										◆		21.10.022.15.4
	SNGN 12 07 16 S01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆										◆		21.10.023.18.4
	SNGN 12 07 16 T01020	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆										◆		21.10.023.15.4
<b>SNGX 12 07 .. H10</b> 	SNGX 12 07 08 S01020-H10M	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆										◆		21.10.524.18.4
	SNGX 12 07 08 T01020-H10M	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆									◆		21.10.524.15.4
	SNGX 12 07 12 S01020-H10M	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆									◆		21.10.530.18.4
	SNGX 12 07 12 T01020-H10M	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆									◆		21.10.530.15.4
	SNGX 12 07 16 S01020-H10M	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆									◆		21.10.531.18.4
	SNGX 12 07 16 T01020-H10M	LST 370	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆									◆		21.10.531.15.4

ISO application group

K ■ Cast iron
H ■ Hard materials
S ■ HSRA
P ■ Steel
Main application ◆
Secondary application ◆



# Inserts SiC-Whisker Reinforced Ceramic RST 330

INSERT	ISO	GRADE	K													H	S	P	SPK-REF. NO.										
			GJL			GJS			ADI			SI GJS			GJV														
			EN-GJL 150	EN-GJL 200	EN-GJL 250	EN-GJL 300	EN-GJL 350	EN-GJS 400-15	EN-GJS 500-7	EN-GJS 600-3	EN-GJS 700-2	EN-GJS 800-2	EN-GJS 800-8	EN-GJS 1000-5	EN-GJS 1200-2	EN-GJS 1400-0	EN-GJS 450-18	EN-GJS 500-14	EN-GJS 600-10	EN-GJV 300	EN-GJV 350	EN-GJV 400	EN-GJV 450	EN-GJV 500	CHILLED/CAST IRON	DIE CASTING	HRSA	STEEL	
<b>CNGN 12 07 .. T</b> 	CNGN 12 07 08 T01020	RST 330	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆					◆	◆	◆		15.50.022.15.0
	CNGN 12 07 12 T01020	RST 330	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆					◆	◆	◆	
<b>RCGX 06 06</b> 	RCGX 06 06 00 T01020	RST 330	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆					◆	◆	◆		15.42.331.15.0
	RCGX 06 06 00 S01020	RST 330	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆					◆	◆	◆	
<b>RCGX 09 07 00</b> 	RCGX 09 07 00 T01020	RST 330	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆					◆	◆	◆		15.42.103.15.0
<b>RCGX 12 07</b> 	RCGX 12 07 00 T01020	RST 330	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆					◆	◆	◆		15.42.104.15.0
<b>RNGN 12 07</b> 	RNGN 12 07 00 S01020	RST 330	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆					◆	◆	◆		15.40.002.18.0
	RNGN 12 07 00 T01020	RST 330	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆					◆	◆	◆	
<b>RPGX 06 04</b> 	RPGX 06 04 00 T01020	RST 330	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆					◆	◆	◆		15.42.341.15.0
<b>RPGX 09 07</b> 	RPGX 09 07 00 T01020	RST 330	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆					◆	◆	◆		15.42.340.15.0
<b>RPGX 12 07</b> 	RPGX 12 07 00 T01020	RST 330	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆					◆	◆	◆		15.42.337.15.0

ISO application group

K ■ Cast iron   
 H ■ Hard materials   
 S ■ HSRA   
 P ■ Steel   
 Main application ◆   
 Secondary application ◇



## Milling of HRSA Materials

**Milling systems**  
 Face and contour milling, ramp and helix milling with high stock removal rates - that's what our milling systems are made for.  
 With our end mills, screw-on and arbor mount milling cutters, we offer the right solution for every milling task.







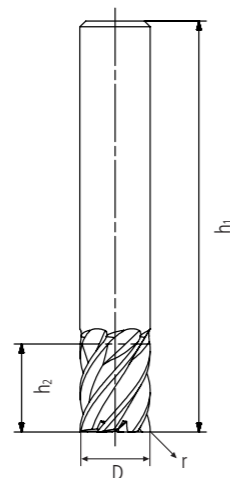
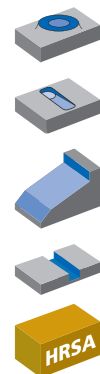
## End milling cutter **LSM800**

Rough finishing

6.3 3.2



$v_c = 550 - 750 \text{ m/min}$   
 $f_z = 0,03 - 0,06 \text{ mm}$   
 $a_p = \text{up to } 0,5 \times D$



Type	SPK-Ref. No.	Dimensions (mm)				
		D	t	r	h <sub>1</sub>	h <sub>2</sub>
CTE-0600Z06R-AA12 LSM800	771.15.060.19.0	6	6	1,20	60	4,5
CTE-0600Z06R-AA20 LSM800	771.15.060.39.0	6	6	2,00	60	4,5
CTE-0600Z06R-AA25 LSM800	771.15.060.29.0	6	6	2,50	60	4,5
CTE-0800Z06R-AB12 LSM800	771.15.080.19.0	8	6	1,20	60	6,5
CTE-0800Z06R-AB20 LSM800	771.15.080.39.0	8	6	2,00	60	6,5
CTE-0800Z06R-AB25 LSM800	771.15.080.29.0	8	6	2,50	60	6,5
CTE-1000Z06R-BB12 LSM800	771.15.100.19.0	10	6	1,20	65	6,5
CTE-1000Z06R-BB20 LSM800	771.15.100.39.0	10	6	2,00	65	6,5
CTE-1000Z06R-BB25 LSM800	771.15.100.29.0	10	6	2,50	65	6,5
CTE-1200Z06R-CD12 LSM800	771.15.120.19.0	12	6	1,20	70	9
CTE-1200Z06R-CD20 LSM800	771.15.120.39.0	12	6	2,00	70	9
CTE-1200Z06R-CD25 LSM800	771.15.120.29.0	12	6	2,50	70	9
CTE-1600Z08R-DE12 LSM800	771.15.160.19.0	16	8	1,20	83	14
CTE-1600Z08R-DE20 LSM800	771.15.160.39.0	16	8	2,00	83	14
CTE-1600Z08R-DE25 LSM800	771.15.160.29.0	16	8	2,50	83	14
CTE-2000Z08R-EE12 LSM800	771.15.200.19.0	20	8	1,20	93	14
CTE-2000Z08R-EE20 LSM800	771.15.200.39.0	20	8	2,00	93	14
CTE-2000Z08R-EE25 LSM800	771.15.200.29.0	20	8	2,50	93	14

## Designation system for end mills

<b>CT</b> End mill	<b>S</b> Special	<b>L</b> Left	<b>E</b> 93 mm
<b>-</b> Standard	<b>R</b> Right	<b>D</b> 83 mm	<b>12</b> R 1,2 mm
<b>Designation</b>	<b>Placeholder</b>	<b>Sense of rotation</b>	<b>Overall length h<sub>1</sub></b>
		<b>A</b> 60 mm	<b>20</b> R 2,0 mm
		<b>B</b> 65 mm	<b>25</b> R 2,5 mm
		<b>...</b>	<b>...</b>

**CT E - 0800 Z06 R - A B 12**

Type of cutter	Nominal diameter D	No. of teeth z	Length of cutting edge h <sub>2</sub>
<b>E</b> End mill Ceramic solid	<b>0600</b> 6 mm	<b>Z02</b> 2 teeth	<b>A</b> 4,5 mm
	<b>0800</b> 8 mm	<b>Z03</b> 3 teeth	<b>B</b> 6,5 mm
<b>F</b> End mill Ceramic Compound	<b>1000</b> 10 mm	<b>Z04</b> 4 teeth	<b>C</b> 7,5 mm
	<b>1200</b> 12 mm	<b>...</b>	<b>D</b> 9 mm
	<b>1600</b> 16 mm	<b>Z20</b> 20 teeth	<b>E</b> 14 mm
<b>G</b> End mill CBN Compound	<b>2000</b> 20 mm	<b>...</b>	<b>F</b> 16 mm
	<b>...</b>	<b>...</b>	<b>G</b> 19,5 mm

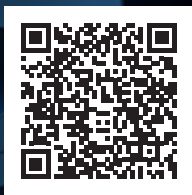


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