



耐热合金加工用

刀片材质  
Insert Grades

KS6030/KS6040

# 氮化硅陶瓷

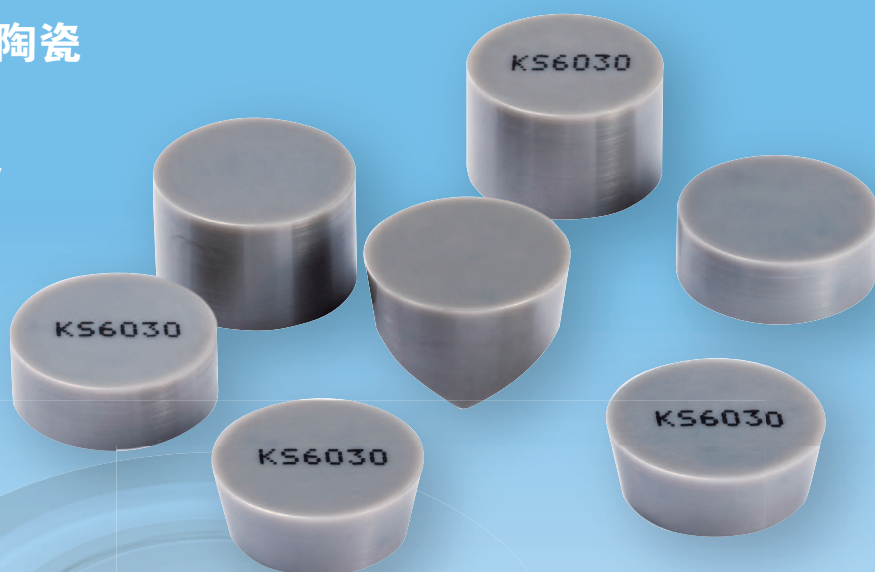
SiAlON Ceramic for Heat resistant alloy

新开发耐热合金用氮化硅陶瓷  
实现高可靠性、稳定加工

Newly Developed SiAlON Ceramic for Heat Resistant Alloy  
High Reliable and Stable process is now available.

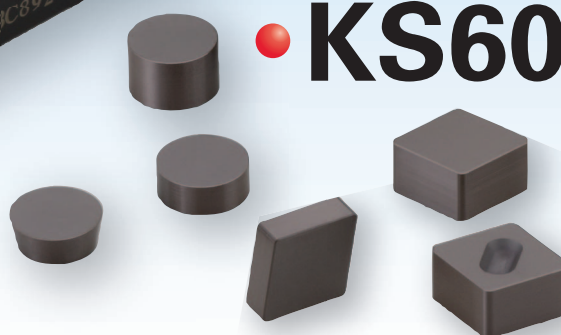
精加工 ~ 半精加工用 **NEW**  
For Finishing-Medium

● **KS6030**



粗加工用  
For Roughing

● **KS6040**



ADVANCING PRODUCTIVITY

致力于生产效率提高的京瓷



精加工 ~ 半精加工用  
For Finishing-Medium

粗加工用  
For Roughing

# KS6030/KS6040

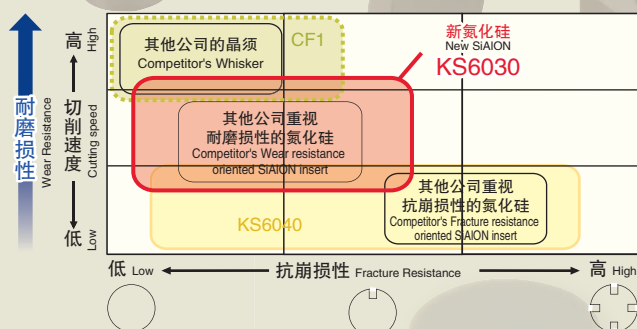
## 新开发 耐热合金加工用 新氮化硅陶瓷

Newly Developed SiAlON Ceramic for Heat Resistant Alloy

### KS6030

#### 特长 Advantages

- 高化学稳定性保证发挥优良的耐磨损性  
Superior wear resistance due to high chemical stability
- 在中、高速的半精加工・仿形加工中发挥威力  
Most suitable for semi finishing and profiling at medium to high cutting speed
- 优越的耐边界磨损可抑制毛刺发生与刀片崩损  
Preventing burr formation and chipping due to high resistance against boundary wear
- 也可对应铣削加工  
Applicable to milling operation



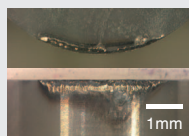
#### 耐磨损性比较 Wear resistance comparison

##### 车削加工 Turning

###### 切削条件 Cutting Conditions

[被削材]: 镍基耐热合金  
[Workpiece Material]: Ni-base heat resistant alloy  
Vc=300m/min f=0.2mm/rev ap=2.0mm  
加工时间2.5分钟 Cutting time 2.5min 湿式 Wet

KS6030



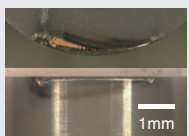
其他公司产品A(晶须)  
Competitor A (Whisker)



###### 切削条件 Cutting Conditions

[被削材]: 镍基耐热合金  
[Workpiece Material]: Ni-base heat resistant alloy  
Vc=150m/min f=0.4mm/rev ap=2.0mm  
加工时间2.5分钟 Cutting time 2.5min 湿式 Wet

KS6030



其他公司产品A(晶须)  
Competitor A (Whisker)



KS6030在低速・高进给加工中不降低加工效率的同时提高工具寿命。并且因为耐边界磨损性好而抑制了毛刺发生与刀片崩损。

KS6030 provides superior Long tool life and efficiency in low to high speed machining. Also prevents burr formation and crack due to Excellent Anti-notching performance.

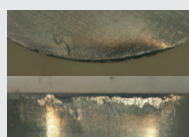
(本公司比较) (Internal evaluation)

##### 铣削加工 Milling

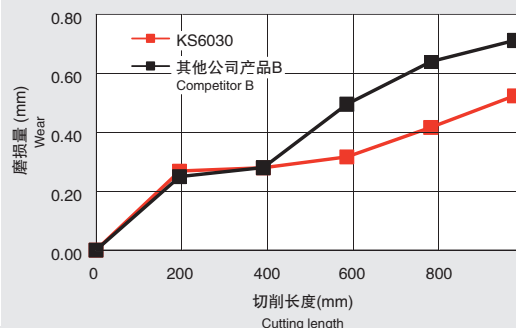
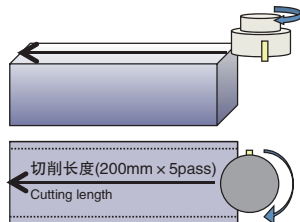
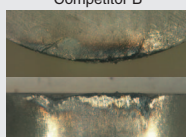
###### 切削条件 Cutting Conditions

[被削材]: 镍基耐热合金  
[Workpiece Material]: Ni-base heat resistant alloy  
[工具]: RGN120400T01020  
[Tool]: RGN120400T01020  
Vc=1,000m/min f=0.1mm/t ap=1.0mm  
干式 Dry

KS6030



其他公司产品B  
Competitor B

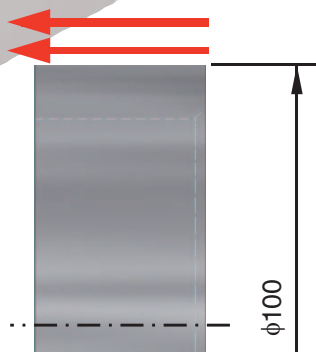


(本公司比较) (Internal evaluation)

## 加工案例 Case Study

镍基耐热合金  
Ni-base heat resistant alloy

- 垫片 Seal
- $V_c=170\text{m/min}$
- $f=0.2\text{mm/rev}$
- $a_p=1.2\text{mm}$  (粗)  
Roughing
- $a_p=0.5\text{mm}$  (精)  
Finishing
- 湿式加工 WET
- RGN120700E003  
(KS6030)



|                         |                                                     |
|-------------------------|-----------------------------------------------------|
| KS6030                  | 加工个数2个/刀尖<br>Machining efficiency 2 pcs/edge        |
| 其他公司产品C<br>Competitor C | 加工个数<br>1个/刀尖<br>Machining efficiency<br>1 pcs/edge |

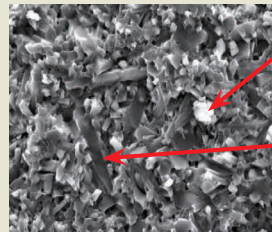
KS6030与其他公司产品C相比，  
在同一条件下工具寿命提高了2倍。  
KS6030 doubled tool life under the same cutting  
conditions as Competitor C

(来自用户评价) User Evaluation

## KS6040

## 特长 Advantages

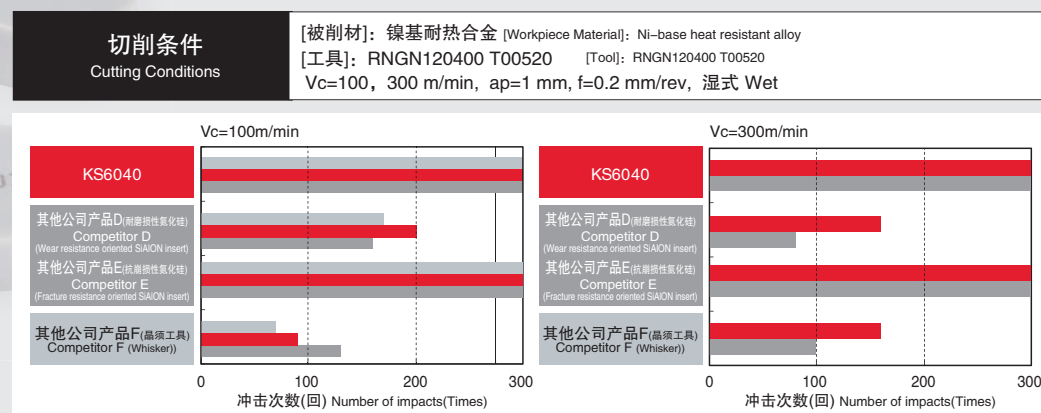
- 硬质粒子与针状粒子的存在、  
提高了耐磨损性与抗崩损性  
在耐热合金加工中取得很好的平衡  
Improved wear and fracture resistance due to the mixture of the  
hard and acicular particles  
Superior balance in heat resistant alloy machining
- 黑皮去除加工 · 粗加工 发挥威力  
Suitable for scaling and roughing



硬质粒子(耐磨损性提高)  
Hard Particle (Wear resistance improvement)

针状粒子(抗崩损性提高)  
Acicular Particle (Fracture resistance improvement)

## 抗崩损性比较 Fracture Resistance Comparison



KS6040与其他公司产品F(晶须工具)、其他公司产品D(耐磨损性氮化硅)相比，具有良好的抗崩损性

与其他公司产品E(抗崩损性氮化硅)中，具有同等的抗崩损性

Compared to both Competitor F (Whisker) and Competitor D (Wear resistance oriented SiAlON insert), KS6040 provides superior fracture resistance  
KS6040 provides superior fracture resistance equivalent to Competitor E (Fracture resistance oriented SiAlON insert)

(本公司比较) (Internal evaluation)

## KS6040相对于以往的氮化硅、同时提高了耐磨损性与抗崩损性 在耐热合金加工中发挥出优越的平衡性

KS6040 achieves improved wear and fracture resistance compared to conventional SiAlON inserts Superior balance in heat resistant alloy machining

## 推荐切削条件 Recommended cutting conditions

| 材质<br>Grade | 粗加工<br>Roughing | 精加工-<br>半精加工<br>Finishing-<br>Medium | 仿形加工<br>Profiling | 切削速度<br>$V_c(\text{m/min})$ |     |     |     |     |       |  |
|-------------|-----------------|--------------------------------------|-------------------|-----------------------------|-----|-----|-----|-----|-------|--|
|             |                 |                                      |                   | 0                           | 200 | 400 | 600 | 800 | 1,000 |  |
| KS6030      |                 |                                      |                   | 湿式<br>Wet                   |     |     |     |     |       |  |
|             |                 |                                      |                   | 干式<br>Dry                   |     |     |     |     |       |  |
| KS6040      |                 |                                      |                   | 湿式<br>Wet                   |     |     |     |     |       |  |
|             |                 |                                      |                   | 干式<br>Dry                   |     |     |     |     |       |  |

■ : 车削 Turning ■ : 铣削加工 Milling

## 车削加工 Turning

推荐刀刃: E珩磨规格 E003 Recommended edge prep: R honing

| 材质<br>Grade | 切削速度<br>$V_c(\text{m/min})$ | 切深 $a_p$<br>(mm) | 进给 $f$<br>(mm/rev) |
|-------------|-----------------------------|------------------|--------------------|
| KS6030      | 150-350                     | 1.0-2.5          | 0.15-0.35          |
| KS6040      | 150-300                     | 1.0-2.5          | 0.15-0.35          |

## 铣削加工 Milling

推荐刀刃: 倒棱规格 T01020 Recommended edge prep: Chamfering

| 材质<br>Grade | 切削速度<br>$V_c(\text{m/min})$ | 切深 $a_p$<br>(mm) | 进给 $f_z$<br>(mm/rev) |
|-------------|-----------------------------|------------------|----------------------|
| KS6030      | 700-1,200                   | 1.0-2.0          | 0.08-0.12            |
| KS6040      | 600-1,000                   | 1.0-2.0          | 0.08-0.15            |

■ 标准库存型号 Stock Items

| 刀尖规格 Edge Preparation |                                |                   |                                          |                                                                                                                                                                                         | 使用分类标准<br>Classification of usage |       |       |      |   |   |    |   |
|-----------------------|--------------------------------|-------------------|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------|-------|------|---|---|----|---|
| 记号<br>Symbol          | 切刃状态<br>Cutting edge condition | 记入例<br>Indication |                                          | ✳: 断续/第1选择<br>Interruption / 1st Choice<br>✳✳: 断续/第2选择<br>Interruption / 2nd Choice<br>●: 轻断续/第1选择<br>Light Interruption / 1st Choice<br>●: 轻断续/第2选择<br>Light Interruption / 2nd Choice |                                   |       |       |      |   |   |    |   |
| E                     | R珩磨 Honed Cutting Edge         | E003              | R0.03珩磨 Honed                            |                                                                                                                                                                                         |                                   |       |       |      |   |   |    |   |
|                       |                                | E005              | R0.05珩磨 Honed                            |                                                                                                                                                                                         |                                   |       |       |      |   |   |    |   |
| T                     | 倒棱 Chamfered Cutting Edge      | T01020            | 0.10mm × 20°倒棱<br>Chamfered Cutting Edge |                                                                                                                                                                                         |                                   |       |       |      |   |   |    |   |
| 形状<br>Shape           |                                |                   | 型号<br>Description                        | (旧型号)<br>Previous Description                                                                                                                                                           | 刀刃规格<br>Edge Preparation          |       |       |      |   |   |    |   |
|                       |                                |                   | 尺寸(mm) Dimension(mm)                     |                                                                                                                                                                                         |                                   |       |       |      |   |   |    |   |
|                       |                                |                   | rε A T                                   |                                                                                                                                                                                         |                                   |       |       |      |   |   |    |   |
|                       |                                |                   | KS6030 KS6040                            |                                                                                                                                                                                         |                                   |       |       |      |   |   |    |   |
| 负角<br>Negative insert |                                |                   | CNGN 120408T01020                        | CNGN 120408                                                                                                                                                                             | T01020                            | 0.8   | 12.70 | 4.76 |   | ● |    |   |
|                       |                                |                   | 120412T01020                             | 120412                                                                                                                                                                                  |                                   | 1.2   |       |      |   |   | ●  |   |
|                       |                                |                   | CNGN 120408T02025                        | CNGN 120408                                                                                                                                                                             |                                   | 0.8   |       |      |   |   | ●  |   |
|                       |                                |                   | 120412T02025                             | 120412                                                                                                                                                                                  |                                   | 1.2   |       |      |   |   | ●  |   |
|                       |                                |                   | CNGX 120712T01020                        | -                                                                                                                                                                                       | T01020                            | 1.2   | 12.70 | 7.94 |   | ● |    |   |
|                       |                                |                   | 120716T01020                             | -                                                                                                                                                                                       |                                   | 1.6   |       |      |   |   | ●  |   |
|                       |                                |                   | CNGX 120712T02025                        | -                                                                                                                                                                                       |                                   | 1.2   |       |      |   |   | ●  |   |
|                       |                                |                   | 120716T02025                             | -                                                                                                                                                                                       |                                   | 1.6   |       |      |   |   | ●  |   |
|                       |                                |                   | RNGN 090300E003                          | -                                                                                                                                                                                       | E003                              | -     | 9.525 | 3.18 |   | ● |    |   |
|                       |                                |                   | 090300E005                               | -                                                                                                                                                                                       | E005                              |       |       |      |   |   | ●  |   |
|                       |                                |                   | 090300T01020                             | -                                                                                                                                                                                       | T01020                            |       |       |      |   |   | ●  |   |
|                       |                                |                   | RNGN 120400E003                          | -                                                                                                                                                                                       | E003                              |       |       |      |   |   | ●  |   |
|                       |                                |                   | 120400E005                               | -                                                                                                                                                                                       | E005                              |       |       |      |   |   | ●  |   |
|                       |                                |                   | 120400T01020                             | -                                                                                                                                                                                       | T01020                            |       |       |      |   |   | ●  |   |
|                       |                                |                   | RNGN 120700E003                          | -                                                                                                                                                                                       | E003                              |       |       |      |   |   | ●  |   |
|                       |                                |                   | 120700E005                               | -                                                                                                                                                                                       | E005                              |       |       |      |   |   | ●  |   |
|                       |                                |                   | 120700T01020                             | -                                                                                                                                                                                       | T01020                            |       |       |      |   |   | ●  |   |
|                       |                                |                   | RNGN 190700E003                          | -                                                                                                                                                                                       | E003                              |       |       |      |   |   | ●  |   |
|                       |                                |                   | 190700E005                               | -                                                                                                                                                                                       | E005                              |       |       |      |   |   | ●  |   |
|                       |                                |                   | 190700T01020                             | -                                                                                                                                                                                       | T01020                            |       |       |      |   |   | ●  |   |
|                       |                                |                   | RNGN 250700E003                          | -                                                                                                                                                                                       | E003                              |       |       |      |   |   | 非标 | ● |
|                       |                                |                   | 250700E005                               | -                                                                                                                                                                                       | E005                              |       |       |      |   |   | ●  |   |
|                       |                                |                   | 250700T01020                             | -                                                                                                                                                                                       | T01020                            |       |       |      |   |   | 非标 | ● |
|                       |                                |                   | SNGN 120412T01020                        | SNGN 120412                                                                                                                                                                             | T01020                            | 1.2   | 12.70 | 4.76 |   | ● |    |   |
|                       |                                |                   | 120416T01020                             | 120416                                                                                                                                                                                  |                                   | 1.6   |       |      |   |   | ●  |   |
|                       |                                |                   | SNGN 120412T02025                        | SNGN 120412                                                                                                                                                                             |                                   | 1.2   |       |      |   |   | ●  |   |
| 120416T02025          |                                |                   | 120416                                   | 1.6                                                                                                                                                                                     |                                   | ●     |       |      |   |   |    |   |
|                       |                                | SNGX 120712T01020 | -                                        | T01020                                                                                                                                                                                  | 1.2                               | 12.70 | 7.94  |      | ● |   |    |   |
|                       |                                | 120716T01020      | -                                        |                                                                                                                                                                                         | 1.6                               |       |       |      |   | ● |    |   |
|                       |                                | SNGX 120712T02025 | -                                        |                                                                                                                                                                                         | 1.2                               |       |       |      |   | ● |    |   |
|                       |                                | 120716T02025      | -                                        |                                                                                                                                                                                         | 1.6                               |       |       |      |   | ● |    |   |
|                       |                                | RCGX 060600E003   | -                                        | E003                                                                                                                                                                                    | -                                 | 6.35  | 8     |      | ● |   |    |   |
|                       |                                | 060600E005        | -                                        | E005                                                                                                                                                                                    |                                   |       |       |      |   | ● |    |   |
|                       |                                | 060600T01020      | -                                        | T01020                                                                                                                                                                                  |                                   |       |       |      |   | ● |    |   |
|                       |                                | RCGX 090700E003   | -                                        | E003                                                                                                                                                                                    |                                   |       |       |      |   | ● |    |   |
|                       |                                | 090700E005        | -                                        | E005                                                                                                                                                                                    |                                   |       |       |      |   | ● |    |   |
|                       |                                | 090700T01020      | -                                        | T01020                                                                                                                                                                                  |                                   |       |       |      |   | ● |    |   |
|                       |                                | RCGX 120700E003   | -                                        | E003                                                                                                                                                                                    |                                   |       |       |      |   | ● |    |   |
|                       |                                | 120700E005        | -                                        | E005                                                                                                                                                                                    |                                   |       |       |      |   | ● |    |   |
|                       |                                | 120700T01020      | -                                        | T01020                                                                                                                                                                                  |                                   |       |       |      |   | ● |    |   |
|                       |                                | RPGN 090300E003   | -                                        | E003                                                                                                                                                                                    |                                   |       |       |      |   | ● |    |   |
|                       |                                | 090300E005        | -                                        | E005                                                                                                                                                                                    |                                   |       |       |      |   | ● |    |   |
|                       |                                | 090300T01020      | -                                        | T01020                                                                                                                                                                                  |                                   |       |       |      |   | ● |    |   |
|                       |                                | RPGN 120400E003   | -                                        | E003                                                                                                                                                                                    | -                                 | 9.525 | 4.76  |      | ● |   |    |   |
|                       |                                | 120400E005        | -                                        | E005                                                                                                                                                                                    |                                   |       |       |      |   | ● |    |   |
|                       |                                | 120400T01020      | -                                        | T01020                                                                                                                                                                                  |                                   |       |       |      |   | ● |    |   |
|                       |                                | RPGX 060600E003   | -                                        | E003                                                                                                                                                                                    |                                   |       |       |      |   | ● |    |   |
|                       |                                | 060600E005        | -                                        | E005                                                                                                                                                                                    |                                   |       |       |      |   | ● |    |   |
|                       |                                | 060600T01020      | -                                        | T01020                                                                                                                                                                                  |                                   |       |       |      |   | ● |    |   |
|                       |                                | RPGX 090700E003   | -                                        | E003                                                                                                                                                                                    | -                                 | 6.35  | 6.35  |      | ● |   |    |   |
|                       |                                | 090700E005        | -                                        | E005                                                                                                                                                                                    |                                   |       |       |      |   | ● |    |   |
|                       |                                | 090700T01020      | -                                        | T01020                                                                                                                                                                                  |                                   |       |       |      |   | ● |    |   |
|                       |                                | RPGX 120700E003   | -                                        | E003                                                                                                                                                                                    |                                   |       |       |      |   | ● |    |   |
|                       |                                | 120700E005        | -                                        | E005                                                                                                                                                                                    |                                   |       |       |      |   | ● |    |   |
|                       |                                | 120700T01020      | -                                        | T01020                                                                                                                                                                                  |                                   |       |       |      |   | ● |    |   |
|                       |                                | RPGX 120700E003   | -                                        | E003                                                                                                                                                                                    |                                   |       |       |      |   | ● |    |   |
|                       |                                | 120700E005        | -                                        | E005                                                                                                                                                                                    |                                   |       |       |      |   | ● |    |   |
|                       |                                | 120700T01020      | -                                        | T01020                                                                                                                                                                                  |                                   |       |       |      |   | ● |    |   |

●: 标准库存 Std. Stock 非标: 订单生产 Made to order

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