



C U T T I N G T O O L S

**Zerspanung von
HRSA Material**

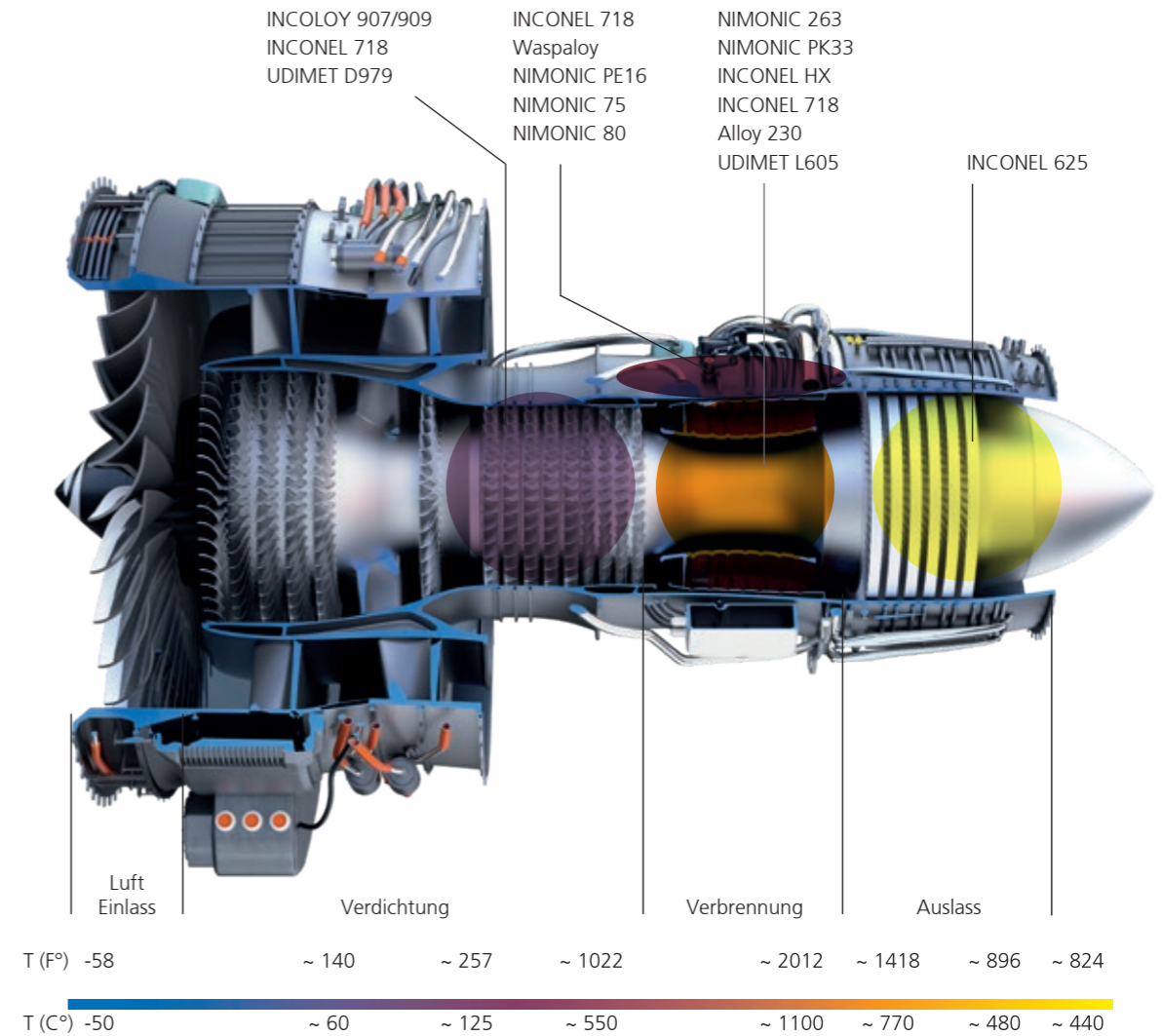
Hohe Produktivität bei der Bearbeitung von hitzebeständigen Superlegierungen

Zerspanung von HRSA-Material

HRSA-Werkstoffe (hitzebeständige Superlegierungen) werden in verschiedenen Industriebereichen eingesetzt. Hauptsächlich in der Luft- und Raumfahrt und der Energie- und Gasindustrie. Diese Werkstoffe werden vor allem für Bauteile verwendet, die ihre Materialeigenschaften wie hohe Festigkeit und Härte bei hohen Temperaturen und in korrosiver Umgebung beibehalten müssen. Dies ist der Fall in Brennkammern von Turbinen oder bei Anschlüssen und Flanschen der Gasindustrie. HRSA-Werkstoffe lassen sich in drei Legierungsgruppen einteilen: Nickel-, Eisen- und Kobaltbasislegierungen. Die Schneidstoffe von CeramTec sind auf die Bearbeitung von Nickel-Basis-Legierungen ausgerichtet.



Anwendungsbeispiel von HRSA Material in einer Flugzeugturbine





Schneidstoff für die HRSA-Bearbeitung

Für die Bearbeitung dieser Werkstoffe bietet CeramTec zwei verschiedene Schneidstoffsorten an. Sie sind perfekt ausbalanciert zwischen Zähigkeit und Verschleißfestigkeit. Dies ermöglicht hohe Schnittparameter beim Schruppen

und Semischlichten. Es stehen verschiedene Fasengeometrien zur Verfügung, die exakt auf die Anwendung abgestimmt sind. Spezielle Geometrien für Dreh- und Einstechplatten sind auf Anfrage erhältlich.

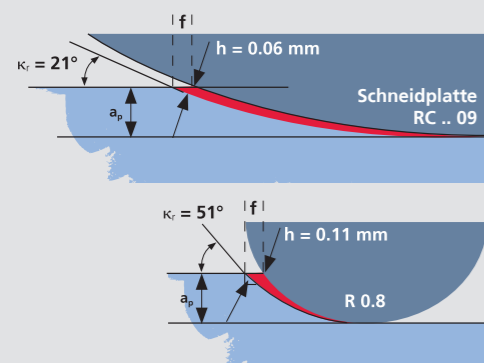
| CeramTec Sorte | RST 330 | LST 320 | LST 370 |
|----------------|--|--|--|
| Schneidstoff | SiC Whisker verstärkte Keramik | SiAlON Keramik | Polymorphe SiAlON Keramik |
| Anwendung | Drehen, Stechen | Drehen, Stechen | Drehen, Stechen |
| Bearbeitung | Schruppen, Semi-Schlichten, Profilieren, Ausräumen | Schruppen, Semi-Schlichten, Profilieren, Ausräumen | Schruppen, Semi-Schlichten, Profilieren, Ausräumen |
| Materialien | Nickel Basis Legierungen | Nickel Basis Legierungen | Nickel Basis Legierungen |

Empfohlener Schnittdatenbereich

| CeramTec Sorte | RST 330 | LST 320 | LST 370 |
|----------------|--------------------------------|-----------------|---------------------------|
| Schneidstoff | SiC Whisker verstärkte Keramik | SiAlON Keramik | Polymorphe SiAlON Keramik |
| 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 |
| Kühlung | ja | ja | ja |

QUICKTIPP

Reduziert die Belastung der Schneidplatte durch Wahl eines größeren Wendepaltendurchmessers. Dadurch werden Ausbrüche an der Schneidkante bei gleicher Schnitttiefe und -geschwindigkeit sowie gleichem Vorschub vermieden.



Schneidplatten
Größe 9.52 mm



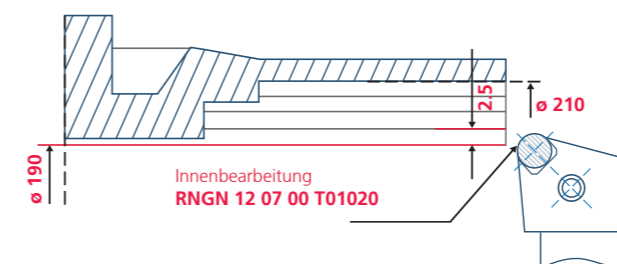
Eckenradius
0.8 mm

Bilder nicht im Maßstab

Anwendungsbeispiel RST 330

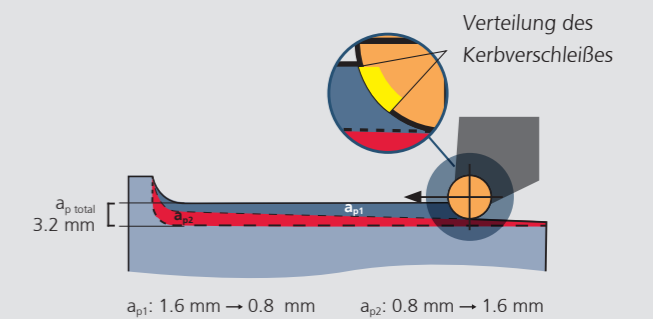
Bauteil: Gehäuse
Material: Inconel 718 /
Innenausdrehen mit RST 330;
leichte Schnittunterbrechung
mit Kühlung; vier Schnitte
pro Schneidkante und Teil

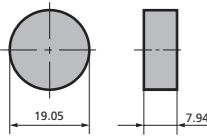
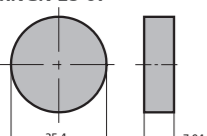
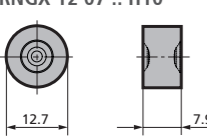
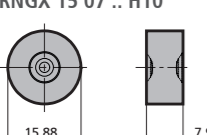
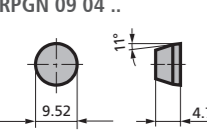
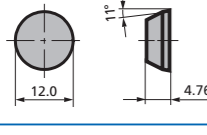
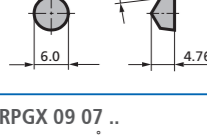
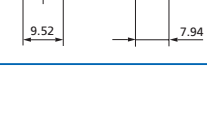
Schnittdaten:
 $v_c = 300$ m/min.
 $f = 0,25$ mm
Schnittlänge, $l = 85$ mm
 $a_p = 2,5$ mm



QUICKTIPP

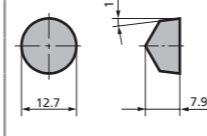
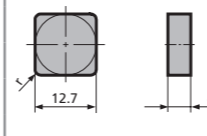
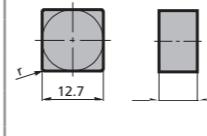
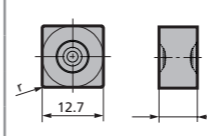
Beim Einsatz von SiCw - Wendeschneidplatten für mehrere Schnitte auf der gleichen Länge wird durch das Rampen beim Langdrehen eine Kerbwirkung vermieden und die Standzeit deutlich erhöht.



| SCHNEIDPLATTE | BEZEICHNUNG | SORTE | K | | | | | | | | | | | | | H | S | P | SPK-BEST. NR. | | | | | | | | | | | | |
|---|---------------------------|---------|------------|------------|------------|------------|------------|---------------|--------------|--------------|--------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|------------|------------|------------|------------|------------|------------|-------------------|-------------|------|-------|--|----------------|
| | | | 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 | | |
|  | RNGN 19 07 00 P85 | LST 320 | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | | | ◆ | ◆ | ◆ | | | | | | | | | | ◆ | | 15.40.005.85.8 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | RNGN 25 07 00 S20015 | LST 320 | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | | | ◆ | ◆ | ◆ | | | | | | | | | | ◆ | | 15.40.038.27.8 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | 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 |
|  | 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 |
|  | RPGN 09 04 00 S01020 | LST 370 | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | | | ◆ | ◆ | ◆ | | | | | | | | | | ◆ | | 21.42.054.18.4 |
| | RPGN 09 04 00 T01020 | LST 370 | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | | | ◆ | ◆ | ◆ | | | | | | | | | | ◆ | | 21.42.054.15.4 |
|  | RPGN 12 04 00 S01020 | LST 370 | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | | | ◆ | ◆ | ◆ | | | | | | | | | | ◆ | | 21.42.055.18.4 |
| | RPGN 12 04 00 T01020 | LST 370 | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | | | ◆ | ◆ | ◆ | | | | | | | | | | ◆ | | 21.42.055.15.4 |
|  | RPGX 06 04 00 T01020 | LST 370 | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | | | ◆ | ◆ | ◆ | | | | | | | | | | ◆ | | 21.42.341.15.4 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | 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 Anwendungsgruppe

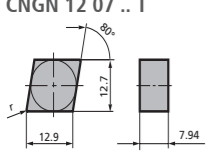
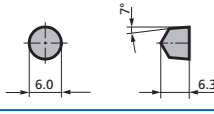
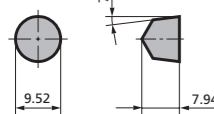
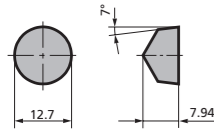
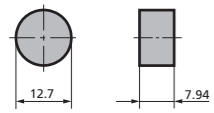
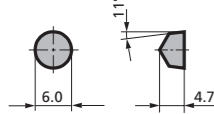
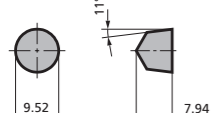
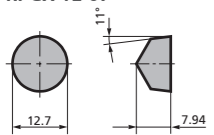
K ■ Gusseisen
H ■ Harte Werkstoffe
S ■ HSRA
P ■ Stahl
Hauptanwendung ◆
Nebenanwendung ◇

| SCHNEIDPLATTE | BEZEICHNUNG | SORTE | K | | | | | | | | | | | | | H | S | P | SPK-BEST. NR. | | | | | | | | | | | | |
|--|---------------------------|---------|------------|------------|------------|------------|------------|---------------|--------------|--------------|--------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|------------|------------|------------|------------|------------|------------|-------------------|-------------|------|-------|--|----------------|
| | | | 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 | | |
|  | 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 |
|  | SNGN 12 04 08 T01020 | LST 320 | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | | | ◆ | ◆ | ◆ | | | | | | | | | | ◆ | | 15.10.009.15.8 |
| | SNGN 12 04 16 T01020 | LST 320 | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | | | ◆ | ◆ | ◆ | | | | | | | | | | ◆ | | 15.10.059.15.8 |
|  | 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 |
|  | 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 Anwendungsgruppe

K ■ Gusseisen
H ■ Harte Werkstoffe
S ■ HSRA
P ■ Stahl
Hauptanwendung ◆
Nebenanwendung ◇

SiC Whisker verstärkte Keramik RST 330

| SCHNEIDPLATTE | BEZEICHNUNG | SORTE | K | | | | | | | | | | | | | | | | H | S | P | SPK-BEST. NR. | | | | | | | | |
|--|----------------------|---------|------------|------------|------------|------------|------------|---------------|--------------|--------------|--------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|------------|------------|---------------|------------|------------|-------------------|-------------|------|--------|----------------|----------------|
| | | | 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 | STEEEL | | |
|  CNGN 12 07 .. T | CNGN 12 07 08 T01020 | RST 330 | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | | | | ◆ | ◆ | ◆ | | 15.50.022.15.0 | |
| | CNGN 12 07 12 T01020 | RST 330 | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | | | | ◆ | ◆ | ◆ | | 15.50.023.15.0 |
|  RCGX 06 06 | RCGX 06 06 00 T01020 | RST 330 | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | | | | ◆ | ◆ | ◆ | | 15.42.331.15.0 | |
| | RCGX 06 06 00 S01020 | RST 330 | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | | | | ◆ | ◆ | ◆ | | 15.42.331.18.0 |
|  RCGX 09 07 00 | RCGX 09 07 00 T01020 | RST 330 | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | | | | ◆ | ◆ | ◆ | | 15.42.103.15.0 |
|  RCGX 12 07 | RCGX 12 07 00 T01020 | RST 330 | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | | | | ◆ | ◆ | ◆ | | 15.42.104.15.0 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  RNGN 12 07 | RNGN 12 07 00 S01020 | RST 330 | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | | | | ◆ | ◆ | ◆ | | 15.40.002.18.0 |
| | RNGN 12 07 00 T01020 | RST 330 | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | | | | ◆ | ◆ | ◆ | |
|  RPGX 06 04 | RPGX 06 04 00 T01020 | RST 330 | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | | | | ◆ | ◆ | ◆ | | 15.42.341.15.0 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  RPGX 09 07 | RPGX 09 07 00 T01020 | RST 330 | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | | | | ◆ | ◆ | ◆ | | 15.42.340.15.0 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  RPGX 12 07 | RPGX 12 07 00 T01020 | RST 330 | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ | | | | | ◆ | ◆ | ◆ | | 15.42.337.15.0 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

ISO Anwendungsgruppe

K ■ Gusseisen
H ■ Harte Werkstoffe
S ■ HSRA
P ■ Stahl
Hauptanwendung ◆
Nebenanwendung ◆

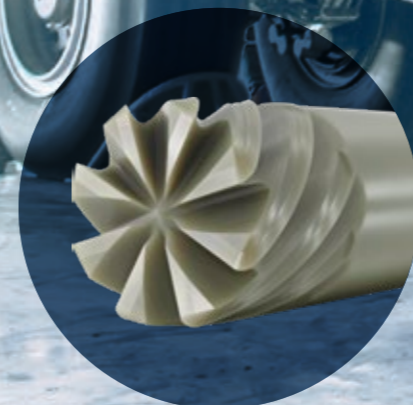


Fräsen von HRSA Materialien

Frässysteme

Plan- und Konturfräsen, Rampen- sowie Helixfräsen mit hohen Abtragsleistungen – dafür sind unsere Frässysteme geschaffen.

Mit unseren Schaftfräsern, Aufschraub- und Aufsteckfräsern haben wir für jede Fräsaufgabe die passende Lösung.



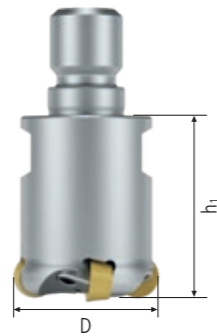
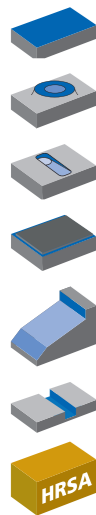
Aufschraubfräser PFKRP

Schruppen

6.3/



$v_c = 600 - 1000 \text{ m/min}$ $f_z = 0,08 - 0,18 \text{ mm}$
 a_p für $\varnothing 20 \text{ mm} = 0,3 - 2,5 \text{ mm}$
 a_p für $\varnothing \geq 25 \text{ mm} = 0,3 - 4,0 \text{ mm}$



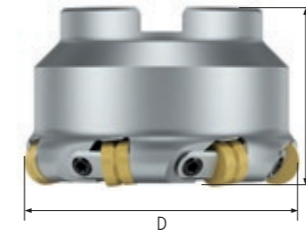
Planfräser PFKSRN

Schruppen

6.3/



$v_c = 600 - 1000 \text{ m/min}$ $f_z = 0,08 - 0,18 \text{ mm}$
 $a_p = 0,50 - 5 \text{ mm}$



| Typ | SPK-Best. Nr. | Abmessungen (mm) | | | |
|------------------------|---------------|------------------|---|----------------|---------------------------------------|
| | | D | t | h ₁ | n _{max} (min ⁻¹) |
| PFK-020-03RP0600R-EMCL | 771.30.000.51 | 20 | 3 | 30 | 30000 |
| PFK-025-03RP0900R-EMCL | 771.30.000.61 | 25 | 3 | 35 | 23000 |
| PFK-032-04RP0900R-EMCL | 771.30.000.71 | 32 | 4 | 40 | 23000 |
| PFK-040-05RP0900R-EMCL | 771.30.000.81 | 40 | 5 | 40 | 8000 |

| Typ | SPK-Best. Nr. | Abmessungen (mm) | | | |
|-----------------------|---------------|------------------|---|----------------|---------------------------------------|
| | | D | t | h ₁ | n _{max} (min ⁻¹) |
| PFKS-050-04RN1200R-AM | 771.00.068.21 | 50 | 4 | 40 | 18000 |
| PFKS-063-05RN1200R-AM | 771.00.068.31 | 63 | 5 | 40 | 13000 |
| PFKS-080-07RN1200R-AM | 771.00.068.41 | 80 | 7 | 50 | 10000 |
| PFKS-100-09RN1200R-AM | 771.00.068.51 | 100 | 9 | 50 | 8000 |

| SCHNEIDPLATTE | BEZEICHNUNG | SORTE | K | | | | | | | | | | H | S | P | SPK-BEST. NR. | | |
|-------------------|----------------------|---------|-----|---|---|-----|---|---|-----|--------|---|-----|---|---|---|---------------|---|----------------|
| | | | GJL | | | GJS | | | ADI | SI GJS | | GJV | | | | | | |
| RPGN 06 03 T00520 | RPGN 06 03 00 T00520 | LKM 840 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 23.42.334.03.2 |
| RPGN 09 04 T00520 | RPGN 09 04 00 T00520 | LKM 840 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 23.42.054.03.2 |

| SCHNEIDPLATTE | BEZEICHNUNG | SORTE | K | | | | | | | | | | H | S | P | SPK-BEST. NR. | | |
|----------------------|----------------------|---------|-----|---|---|-----|---|---|-----|--------|---|-----|---|---|---|---------------|---|----------------|
| | | | GJL | | | GJS | | | ADI | SI GJS | | GJV | | | | | | |
| RNCX 12 07 00 T01020 | RNCX 12 07 00 T01020 | LKM 840 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 23.40.196.20.2 |

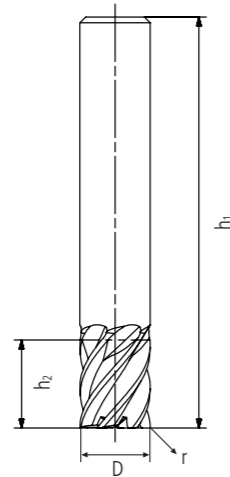
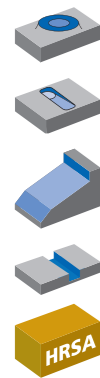
Schaftfräser **LSM800**

Schrupp-Schichten

6,3 / 3,2



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



| Typ | SPK-Best. Nr. | Abmessungen (mm) | | | | |
|--------------------------|-----------------|------------------|---|------|----------------|----------------|
| | | D | z | r | h ₁ | h ₂ |
| 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 |



Bezeichnungssystem
Schaftfräser

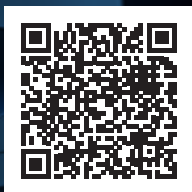
| | | | | | | | | | |
|--|--|--|--|--|----------|----------|----------|----------|-----------|
| CT Schaftfräser | S Sonder - Standard | L Links R Rechts | E 93 mm D 83 mm C 70 mm B 65 mm A 60 mm | 12 R 1,2 mm 20 R 2,0 mm 25 R 2,5 mm | | | | | |
| Bezeichnung | Platzhalter | Drehrichtung | Gesamtlänge h₁ | Eckradius r | | | | | |
| CT | E | - | 0800 | Z06 | R | - | A | B | 12 |
| Fräser Typ | Nenn Durchmesser D | Zähnezahl z | Schneidenlänge h₂ | | | | | | |
| E Schaftfräser Keramik Solid | 0600 6 mm 0800 8 mm | Z02 2 Zähne Z03 3 Zähne | A 4,5 mm B 6,5 mm | | | | | | |
| F Schaftfräser Keramik Compound | 1000 10 mm 1200 12 mm | Z04 4 Zähne | C 7,5 mm D 9 mm | | | | | | |
| G Schaftfräser CBN Compound | 1600 16 mm 2000 20 mm | Z20 20 Zähne | E 14 mm F 16 mm G 19,5 mm | | | | | | |

CeramTec

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