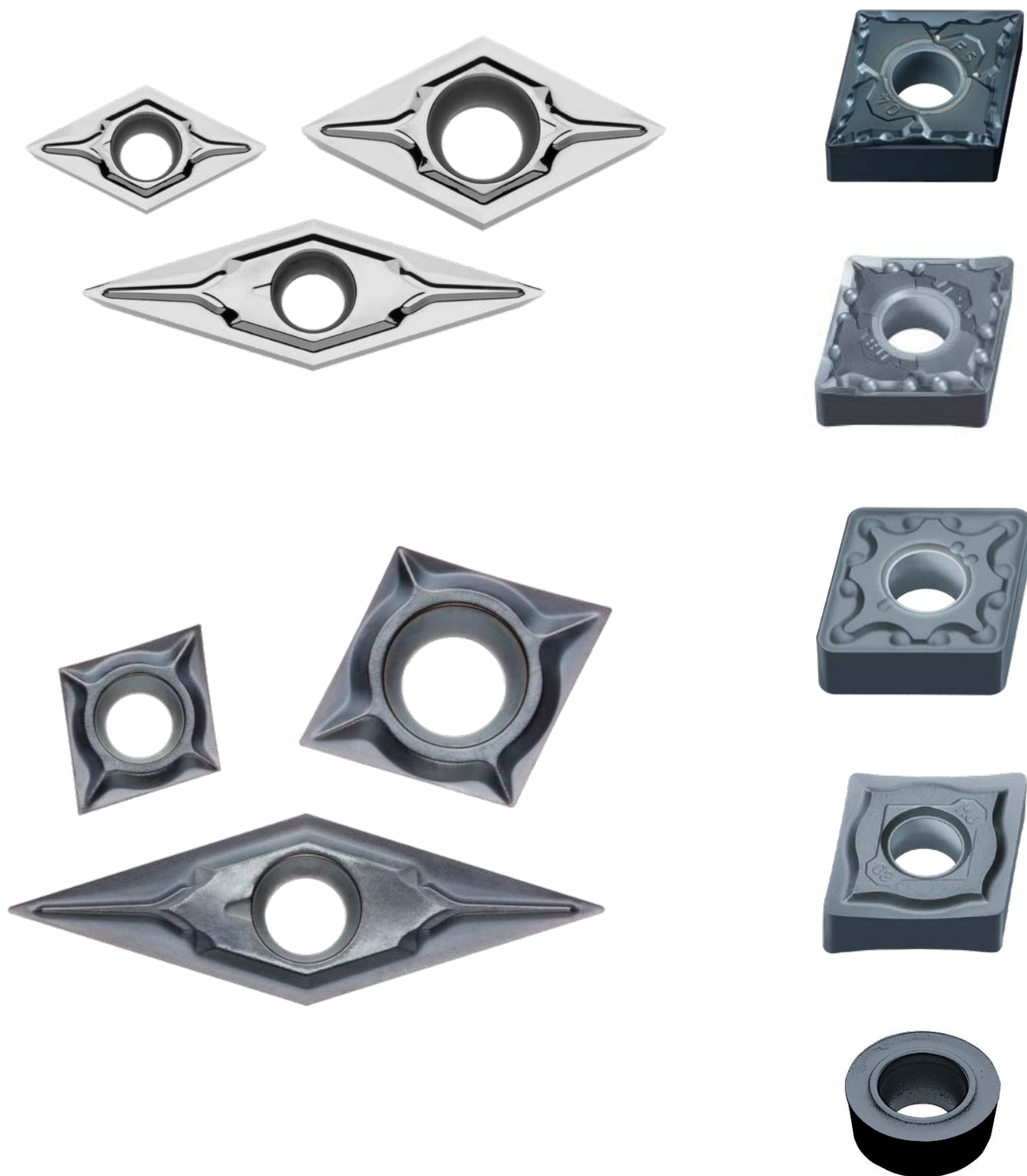


MP / MT9000

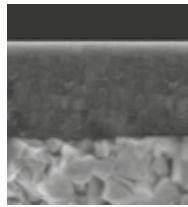
ISO-DREH-WSP

FÜR SCHWER ZU BEARBEITENDE WERKSTOFFE



MP9005 / MP9015 / MP9025

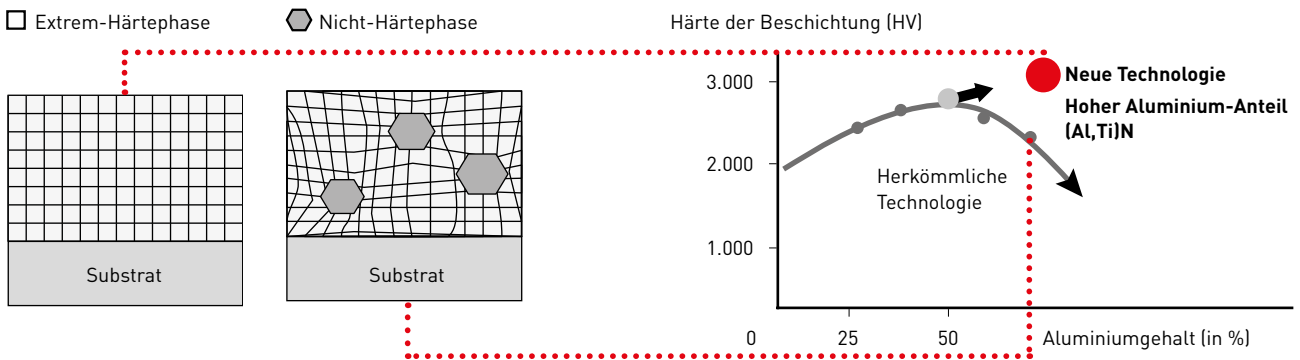
PVD-BESCHICHTETE SORTE ZUM DREHEN



..... (Al,Ti)N-Monolayer-Beschichtung mit hohem Aluminiumanteil
 Spezielles Hartmetallsubstrat

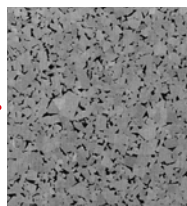
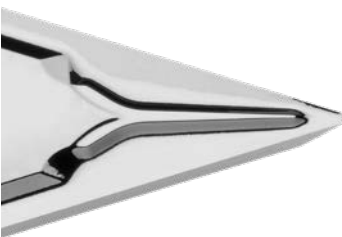
VERGLEICH DER BESCHICHTUNG MIT HOHEM ALUMINIUMANTEIL UND EINER HERKÖMLICHEN BESCHICHTUNG

Die neue Technologie der (Al, Ti)N-Monolayer-Beschichtung mit hohem Aluminiumanteil bewirkt eine Stabilisierung der Härtingsphase und verbessert dadurch Verschleiß-, Kolkverschleiß- und Aufschweißwiderstand erheblich.



MT9005 / MT9015

HARTMETALLSORTE (UNBESCHICHTET)



MT9015

| ISO | Sorte | Konzept | Anwendung |
|-----|-------|---|--|
| S | S05 | MP9005/ MT9005 Erstklassige Sorte mit hohem Verschleißwiderstand | Hitzebeständige Legierung Schlichtbearbeitung - mittlere Zerspanung |
| | S10 | MP9015 Erste Wahl für allgemeine Anwendungen | Hitzebeständige Legierung Mittlere Zerspanung - Schruppzerspanung |
| | S15 | MP9025 Verhinderung von Ausbrüchen zur Erhöhung der Stabilität | Hitzebeständige Legierungen Unterbrochen/Leicht/Schruppbearbeitung |
| | | MT9015 Neues Hartmetall mit scharfer Schneidkante und ausgezeichneter Verschleiß- und Bruchfestigkeit | Titanlegierung Allgemeine Zerspanung |

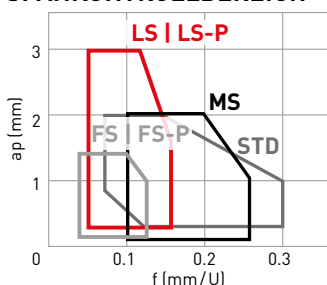
| ISO | PVD | |
|-----|-----|----------------|
| S | S01 | MP9005, MT9005 |
| | S10 | MP9015, MT9015 |
| | S20 | MP9025, MT9015 |
| | S30 | MP9025 |
| | | MP9005, MT9005 |

SPANBRECHERSYSTEM



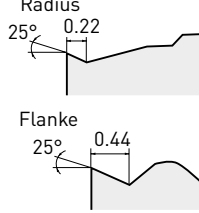

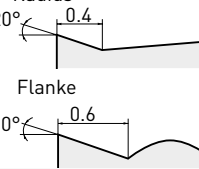

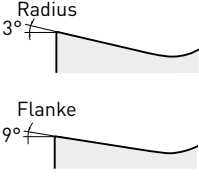

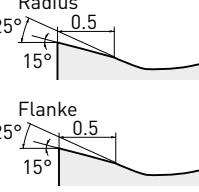

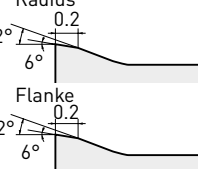
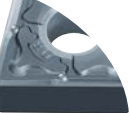
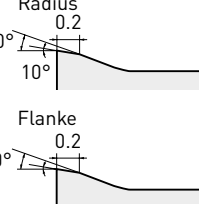
POSITIVE WSP / POSITIVE PRÄZISIONS-WSP

| Toleranz | | Eigenschaften | Querschnitt Geometrie |
|----------------------------|--|---|---------------------------------|
| ENDBEARBEITUNG | | | |
| G | FS  | POSITIVE WSP ERSTE EMPFEHLUNG FÜR DAS SCHLICHTEN VON SCHWER ZERSPANBAREN WERKSTOFFEN Ideal für hitzebeständige Titanlegierungen und Kobalt-Chromlegierungen. Scharfe Schneidkanten sorgen für hervorragende Oberflächenqualität und Formtoleranz. Hocheffiziente Spanabfuhr dank geschwungener Schneidkanten. | Radius 14° Flanke 9° |
| | FS-P  | POSITIVE WSP ERSTE EMPFEHLUNG FÜR DAS SCHLICHTEN VON TITANLEGIERUNGEN Ideal für Titan- und Kupferlegierungen. Scharfe Schneidkanten sorgen für hervorragende Oberflächenqualität und Formtoleranz. Hocheffiziente Spanabfuhr dank geschwungener Schneidkanten. Polierte Hochglanzoberflächen der WSP verbessern den Schweißwiderstand enorm und verlängern die Werkzeugstandzeit. | Radius 14° Flanke 9° |
| LEICHTZERSPANUNG | | | |
| M | LS  | POSITIVE WSP / POSITIVE PRÄZISIONS-WSP ERSTE EMPFEHLUNG FÜR DIE LEICHTE ZERSPANUNG SCHWER ZERSPANBARER WERKSTOFFE Ideal für hitzebeständige Materialien, Titanlegierungen und Kobalt-Chromlegierungen. Ausgezeichnete Spankontrolle bei geringen bis mittleren Schnitttiefen. | Radius 18° Flanke 8° |
| | LS-P  | POSITIVE WSP ERSTE EMPFEHLUNG FÜR DIE LEICHTE ZERSPANUNG VON TITANLEGIERUNGEN Ideal für Titan- und Kupferlegierungen. Ausgezeichnete Spankontrolle bei geringen bis mittleren Schnitttiefen. Polierte Hochglanzoberflächen der WSP verbessern die Aufbauschneidenbildung enorm und verlängern die Werkzeugstandzeit. | Radius 12° Flanke 6° |
| MITTLERE ZERSPANUNG | | | |
| M | MS  | POSITIVE PRÄZISIONS-WSP ERSTE EMPFEHLUNG FÜR DIE MITTLERE ZERSPANUNG SCHWER ZERSPANBARER WERKSTOFFE Der breite Spanbrecher kann Schwankungen beim Schnittwiderstand bewältigen und verhindert Vibrationen und Spanstau auch bei stark variierenden Schnitttiefen. | Radius 18° Flanke 18° 0.1 |
| | STD  | POSITIVE WSP ERSTE EMPFEHLUNG FÜR DIE MITTLERE ZERSPANUNG SCHWER ZERSPANBARER WERKSTOFFE Gute Balance zwischen Schneidkantenschärfe und Stabilität. | Radius 15° Flanke 15° |

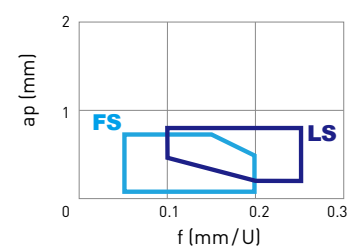
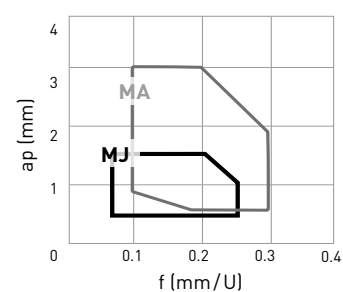
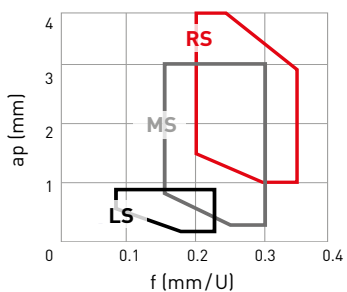
SPANKONTROLLBEREICH



SPANBRECHERSYSTEM – NEGATIVE WSP / POSITIVE PRÄZISIONS-WSP

| Toleranz |  | Eigenschaften | Querschnitt Geometrie |
|----------------------------|--|--|---|
| ENDBEARBEITUNG | | | |
| M |  <p>FS</p> | <p>NEW <i>NEGATIVE PRÄZISIONS-WSP</i> ERSTE EMPFEHLUNG FÜR DAS SCHLICHTEN VON SCHWER ZERSPANBAREN WERKSTOFFEN Hervorragender Spanbruch auch bei sehr geringen Schnitttiefen. Durch den großen Spanwinkel und die hohe Präzisionsklasse ergibt sich eine ausgezeichnete Schärfe.</p> |  <p>Radius 0.22 25° Flanke 0.44 25°</p> |
| LEICHTZERSPANUNG | | | |
| M |  <p>LS</p> | <p>NEW <i>NEGATIVE PRÄZISIONS-WSP</i> ERSTE EMPFEHLUNG FÜR DIE LEICHTZERSPANUNG VON SCHWER ZERSPANBAREN WERKSTOFFEN Geometrie mit hoher Schärfe für eine verbesserte Spanabfuhr. Ideal für Bearbeitungen mit kleinen Schnitttiefen.</p> |  <p>Radius 0.4 20° Flanke 0.6 20°</p> |
| M |  <p>MJ</p> | <p><i>NEGATIVE WSP</i> ERSTE EMPFEHLUNG FÜR DIE LEICHTZERSPANUNG VON SCHWER ZERSPANBAREN WERKSTOFFEN Doppelseitiger Spanbrecher, einseitiger Spanbrecher (WSP in D/V-Ausführung). Die scharfe Schneidkante sorgt für eine gute Oberflächengüte. Ideal für warmfeste Legierungen und Titanlegierungen. Die geschwungene Schneidkante ermöglicht einen weichen Schnitt.</p> |  <p>Radius 13° Flanke 9°</p> |
| MITTLERE ZERSPANUNG | | | |
| M |  <p>MS</p> | <p><i>NEGATIVE WSP</i> ERSTE EMPFEHLUNG FÜR DIE MITTLERE ZERSPANUNG VON SCHWER ZERSPANBAREN WERKSTOFFEN Doppelseitiger Spanbrecher. Scharfe Schneidkante ermöglicht einen weichen Schnitt.</p> |  <p>Radius 0.5 25° 15° Flanke 0.5 25° 15°</p> |
| M |  <p>MA</p> | <p><i>NEGATIVE WSP</i> ALLROUNDER-GEOMETRIE ZUR MITTLEREN ZERSPANUNG VON SCHWER ZERSPANBAREN WERKSTOFFEN Doppelseitiger Spanbrecher. Positive Primärfase ermöglicht einen weichen Schneidvorgang.</p> |  <p>Radius 0.2 22° 6° Flanke 0.2 22° 6°</p> |
| SCHRUPPZERSPANUNG | | | |
| M |  <p>RS</p> | <p><i>NEGATIVE WSP</i> ERSTE EMPFEHLUNG FÜR DIE SCHRUPPZERSPANUNG VON SCHWER ZERSPANBAREN WERKSTOFFEN Doppelseitiger Spanbrecher. Hohe Schneidkantenstabilität für eine prozesssichere Bearbeitung.</p> |  <p>Radius 0.2 20° 10° Flanke 0.2 20°</p> |

SPANKONTROLLBEREICH



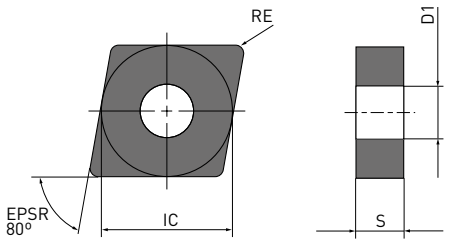
CNGG, DNGG

NEGATIVE WSP (MIT BOHRUNG)

S

G-Toleranz

CNGG



SPANBRECHER-IDENTIFIKATION

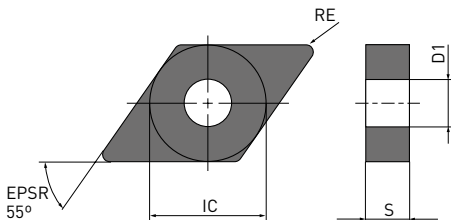
ANWENDUNG





LS

FS

DNGG



| Bestellnummer |   | MP9005 | MP9015 | MP9025 | MT9015 | IC | S | RE | D1 |
|---------------|---|--------|--------|--------|--------|------|------|------|------|
| CNGG1204V5-FS | F | ● | ● | | ★ | 12.7 | 4.76 | 0.05 | 5.16 |
| CNGG120401-FS | F | ● | ● | ● | ★ | 12.7 | 4.76 | 0.1 | 5.16 |
| CNGG120402-FS | F | ● | ● | ● | ★ | 12.7 | 4.76 | 0.2 | 5.16 |
| CNGG120404-FS | F | ● | ● | ● | ★ | 12.7 | 4.76 | 0.4 | 5.16 |
| CNGG120408-FS | F | ● | ● | ● | ★ | 12.7 | 4.76 | 0.8 | 5.16 |
| CNGG120402-LS | L | ● | ● | ● | ★ | 12.7 | 4.76 | 0.2 | 5.16 |
| CNGG120404-LS | L | ● | ● | ● | ★ | 12.7 | 4.76 | 0.4 | 5.16 |
| CNGG120408-LS | L | ● | ● | ● | ★ | 12.7 | 4.76 | 0.8 | 5.16 |
| DNGG150402-FS | F | ● | ● | ● | ★ | 12.7 | 4.76 | 0.2 | 5.16 |
| DNGG150404-FS | F | ● | ● | ● | ★ | 12.7 | 4.76 | 0.4 | 5.16 |
| DNGG150408-FS | F | ● | ● | ● | ★ | 12.7 | 4.76 | 0.8 | 5.16 |
| DNGG150604-FS | F | ● | ● | ● | ★ | 12.7 | 6.35 | 0.4 | 5.16 |
| DNGG150608-FS | F | ● | ● | ● | ★ | 12.7 | 6.35 | 0.8 | 5.16 |
| DNGG150402-LS | L | ● | ● | ● | ★ | 12.7 | 4.76 | 0.2 | 5.16 |
| DNGG150404-LS | L | ● | ● | ● | ★ | 12.7 | 4.76 | 0.4 | 5.16 |
| DNGG150408-LS | L | ● | ● | ● | ★ | 12.7 | 4.76 | 0.8 | 5.16 |
| DNGG150604-LS | L | ● | ● | ● | ★ | 12.7 | 6.35 | 0.4 | 5.16 |
| DNGG150608-LS | L | ● | ● | ● | ★ | 12.7 | 6.35 | 0.8 | 5.16 |

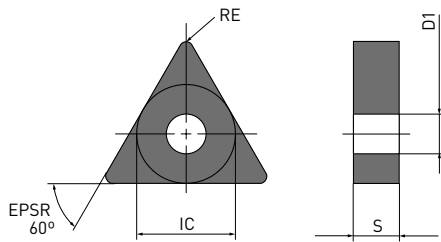
TNGG, VNGG

NEGATIVE WSP (MIT BOHRUNG)

S

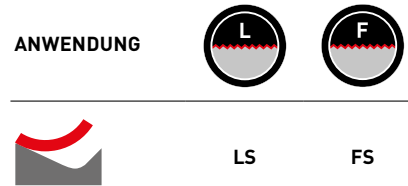
G-Toleranz

TNGG

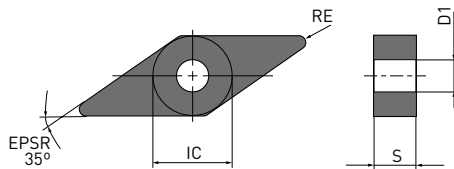




SPANBRECHER-IDENTIFIKATION

ANWENDUNG



VNGG



| Bestellnummer |   | MP9005 | MP9015 | MP9025 | MT9015 | IC | S | RE | D1 |
|---------------|---|--------|--------|--------|--------|-------|------|------|------|
| TNGG160402-FS | F | ● | ● | ● | ★ | 9.525 | 4.76 | 0.2 | 3.81 |
| TNGG160404-FS | F | ● | ● | ● | ★ | 9.525 | 4.76 | 0.4 | 3.81 |
| TNGG160408-FS | F | ● | ● | ● | ★ | 9.525 | 4.76 | 0.8 | 3.81 |
| TNGG160402-LS | L | ● | ● | ● | ★ | 9.525 | 4.76 | 0.2 | 3.81 |
| TNGG160404-LS | L | ● | ● | ● | ★ | 9.525 | 4.76 | 0.4 | 3.81 |
| TNGG160408-LS | L | ● | ● | ● | ★ | 9.525 | 4.76 | 0.8 | 3.81 |
| VNGG1604V5-FS | F | ● | ● | | ★ | 9.525 | 4.76 | 0.05 | 3.81 |
| VNGG160401-FS | F | ● | ● | ● | ★ | 9.525 | 4.76 | 0.1 | 3.81 |
| VNGG160402-FS | F | ● | ● | ● | ★ | 9.525 | 4.76 | 0.2 | 3.81 |
| VNGG160404-FS | F | ● | ● | ● | ★ | 9.525 | 4.76 | 0.4 | 3.81 |
| VNGG160408-FS | F | ● | ● | ● | ★ | 9.525 | 4.76 | 0.8 | 3.81 |
| VNGG160402-LS | L | ● | ● | ● | ★ | 9.525 | 4.76 | 0.2 | 3.81 |
| VNGG160404-LS | L | ● | ● | ● | ★ | 9.525 | 4.76 | 0.4 | 3.81 |
| VNGG160408-LS | L | ● | ● | ● | ★ | 9.525 | 4.76 | 0.8 | 3.81 |

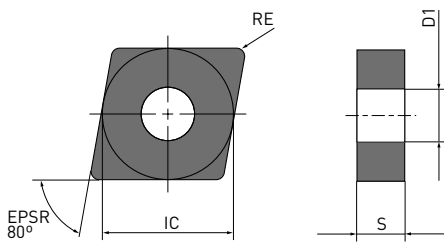
CNMG

NEGATIVE WSP (MIT BOHRUNG)

S

M-Toleranz

CNMG



SPANBRECHER-IDENTIFIKATION

ANWENDUNG



LS

MA, MJ, MS

RS

| Bestellnummer | L M | | MP9005 | MP9015 | MP9025 | MT9015 | IC | S | RE | D1 |
|---------------|-----|--|--------|--------|--------|--------|--------|------|-----|------|
| | R | | | | | | | | | |
| CNMG090304-LS | L | | ● | ● | ● | | 9.525 | 3.18 | 0.4 | 3.81 |
| CNMG090308-LS | L | | ● | ● | ● | | 9.525 | 3.18 | 0.8 | 3.81 |
| CNMG120402-LS | L | | ● | ● | ● | ● | 12.7 | 4.76 | 0.2 | 5.16 |
| CNMG120404-LS | L | | ● | ● | ● | ● | 12.7 | 4.76 | 0.4 | 5.16 |
| CNMG120408-LS | L | | ● | ● | ● | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| CNMG090304-MS | M | | ● | ● | ● | | 9.525 | 3.18 | 0.4 | 3.81 |
| CNMG090308-MS | M | | ● | ● | ● | | 9.525 | 3.18 | 0.8 | 3.81 |
| CNMG120404-MS | M | | ● | ● | ● | ● | 12.7 | 4.76 | 0.4 | 5.16 |
| CNMG120408-MS | M | | ● | ● | ● | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| CNMG120412-MS | M | | ● | ● | ● | ● | 12.7 | 4.76 | 1.2 | 5.16 |
| CNMG160612-MS | M | | ★ | ★ | ● | ★ | 15.875 | 6.35 | 1.2 | 6.35 |
| CNMG160616-MS | M | | ★ | ★ | ● | ★ | 15.875 | 6.35 | 1.6 | 6.35 |
| CNMG120404-MA | M | | | ● | ● | | 12.7 | 4.76 | 0.4 | 5.16 |
| CNMG120408-MA | M | | | ● | ● | | 12.7 | 4.76 | 0.8 | 5.16 |
| CNMG120412-MA | M | | | ● | ● | | 12.7 | 4.76 | 1.2 | 5.16 |
| CNMG120416-MA | M | | | ● | ● | | 12.7 | 4.76 | 1.6 | 5.16 |
| CNMG120404-MJ | M | | ● | ● | | | 12.7 | 4.76 | 0.4 | 5.16 |
| CNMG120408-MJ | M | | ● | ● | | | 12.7 | 4.76 | 0.8 | 5.16 |
| CNMG120412-MJ | M | | ● | ● | | | 12.7 | 4.76 | 1.2 | 5.16 |
| CNMG120416-MJ | M | | ● | ● | | | 12.7 | 4.76 | 1.6 | 5.16 |
| CNMG120408-RS | R | | | ● | ● | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| CNMG120412-RS | R | | | ● | ● | ● | 12.7 | 4.76 | 1.2 | 5.16 |
| CNMG120416-RS | R | | | ● | ● | ★ | 12.7 | 4.76 | 1.6 | 5.16 |
| CNMG160612-RS | R | | | ● | ● | ★ | 15.875 | 6.35 | 1.2 | 6.35 |
| CNMG160616-RS | R | | | ● | ● | ★ | 15.875 | 6.35 | 1.6 | 6.35 |
| CNMG190612-RS | R | | | ● | ● | ★ | 19.05 | 6.35 | 1.2 | 7.93 |
| CNMG190616-RS | R | | | ● | ● | ★ | 19.05 | 6.35 | 1.6 | 7.93 |

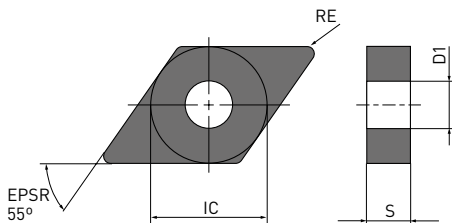
DNMG

NEGATIVE WSP (MIT BOHRUNG)

S

M-Toleranz

DNMG



SPANBRECHER-IDENTIFIKATION




ANWENDUNG



LS

MA, MJ, MS

RS

| Bestellnummer |   | | MP9005 | MP9015 | MP9025 | MT9015 | IC | S | RE | D1 |
|---------------|---|--|--------|--------|--------|--------|------|------|-----|------|
| |  | | | | | | | | | |
| DNMG150402-LS | L | | ● | ● | ● | ● | 12.7 | 4.76 | 0.2 | 5.16 |
| DNMG150404-LS | L | | ● | ● | ● | ● | 12.7 | 4.76 | 0.4 | 5.16 |
| DNMG150408-LS | L | | ● | ● | ● | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| DNMG150604-LS | L | | ● | ● | ● | ● | 12.7 | 6.35 | 0.4 | 5.16 |
| DNMG150608-LS | L | | ● | ● | ● | ● | 12.7 | 6.35 | 0.8 | 5.16 |
| DNMG150404-MS | M | | ● | ● | ● | ● | 12.7 | 4.76 | 0.4 | 5.16 |
| DNMG150408-MS | M | | ● | ● | ● | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| DNMG150412-MS | M | | ● | ● | ● | ★ | 12.7 | 4.76 | 1.2 | 5.16 |
| DNMG150604-MS | M | | ● | ● | ● | ● | 12.7 | 6.35 | 0.4 | 5.16 |
| DNMG150608-MS | M | | ● | ● | ● | ● | 12.7 | 6.35 | 0.8 | 5.16 |
| DNMG150612-MS | M | | ● | ● | ● | ★ | 12.7 | 6.35 | 1.2 | 5.16 |
| DNMG150404-MA | M | | | ● | ● | | 12.7 | 4.76 | 0.4 | 5.16 |
| DNMG150408-MA | M | | | ● | ● | | 12.7 | 4.76 | 0.8 | 5.16 |
| DNMG150412-MA | M | | | ● | ● | | 12.7 | 4.76 | 1.2 | 5.16 |
| DNMG150604-MA | M | | | ● | ● | | 12.7 | 6.35 | 0.4 | 5.16 |
| DNMG150608-MA | M | | | ● | ● | | 12.7 | 6.35 | 0.8 | 5.16 |
| DNMG150612-MA | M | | | ● | ● | | 12.7 | 6.35 | 1.2 | 5.16 |
| DNMG150404-MJ | M | | ● | ● | | | 12.7 | 4.76 | 0.4 | 5.16 |
| DNMG150408-MJ | M | | ● | ● | | | 12.7 | 4.76 | 0.8 | 5.16 |
| DNMG150412-MJ | M | | ● | ● | | | 12.7 | 4.76 | 1.2 | 5.16 |
| DNMG150416-MJ | M | | ● | ● | | | 12.7 | 4.76 | 1.6 | 5.16 |
| DNMG150604-MJ | M | | ● | ● | | | 12.7 | 6.35 | 0.4 | 5.16 |
| DNMG150608-MJ | M | | ● | ● | | | 12.7 | 6.35 | 0.8 | 5.16 |
| DNMG150612-MJ | M | | ● | ● | | | 12.7 | 6.35 | 1.2 | 5.16 |
| DNMG150616-MJ | M | | ● | ● | | | 12.7 | 6.35 | 1.6 | 5.16 |
| DNMG150408-RS | R | | | ● | ● | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| DNMG150412-RS | R | | | ● | ● | ● | 12.7 | 4.76 | 1.2 | 5.16 |
| DNMG150416-RS | R | | | ● | ● | ★ | 12.7 | 4.76 | 1.6 | 5.16 |
| DNMG150608-RS | R | | | ● | ● | ● | 12.7 | 6.35 | 0.8 | 5.16 |
| DNMG150612-RS | R | | | ● | ● | ● | 12.7 | 6.35 | 1.2 | 5.16 |
| DNMG150616-RS | R | | | ● | ● | ★ | 12.7 | 6.35 | 1.6 | 5.16 |

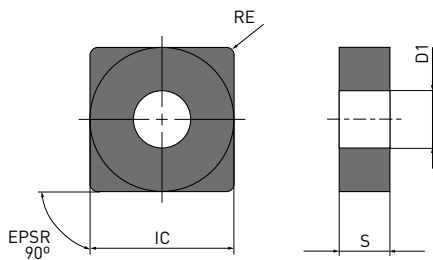
SNMG, TNMG

NEGATIVE WSP (MIT BOHRUNG)

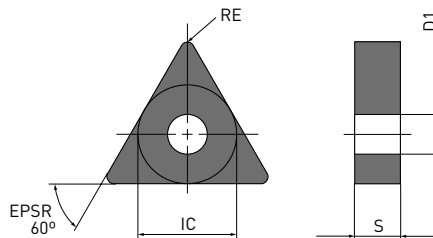
S

M-Toleranz

SNMG



TNMG



SPANBRECHER-IDENTIFIKATION

ANWENDUNG





LS

MA, MJ, MS

RS

| Bestellnummer | | | MP9005 | MP9015 | MP9025 | MT9015 | IC | S | RE | D1 |
|---------------|---|--|--------|--------|--------|--------|--------|------|-----|------|
| | | | | | | | | | | |
| SNMG120404-MS | M | | ● | ● | ● | ● | 12.7 | 4.76 | 0.4 | 5.16 |
| SNMG120408-MS | M | | ● | ● | ● | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| SNMG120412-MS | M | | ● | ● | ● | ★ | 12.7 | 4.76 | 1.2 | 5.16 |
| SNMG150612-MS | M | | ★ | ★ | ● | ★ | 15.875 | 6.35 | 1.2 | 6.35 |
| SNMG150616-MS | M | | ★ | ★ | ● | ★ | 15.875 | 6.35 | 1.6 | 6.35 |
| SNMG190612-MS | M | | ● | ● | ● | | 19.05 | 6.35 | 1.2 | 7.93 |
| SNMG120404-MA | M | | | ● | ● | | 12.7 | 4.76 | 0.4 | 5.16 |
| SNMG120408-MA | M | | | ● | ● | | 12.7 | 4.76 | 0.8 | 5.16 |
| SNMG120412-MA | M | | | ● | ● | | 12.7 | 4.76 | 1.2 | 5.16 |
| SNMG120416-MA | M | | | ● | ● | | 12.7 | 4.76 | 1.6 | 5.16 |
| SNMG120408-RS | R | | | ● | ● | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| SNMG120412-RS | R | | | ● | ● | ● | 12.7 | 4.76 | 1.2 | 5.16 |
| SNMG120416-RS | R | | | ● | ● | ★ | 12.7 | 4.76 | 1.6 | 5.16 |
| SNMG150616-RS | R | | | ★ | ● | ★ | 15.875 | 6.35 | 1.6 | 6.35 |
| SNMG190612-RS | R | | | ● | ● | | 19.05 | 6.35 | 1.2 | 7.93 |
| SNMG190616-RS | R | | | ★ | ● | ★ | 19.05 | 6.35 | 1.6 | 7.93 |

SNMG, TNMG – NEGATIVE WSP (MIT BOHRUNG)

| Bestellnummer |   | | MP9005 | MP9015 | MP9025 | MT9015 | IC | S | RE | D1 |
|---------------|--|---|--------|--------|--------|--------|--------|------|-----|------|
| | L | M | | | | | | | | |
| TNMG160402-LS | L | | ● | ● | ● | ● | 9.525 | 4.76 | 0.2 | 3.81 |
| TNMG160404-LS | L | | ● | ● | ● | ● | 9.525 | 4.76 | 0.4 | 3.81 |
| TNMG160408-LS | L | | ● | ● | ● | ● | 9.525 | 4.76 | 0.8 | 3.81 |
| TNMG160404-MS | M | | ● | ● | ● | ● | 9.525 | 4.76 | 0.4 | 3.81 |
| TNMG160408-MS | M | | ● | ● | ● | ● | 9.525 | 4.76 | 0.8 | 3.81 |
| TNMG160412-MS | M | | ● | ● | ● | ★ | 9.525 | 4.76 | 1.2 | 3.81 |
| TNMG220408-MS | M | | ● | ● | ● | ★ | 12.7 | 4.76 | 0.8 | 5.16 |
| TNMG220412-MS | M | | ● | ● | ● | ★ | 12.7 | 4.76 | 1.2 | 5.16 |
| TNMG160404-MA | M | | | ● | ● | | 9.525 | 4.76 | 0.4 | 3.81 |
| TNMG160408-MA | M | | | ● | ● | | 9.525 | 4.76 | 0.8 | 3.81 |
| TNMG160412-MA | M | | | ● | ● | | 9.525 | 4.76 | 1.2 | 3.81 |
| TNMG220408-MA | M | | | ● | ● | | 12.7 | 4.76 | 0.8 | 5.16 |
| TNMG220412-MA | M | | | ● | ● | | 12.7 | 4.76 | 1.2 | 5.16 |
| TNMG220416-MA | M | | | ● | ● | | 12.7 | 4.76 | 1.6 | 5.16 |
| TNMG270616-MA | M | | | ● | ● | | 15.875 | 6.35 | 1.6 | 6.35 |
| TNMG330924-MA | M | | | ● | ● | | 19.05 | 9.52 | 2.4 | 7.93 |
| TNMG160404-MJ | M | | ● | ● | | | 9.525 | 4.76 | 0.4 | 3.81 |
| TNMG160408-MJ | M | | ● | ● | | | 9.525 | 4.76 | 0.8 | 3.81 |
| TNMG160412-MJ | M | | ● | ● | | | 9.525 | 4.76 | 1.2 | 3.81 |
| TNMG160408-RS | R | | | ● | ● | ● | 9.525 | 4.76 | 0.8 | 3.81 |
| TNMG160412-RS | R | | | ● | ● | ● | 9.525 | 4.76 | 1.2 | 3.81 |
| TNMG220408-RS | R | | | ● | ● | ★ | 12.7 | 4.76 | 0.8 | 5.16 |
| TNMG220412-RS | R | | | ● | ● | ★ | 12.7 | 4.76 | 1.2 | 5.16 |

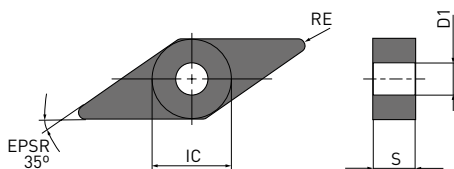
VNMG, WNMG

NEGATIVE WSP (MIT BOHRUNG)

S

M-Toleranz

VNMG



SPANBRECHER-IDENTIFIKATION

ANWENDUNG

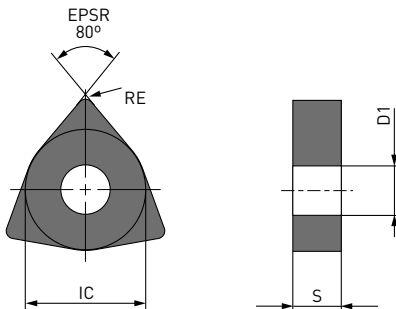


LS

MA, MJ, MS



RS

WNMG



| Bestellnummer | | | MP9005 | MP9015 | MP9025 | MT9015 | IC | S | RE | D1 |
|---------------|---|--|--------|--------|--------|--------|-------|------|-----|------|
| | | | | | | | | | | |
| VNMG160402-LS | L | | ● | ● | ● | ● | 9.525 | 4.76 | 0.2 | 3.81 |
| VNMG160404-LS | L | | ● | ● | ● | ● | 9.525 | 4.76 | 0.4 | 3.81 |
| VNMG160408-LS | L | | ● | ● | ● | ● | 9.525 | 4.76 | 0.8 | 3.81 |
| VNMG160404-MS | M | | ● | ● | ● | ● | 9.525 | 4.76 | 0.4 | 3.81 |
| VNMG160408-MS | M | | ● | ● | ● | ● | 9.525 | 4.76 | 0.8 | 3.81 |
| VNMG160404-MJ | M | | ● | ● | | | 9.525 | 4.76 | 0.4 | 3.81 |
| VNMG160408-MJ | M | | ● | ● | | | 9.525 | 4.76 | 0.8 | 3.81 |
| VNMG160412-MJ | M | | ● | ● | | | 9.525 | 4.76 | 1.2 | 3.81 |

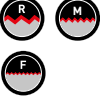
VNMG, WNMG - NEGATIVE WSP (MIT BOHRUNG)

| Bestellnummer |   | | MP9005 | MP9015 | MP9025 | MT9015 | IC | S | RE | D1 |
|---------------|--|---|--------|--------|--------|--------|--------|------|-----|------|
| | L | M | | | | | | | | |
| WNMG080402-LS | L | | ● | ● | ● | ● | 12.7 | 4.76 | 0.2 | 5.16 |
| WNMG080404-LS | L | | ● | ● | ● | ● | 12.7 | 4.76 | 0.4 | 5.16 |
| WNMG080408-LS | L | | ● | ● | ● | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| WNMG080404-MS | M | | ● | ● | ● | ● | 12.7 | 4.76 | 0.4 | 5.16 |
| WNMG080408-MS | M | | ● | ● | ● | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| WNMG080412-MS | M | | ● | ● | ● | ★ | 12.7 | 4.76 | 1.2 | 5.16 |
| WNMG080404-MA | M | | | ● | ● | | 12.7 | 4.76 | 0.4 | 5.16 |
| WNMG080408-MA | M | | | ● | ● | | 12.7 | 4.76 | 0.8 | 5.16 |
| WNMG080412-MA | M | | | ● | ● | | 12.7 | 4.76 | 1.2 | 5.16 |
| WNMG080416-MA | M | | | ● | ● | | 12.7 | 4.76 | 1.6 | 5.16 |
| WNMG080408-MJ | M | | ● | ● | | | 12.7 | 4.76 | 0.8 | 5.16 |
| WNMG080412-MJ | M | | ● | ● | | | 12.7 | 4.76 | 1.2 | 5.16 |
| WNMG080416-MJ | M | | ● | ● | | | 12.7 | 4.76 | 1.6 | 5.16 |
| WNMG080408-RS | R | | | ● | ● | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| WNMG080412-RS | R | | | ● | ● | ● | 12.7 | 4.76 | 1.2 | 5.16 |
| WNMG080416-RS | R | | | ● | ● | ★ | 12.7 | 4.76 | 1.6 | 5.16 |
| WNMG100612-RS | R | | | ● | ● | ★ | 15.875 | 6.35 | 1.2 | 6.35 |

MP / MT9000

SCHNITTDATENEMPFEHLUNGEN


NEGATIVE WSP

| Material | Schnitt- bedingungen |  | | Sorte | Vc | f | ap |
|--|-------------------------|---|----|--------|-----------|-------------|-----------|
| | | | | | | | |
| M PH rostfreier Stahl (DIN X5CrNiCuNb17-4) | ● | L | LS | MP9005 | 125 – 175 | 0.10 – 0.25 | 0.2 – 0.8 |
| | | M | MS | MP9005 | 115 – 160 | 0.10 – 0.25 | 0.5 – 4.0 |
| | | R | RS | MP9015 | 105 – 150 | 0.20 – 0.35 | 1.0 – 4.0 |
| | ● | L | LS | MP9015 | 120 – 165 | 0.10 – 0.25 | 0.2 – 0.8 |
| | | M | MS | MP9015 | 110 – 150 | 0.10 – 0.25 | 0.5 – 4.0 |
| | | R | RS | MP9015 | 100 – 140 | 0.20 – 0.35 | 1.0 – 4.0 |
| | ✚ | L | LS | MP9025 | 80 – 95 | 0.10 – 0.25 | 0.2 – 0.8 |
| | | M | MS | MP9025 | 75 – 90 | 0.16 – 0.50 | 0.5 – 4.0 |
| | | R | RS | MP9025 | 70 – 85 | 0.20 – 0.35 | 1.0 – 4.0 |
| Titanlegierung (Ti-6Al-4V) | ● | L | LS | MT9015 | 40 – 85 | 0.10 – 0.25 | 0.2 – 0.8 |
| | | M | MS | MT9015 | 40 – 80 | 0.10 – 0.25 | 0.5 – 4.0 |
| | | R | RS | MT9015 | 35 – 75 | 0.20 – 0.35 | 1.0 – 4.0 |
| | ● | L | LS | MT9015 | 40 – 85 | 0.10 – 0.25 | 0.2 – 0.8 |
| | | M | MS | MT9015 | 40 – 80 | 0.10 – 0.25 | 0.5 – 4.0 |
| | | R | RS | MT9015 | 35 – 75 | 0.20 – 0.35 | 1.0 – 4.0 |
| S Hitzebeständige Nickelbasis-Legierung (Inconel [®] 718, Hastelloy [®] , WASPALLOY [®]) Legierung auf Kobaltbasis (Tribaloy [®] , Stellite [®]) | ● | L | LS | MP9005 | 30 – 110 | 0.10 – 0.25 | 0.2 – 0.8 |
| | | M | MS | MP9005 | 30 – 100 | 0.10 – 0.25 | 0.5 – 4.0 |
| | | R | RS | MP9015 | 20 – 75 | 0.20 – 0.35 | 1.0 – 4.0 |
| | ● | L | LS | MP9015 | 25 – 85 | 0.10 – 0.25 | 0.2 – 0.8 |
| | | M | MS | MP9015 | 25 – 80 | 0.10 – 0.25 | 0.5 – 4.0 |
| | | R | RS | MP9015 | 20 – 75 | 0.20 – 0.35 | 1.0 – 4.0 |
| | ✚ | L | LS | MP9025 | 20 – 30 | 0.10 – 0.25 | 0.2 – 0.8 |
| | | M | MS | MP9025 | 20 – 30 | 0.10 – 0.25 | 0.5 – 4.0 |
| | | R | RS | MP9025 | 20 – 30 | 0.20 – 0.35 | 1.0 – 4.0 |

- Bei instabiler Bearbeitung folgen Sie bitte der Empfehlung auf Seite 4 bezüglich Spanbrecher und Hartmetallsorte.
- Passen Sie die empfohlenen Schnittbedingungen für die Bohrstanze an, da diese bei der Innenbearbeitung von der Länge des Überhangs abhängen.
- Die Hartmetallsorten MC7015, MC7025 und MP7035 sind ebenfalls zur Bearbeitung von PH-Stählen geeignet.

NEW

NEGATIVE PRÄZISIONS-WSP

| Material | Schnitt- bedingungen |  | | Sorte | Vc | f | ap |
|--|-------------------------|---|----|--------|----------|-------------|-----------|
| | | | | | | | |
| Titanlegierung (Ti-6Al-4V) | ● | F | FS | MT9015 | 45 – 95 | 0.05 – 0.20 | 0.1 – 0.7 |
| | | L | LS | MT9015 | 40 – 85 | 0.10 – 0.25 | 0.2 – 0.8 |
| | ● | F | FS | MT9015 | 45 – 95 | 0.05 – 0.20 | 0.1 – 0.7 |
| | | L | LS | MT9015 | 40 – 85 | 0.10 – 0.25 | 0.2 – 0.8 |
| | ✚ | F | FS | MT9015 | 45 – 95 | 0.05 – 0.20 | 0.1 – 0.7 |
| | | L | LS | MT9015 | 40 – 85 | 0.10 – 0.25 | 0.2 – 0.8 |
| S Hitzebeständige Nickelbasis-Legierung (Inconel [®] 718, Hastelloy [®] , WASPALLOY [®]) Legierung auf Kobaltbasis (Tribaloy [®] , Stellite [®]) | ● | F | FS | MP9005 | 60 – 120 | 0.05 – 0.20 | 0.1 – 0.7 |
| | | L | LS | MP9005 | 55 – 110 | 0.10 – 0.25 | 0.2 – 0.8 |
| | ● | F | FS | MP9015 | 45 – 95 | 0.05 – 0.20 | 0.1 – 0.7 |
| | | L | LS | MP9015 | 40 – 85 | 0.10 – 0.25 | 0.2 – 0.8 |
| | ✚ | F | FS | MP9025 | 35 – 50 | 0.05 – 0.20 | 0.1 – 0.7 |
| | | L | LS | MP9025 | 30 – 45 | 0.10 – 0.25 | 0.2 – 0.8 |

Schnittbedingungen: ●: Stabile Bearbeitung ●: Allgemeine Zerspanung ✚: Instabile Bearbeitung

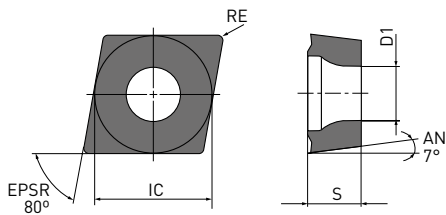
CCMT, DCMT, SCMT

7° POSITIVE WSP (MIT BOHRUNG)

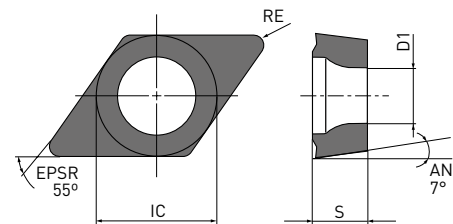
S

M-Toleranz

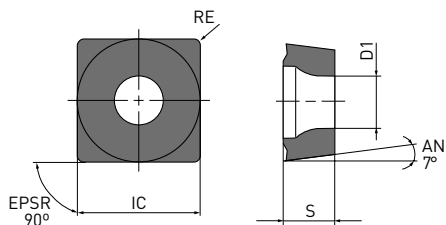
CCMT



DCMT



SCMT





SPANBRECHER-IDENTIFIKATION

ANWENDUNG




LS

MS

| Bestellnummer |   | MP9005 | MP9015 | MP9025 | MT9005 | IC | S | RE | D1 |
|---------------|---|--------|--------|--------|--------|-------|------|-----|-----|
| CCMT060202-LS | L | ● | ● | ● | ● | 6.35 | 2.38 | 0.2 | 2.8 |
| CCMT060204-LS | L | ● | ● | ● | ● | 6.35 | 2.38 | 0.4 | 2.8 |
| CCMT060202-MS | M | ● | ● | ● | ● | 6.35 | 2.38 | 0.2 | 2.8 |
| CCMT060204-MS | M | ● | ● | ● | ● | 6.35 | 2.38 | 0.4 | 2.8 |
| CCMT060208-MS | M | ● | ● | ● | ● | 6.35 | 2.38 | 0.8 | 2.8 |
| CCMT09T302-LS | L | ● | ● | ● | ● | 9.525 | 3.97 | 0.2 | 4.4 |
| CCMT09T304-LS | L | ● | ● | ● | ● | 9.525 | 3.97 | 0.4 | 4.4 |
| CCMT09T308-LS | L | ● | ● | ● | ● | 9.525 | 3.97 | 0.8 | 4.4 |
| CCMT09T302-MS | M | ● | ● | ● | ● | 9.525 | 3.97 | 0.2 | 4.4 |
| CCMT09T304-MS | M | ● | ● | ● | ● | 9.525 | 3.97 | 0.4 | 4.4 |
| CCMT09T308-MS | M | ● | ● | ● | ● | 9.525 | 3.97 | 0.8 | 4.4 |
| CCMT120404-MS | M | ● | ● | ● | ● | 12.7 | 4.76 | 0.4 | 5.5 |
| CCMT120408-MS | M | ● | ● | ● | ● | 12.7 | 4.76 | 0.8 | 5.5 |
| CCMT120412-MS | M | ● | ● | ● | ● | 12.7 | 4.76 | 1.2 | 5.5 |

CCMT, DCMT, SCMT - 7° POSITIVE WSP (MIT BOHRUNG)

| Bestellnummer |  | | MP9005 | MP9015 | MP9025 | MT9005 | IC | S | RE | D1 |
|---------------|---|---|--------|--------|--------|--------|-------|------|-----|-----|
| | L | M | | | | | | | | |
| DCMT070202-LS | L | | ● | ● | ● | ● | 6.35 | 2.38 | 0.2 | 2.8 |
| DCMT070204-LS | L | | ● | ● | ● | ● | 6.35 | 2.38 | 0.4 | 2.8 |
| DCMT11T302-LS | L | | ● | ● | ● | ● | 9.525 | 3.97 | 0.2 | 4.4 |
| DCMT11T304-LS | L | | ● | ● | ● | ● | 9.525 | 3.97 | 0.4 | 4.4 |
| DCMT11T308-LS | L | | ● | ● | ● | ● | 9.525 | 3.97 | 0.8 | 4.4 |
| DCMT11T312-MS | M | | ● | ● | ● | ● | 9.525 | 3.97 | 1.2 | 4.4 |
| DCMT070204-MS | M | | ● | ● | ● | ● | 6.35 | 2.38 | 0.4 | 2.8 |
| DCMT070208-MS | M | | ● | ● | ● | ● | 6.35 | 2.38 | 0.8 | 2.8 |
| DCMT11T304-MS | M | | ● | ● | ● | ● | 9.525 | 3.97 | 0.4 | 4.4 |
| DCMT11T308-MS | M | | ● | ● | ● | ● | 9.525 | 3.97 | 0.8 | 4.4 |
| SCMT09T304-MS | M | | ● | ● | ● | ● | 9.525 | 3.97 | 0.4 | 4.4 |
| SCMT09T308-MS | M | | ● | ● | ● | ● | 9.525 | 3.97 | 0.8 | 4.4 |
| SCMT120404-MS | M | | ● | ● | ● | ● | 12.7 | 4.76 | 0.4 | 5.5 |
| SCMT120408-MS | M | | ● | ● | ● | ● | 12.7 | 4.76 | 0.8 | 5.5 |
| SCMT120412-MS | M | | ● | ● | ● | ● | 12.7 | 4.76 | 1.2 | 5.5 |

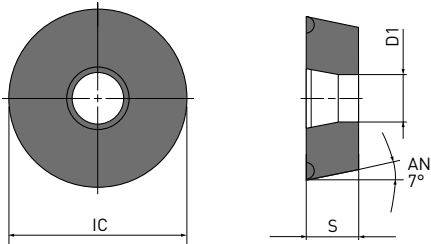
RCMT

7° POSITIVE WSP (MIT BOHRUNG)

S

M-Toleranz


RCMT


 SPANBRECHER-
IDENTIFIKATION

ANWENDUNG



STD

| Bestellnummer |  | MP9005 | MP9015 | MP9025 | MT9005 | MT9015 | IC | S | RE | D1 |
|---------------|---|--------|--------|--------|--------|--------|----|------|----|-----|
| RCMT0602M0 | M | ● | ● | ● | ● | ● | 6 | 2.38 | - | 2.8 |
| RCMT0803M0 | M | ● | ● | ● | ● | ● | 8 | 3.18 | - | 3.4 |
| RCMT10T3M0 | M | ● | ● | ● | ● | ● | 10 | 3.97 | - | 4.4 |
| RCMT1204M0 | M | ● | ● | ● | ● | ● | 12 | 4.76 | - | 4.4 |
| RCMT1606M0 | M | ● | ● | ● | ● | ● | 16 | 6.35 | - | 5.5 |

23 

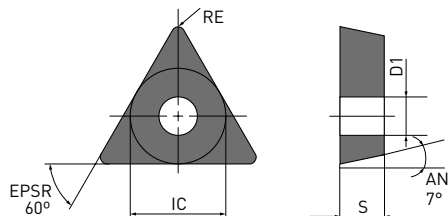
TCMT, VBMT, VCMT

5°/7° POSITIVE WSP (MIT BOHRUNG)

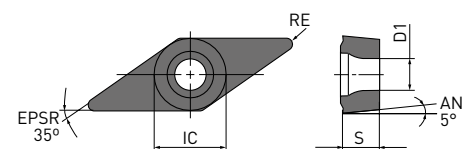
S

M-Toleranz

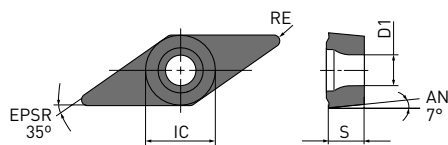
TCMT



VBMT



VCMT





SPANBRECHER-IDENTIFIKATION

ANWENDUNG





LS

MS

| Bestellnummer |   | MP9005 | MP9015 | MP9025 | MT9005 | IC | S | RE | D1 |
|---------------|---|--------|--------|--------|--------|-------|------|-----|------|
| TCMT090202-LS | L | ● | ● | ● | ● | 5.56 | 2.38 | 0.2 | 2.5 |
| TCMT090204-MS | M | ● | ● | ● | ● | 5.56 | 2.38 | 0.4 | 2.5 |
| TCMT090208-MS | M | ● | ● | ● | ● | 5.56 | 2.38 | 0.8 | 2.5 |
| TCMT110202-LS | L | ● | ● | ● | ● | 6.35 | 2.38 | 0.2 | 2.8 |
| TCMT110204-MS | M | ● | ● | ● | ● | 6.35 | 2.38 | 0.4 | 2.8 |
| TCMT110208-MS | M | ● | ● | ● | ● | 6.35 | 2.38 | 0.8 | 2.8 |
| TCMT16T304-MS | M | ● | ● | ● | ● | 9.525 | 3.97 | 0.4 | 4.4 |
| TCMT16T308-MS | M | ● | ● | ● | ● | 9.525 | 3.97 | 0.8 | 4.4 |
| TCMT16T312-MS | M | ● | ● | ● | ● | 9.525 | 3.97 | 1.2 | 4.4 |
| VBMT110302-LS | L | ● | ● | ● | ● | 6.35 | 3.18 | 0.2 | 2.85 |
| VBMT110304-LS | L | ● | ● | ● | ● | 6.35 | 3.18 | 0.4 | 2.85 |
| VBMT110308-LS | L | ● | ● | ● | ● | 6.35 | 3.18 | 0.8 | 2.85 |
| VBMT160404-LS | L | ● | ● | ● | ● | 9.525 | 4.76 | 0.4 | 4.4 |
| VBMT160408-LS | L | ● | ● | ● | ● | 9.525 | 4.76 | 0.8 | 4.4 |
| VBMT160402-MS | M | ● | ● | ● | ● | 9.525 | 4.76 | 0.2 | 4.43 |
| VBMT160404-MS | M | ● | ● | ● | ● | 9.525 | 4.76 | 0.4 | 4.4 |
| VBMT160408-MS | M | ● | ● | ● | ● | 9.525 | 4.76 | 0.8 | 4.4 |
| VBMT160412-MS | M | ● | ● | ● | ● | 9.525 | 4.76 | 1.2 | 4.43 |

TCMT, VBMT, VCMT - 5°/7° POSITIVE WSP (MIT BOHRUNG)

| Bestellnummer |   | MP9005 | MP9015 | MP9025 | MT9005 | IC | S | RE | D1 |
|---------------|---|--------|--------|--------|--------|-------|------|-----|-----|
| VCMT110302-LS | L | ● | ● | ● | ● | 6.35 | 3.18 | 0.2 | 2.8 |
| VCMT110304-LS | L | ● | ● | ● | ● | 6.35 | 3.18 | 0.4 | 2.8 |
| VCMT110302-MS | M | ● | ● | ● | ● | 6.35 | 3.18 | 0.2 | 2.8 |
| VCMT110304-MS | M | ● | ● | ● | ● | 6.35 | 3.18 | 0.4 | 2.8 |
| VCMT110308-MS | M | ● | ● | ● | ● | 6.35 | 3.18 | 0.8 | 2.8 |
| VCMT160404-LS | L | ● | ● | ● | ● | 9.525 | 4.76 | 0.4 | 4.4 |
| VCMT160408-LS | L | ● | ● | ● | ● | 9.525 | 4.76 | 0.8 | 4.4 |
| VCMT160404-MS | M | ● | ● | ● | ● | 9.525 | 4.76 | 0.4 | 4.4 |
| VCMT160408-MS | M | ● | ● | ● | ● | 9.525 | 4.76 | 0.8 | 4.4 |



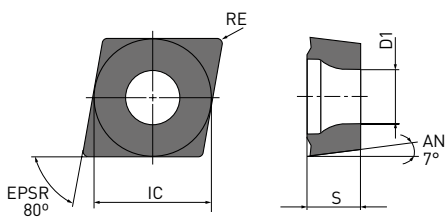
CCGT, DCGT, VCGT

7° POSITIVE PRÄZISIONS-WSP MINUS TOLERANZ (MIT BOHRUNG)

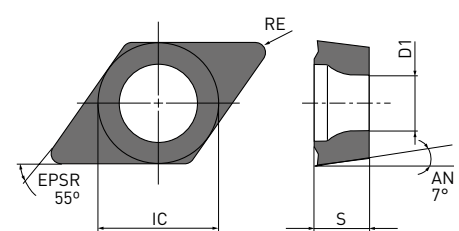
S

G-Toleranz

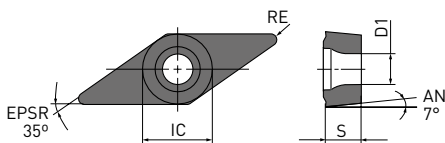
CCGT



DCGT



VCGT





SPANBRECHER-IDENTIFIKATION

ANWENDUNG




FS

LS

| Bestellnummer |   | MP9005 | MP9015 | MP9025 | IC | S | RE | D1 |
|----------------|---|--------|--------|--------|-------|------|------|-----|
| CCGT060201M-FS | F | ● | ● | ● | 6.35 | 2.38 | 0.08 | 2.8 |
| CCGT060201M-LS | L | ● | ● | ● | 6.35 | 2.38 | 0.08 | 2.8 |
| CCGT060202M-FS | F | ● | ● | ● | 6.35 | 2.38 | 0.18 | 2.8 |
| CCGT060202M-LS | L | ● | ● | ● | 6.35 | 2.38 | 0.18 | 2.8 |
| CCGT09T301M-FS | F | ● | ● | ● | 9.525 | 3.97 | 0.08 | 4.4 |
| CCGT09T301M-LS | L | ● | ● | ● | 9.525 | 3.97 | 0.08 | 4.4 |
| CCGT09T302M-FS | F | ● | ● | ● | 9.525 | 3.97 | 0.18 | 4.4 |
| CCGT09T302M-LS | L | ● | ● | ● | 9.525 | 3.97 | 0.18 | 4.4 |
| CCGT09T304M-FS | F | ● | ● | ● | 9.525 | 3.97 | 0.38 | 4.4 |
| CCGT09T304M-LS | L | ● | ● | ● | 9.525 | 3.97 | 0.38 | 4.4 |

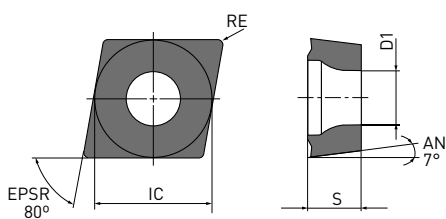
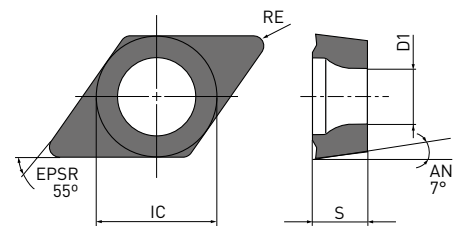
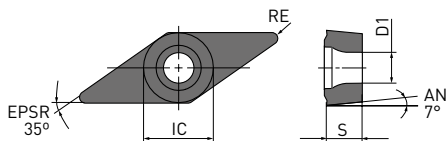
CCGT, DCGT, VCGT - 7° POSITIVE PRÄZISIONS-WSP MINUS TOLERANZ (MIT BOHRUNG)

| Bestellnummer |  | | MP9005 | MP9015 | MP9025 | IC | S | RE | D1 |
|----------------|---|---|--------|--------|--------|-------|------|------|-----|
| | F | L | | | | | | | |
| DCGT070201M-FS | F | | ● | ● | ● | 6.35 | 2.38 | 0.08 | 2.8 |
| DCGT070201M-LS | L | | ● | ● | ● | 6.35 | 2.38 | 0.08 | 2.8 |
| DCGT070202M-FS | F | | ● | ● | ● | 6.35 | 2.38 | 0.18 | 2.8 |
| DCGT070202M-LS | L | | ● | ● | ● | 6.35 | 2.38 | 0.18 | 2.8 |
| DCGT070204M-FS | F | | ● | ● | ● | 6.35 | 2.38 | 0.38 | 2.8 |
| DCGT070204M-LS | L | | ● | ● | ● | 6.35 | 2.38 | 0.38 | 2.8 |
| DCGT11T301M-FS | F | | ● | ● | ● | 9.525 | 3.97 | 0.08 | 4.4 |
| DCGT11T301M-LS | L | | ● | ● | ● | 9.525 | 3.97 | 0.08 | 4.4 |
| DCGT11T302M-FS | F | | ● | ● | ● | 9.525 | 3.97 | 0.18 | 4.4 |
| DCGT11T302M-LS | L | | ● | ● | ● | 9.525 | 3.97 | 0.18 | 4.4 |
| DCGT11T304M-FS | F | | ● | ● | ● | 9.525 | 3.97 | 0.38 | 4.4 |
| DCGT11T304M-LS | L | | ● | ● | ● | 9.525 | 3.97 | 0.38 | 4.4 |
| VCGT110301M-LS | L | | ● | ● | ● | 6.35 | 3.18 | 0.08 | 2.8 |
| VCGT110302M-LS | L | | ● | ● | ● | 6.35 | 3.18 | 0.18 | 2.8 |
| VCGT110304M-LS | L | | ● | ● | ● | 6.35 | 3.18 | 0.38 | 2.8 |
| VCGT130301M-LS | L | | ● | ● | ● | 7.94 | 3.18 | 0.08 | 3.4 |
| VCGT130302M-LS | L | | ● | ● | ● | 7.94 | 3.18 | 0.18 | 3.4 |
| VCGT130304M-LS | L | | ● | ● | ● | 7.94 | 3.18 | 0.38 | 3.4 |



CCGT, DCGT, VCGT

7° POSITIVE PRÄZISIONS-WSP


MINUS TOLERANZ / POLIERT (MIT BOHRUNG)

S
G-Toleranz
CCGT

DCGT

VCGT

SPANBRECHER-IDENTIFIKATION
ANWENDUNG

FS-P
LS-P

| Bestellnummer |   | MT9005 | IC | S | RE | D1 |
|------------------|---|--------|-------|------|------|-----|
| CCGT060201M-FS-P | F | ● | 6.35 | 2.38 | 0.08 | 2.8 |
| CCGT060202M-FS-P | F | ● | 6.35 | 2.38 | 0.18 | 2.8 |
| CCGT09T301M-FS-P | F | ● | 9.525 | 3.97 | 0.08 | 4.4 |
| CCGT09T302M-FS-P | F | ● | 9.525 | 3.97 | 0.18 | 4.4 |
| CCGT09T304M-FS-P | F | ● | 9.525 | 3.97 | 0.38 | 4.4 |
| DCGT070201M-FS-P | F | ● | 6.35 | 2.38 | 0.08 | 2.8 |
| DCGT070202M-FS-P | F | ● | 6.35 | 2.38 | 0.18 | 2.8 |
| DCGT070204M-FS-P | F | ● | 6.35 | 2.38 | 0.38 | 2.8 |
| DCGT11T301M-FS-P | F | ● | 9.525 | 3.97 | 0.08 | 4.4 |
| DCGT11T302M-FS-P | F | ● | 9.525 | 3.97 | 0.18 | 4.4 |
| DCGT11T304M-FS-P | F | ● | 9.525 | 3.97 | 0.38 | 4.4 |

CCGT, DCGT, VCGT - 7° POSITIVE PRÄZISIONS-WSP MINUS TOLERANZ / POLIERT (MIT BOHRUNG)

| Bestellnummer |  | MT9005 | IC | S | RE | D1 |
|------------------|---|--------|-------|------|------|-----|
| CCGT060201M-LS-P | L | ● | 6.35 | 2.38 | 0.08 | 2.8 |
| CCGT060202M-LS-P | L | ● | 6.35 | 2.38 | 0.18 | 2.8 |
| CCGT09T301M-LS-P | L | ● | 9.525 | 3.97 | 0.08 | 4.4 |
| CCGT09T302M-LS-P | L | ● | 9.525 | 3.97 | 0.18 | 4.4 |
| CCGT09T304M-LS-P | L | ● | 9.525 | 3.97 | 0.38 | 4.4 |
| DCGT070201M-LS-P | L | ● | 6.35 | 2.38 | 0.08 | 2.8 |
| DCGT070202M-LS-P | L | ● | 6.35 | 2.38 | 0.18 | 2.8 |
| DCGT070204M-LS-P | L | ● | 6.35 | 2.38 | 0.38 | 2.8 |
| DCGT11T301M-LS-P | L | ● | 9.525 | 3.97 | 0.08 | 4.4 |
| DCGT11T302M-LS-P | L | ● | 9.525 | 3.97 | 0.18 | 4.4 |
| DCGT11T304M-LS-P | L | ● | 9.525 | 3.97 | 0.38 | 4.4 |
| VCGT110301M-LS-P | L | ● | 6.35 | 3.18 | 0.08 | 2.8 |
| VCGT110302M-LS-P | L | ● | 6.35 | 3.18 | 0.18 | 2.8 |
| VCGT110304M-LS-P | L | ● | 6.35 | 3.18 | 0.38 | 2.8 |
| VCGT130301M-LS-P | L | ● | 7.94 | 3.18 | 0.08 | 3.4 |
| VCGT130302M-LS-P | L | ● | 7.94 | 3.18 | 0.18 | 3.4 |
| VCGT130304M-LS-P | L | ● | 7.94 | 3.18 | 0.38 | 3.4 |



1. FS-P/LS-P: Polierter Spanbrecher für verbesserte Spanabfuhr.



MP / MT9000

SCHNITTDATENEMPFEHLUNGEN



POSITIVE PRÄZISIONS-WSP

| Material | Schnitt- bedingungen |  |  | Sorte | Vc | f | ap |
|---|-------------------------|---|---|--------|-------|-----------|---------|
| M PH rostfreier Stahl (DIN X5CrNiCuNb17-4) | ● | F | FS | MP9005 | 40-80 | 0.04-0.10 | 0.2-1.4 |
| | | L | LS | MP9005 | 40-80 | 0.04-0.15 | 0.3-2.0 |
| | ● | F | FS | MP9015 | 40-80 | 0.04-0.10 | 0.2-1.4 |
| | | L | LS | MP9015 | 40-80 | 0.04-0.15 | 0.3-2.0 |
| | ✘ | L | LS | MP9015 | 30-60 | 0.04-0.10 | 0.3-1.0 |
| Titanlegierung (Ti-6Al-4V) | ● | F | FS-P | MT9005 | 40-80 | 0.04-0.12 | 0.2-1.4 |
| | | L | LS-P | MT9005 | 40-80 | 0.04-0.20 | 0.3-3.0 |
| | ● | F | FS-P | MT9005 | 40-80 | 0.04-0.12 | 0.2-1.4 |
| | | L | LS-P | MT9005 | 40-80 | 0.04-0.12 | 0.3-2.0 |
| | ✘ | L | LS-P | MT9005 | 30-60 | 0.04-0.10 | 0.2-1.4 |
| S Kobalt-Chrom-Legierungen (Co-Cr-Mo-Legierungen) PH rostfreier Stahl (X5CrNiCuNb17-4) | ● | F | FS | MP9005 | 40-80 | 0.04-0.10 | 0.2-1.4 |
| | | L | LS | MP9005 | 40-80 | 0.04-0.15 | 0.2-2.0 |
| | ● | F | FS | MP9015 | 40-80 | 0.04-0.10 | 0.2-1.4 |
| | | L | LS | MP9015 | 40-80 | 0.04-0.15 | 0.3-2.0 |
| | ✘ | L | LS | MP9015 | 30-60 | 0.04-0.10 | 0.3-1.0 |
| Hitzebeständige Legierung auf Nickelbasis (Inconel [®] 718, Hastelloy [®] , WASPALLOY [®]) | ● | F | FS | MP9015 | 25-95 | 0.04-0.12 | 0.2-1.4 |
| | | L | LS | MP9015 | 25-95 | 0.04-0.12 | 0.3-2.0 |
| | ● | F | FS | MP9015 | 20-75 | 0.04-0.12 | 0.2-1.4 |
| | | L | LS | MP9015 | 20-75 | 0.04-0.12 | 0.3-2.0 |
| | ✘ | L | LS | MP9015 | 20-60 | 0.04-0.10 | 0.3-1.0 |

1. Überprüfen Sie die empfohlenen Schnittdaten für jede Bohrstange, da die Schnittdaten für die Innenbearbeitung je nach Länge der Auskrugung voneinander abweichen.

POSITIVE WSP

Schnittbedingungen : ●: Stabile Bearbeitung ●: Allgemeine Zerspanung ✘: Instabile Bearbeitung

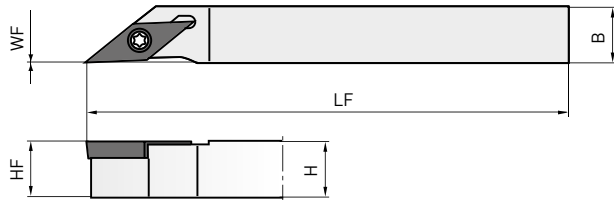
| Material | Schnitt- bedingungen |  |  | Sorte | Vc | f | ap |
|--|-------------------------|---|---|--------|---------|-----------|---------|
| M PH rostfreier Stahl (DIN X5CrNiCuNb17-4) | ● | L | LS | MP9015 | 105-140 | 0.06-0.20 | 0.2-1.0 |
| | | M | MS | MP9015 | 85-120 | 0.08-0.25 | 0.3-2.0 |
| | ● | L | LS | MP9015 | 105-140 | 0.06-0.20 | 0.2-1.0 |
| | | M | MS | MP9015 | 85-120 | 0.08-0.25 | 0.3-2.0 |
| | ✘ | L | LS | MP9025 | 70- 80 | 0.06-0.20 | 0.2-1.0 |
| Titanlegierung (Ti-6Al-4V) | ● | L | LS | MT9005 | 40- 80 | 0.06-0.20 | 0.2-1.0 |
| | | M | MS | MT9005 | 35- 65 | 0.08-0.25 | 0.3-2.0 |
| | ● | L | LS | MT9005 | 40- 80 | 0.06-0.20 | 0.2-1.0 |
| | | M | MS | MT9005 | 35- 65 | 0.08-0.25 | 0.3-2.0 |
| | ✘ | L | LS | MT9005 | 40- 80 | 0.06-0.20 | 0.2-1.0 |
| S Hitzebeständige Legierung auf Nickelbasis (Inconel [®] 718, Hastelloy [®] , WASPALLOY [®]) | ● | L | LS | MP9005 | 25- 95 | 0.06-0.20 | 0.2-1.0 |
| | | M | MS | MP9005 | 20- 80 | 0.08-0.25 | 0.3-0.2 |
| | ● | L | LS | MP9015 | 20- 75 | 0.06-0.20 | 0.2-1.0 |
| | | M | MS | MP9015 | 20- 75 | 0.06-0.20 | 0.2-1.0 |
| | ✘ | L | LS | MP9025 | 15- 25 | 0.06-0.20 | 0.2-1.0 |
| | | M | MS | MP9025 | 15- 30 | 0.08-0.25 | 0.3-2.0 |

1. Überprüfen Sie die empfohlenen Schnittdaten für jede Bohrstange, da die Schnittdaten für die Innenbearbeitung je nach Länge der Auskrugung voneinander abweichen.

Schnittbedingungen: ●: Stabile Bearbeitung ●: Allgemeine Zerspanung ✘: Instabile Bearbeitung

SVJC

DREHHALTER FÜR VCGT WSP



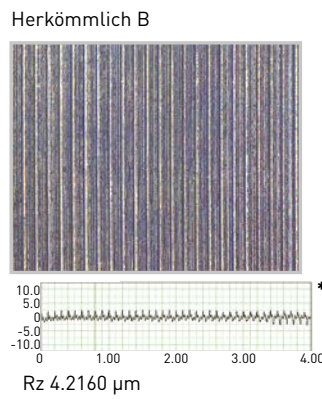
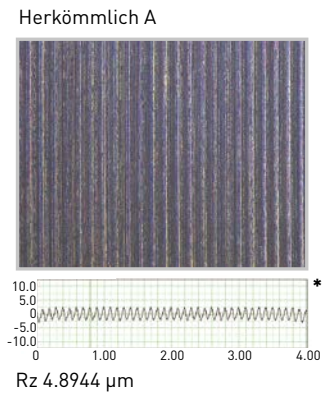
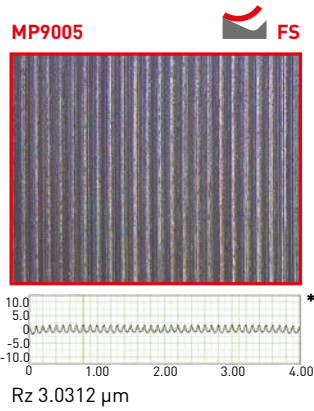
| Bestellnummer | Lager | | WSP | H | B | LF | HF | LH | WF | WSP- Klemm- schraube | Schlüssel | |
|--------------------|-------|---|------|------|----|-----|-----|----|----|----------------------------|-----------|---|
| | R | L | | | | | | | | | | |
| SVJCR/L1010JX11-SM | ● | ● | VCGT | 10 | 10 | 120 | 10 | 22 | 0 | TS255 | TKY08R | |
| SVJCR/L1212JX11-SM | ● | ● | | 1103 | 12 | 12 | 120 | 12 | 22 | | | 0 |
| SVJCR/L1616JX11-SM | ● | ● | | 16 | 16 | 120 | 16 | 22 | 0 | | | |
| SVJCR/L1010JX13-SM | ● | ● | 1303 | 10 | 10 | 120 | 10 | 26 | 0 | TS32 | TKY08R | |
| SVJCR/L1212JX13-SM | ● | ● | | 12 | 12 | 120 | 12 | 26 | 0 | | | |
| SVJCR/L1616JX13-SM | ● | ● | | 16 | 16 | 120 | 16 | 26 | 0 | | | |

SCHNITTLLEISTUNG

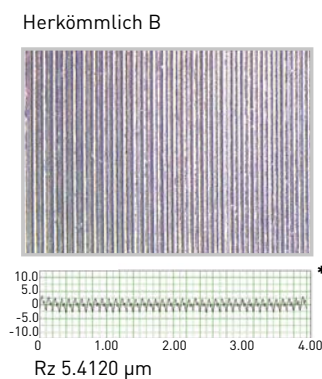
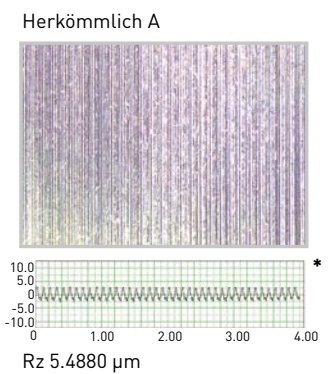
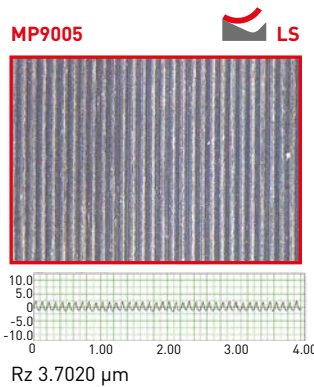
VERGLEICH DER OBERFLÄCHENGÜTE BEI INCONEL® 718

Gute Zerspanungsbedingungen und Spanbrucheigenschaften sorgen für hohe Oberflächengüten.

| | |
|--------------|-----------------|
| Material | Inconel® 718 |
| WSP | CNGG120404 |
| Vc (m/min) | 50 |
| f (mm/U) | 0.1 |
| ap (mm) | 0.2 |
| Schnittmodus | Nassbearbeitung |



| | |
|--------------|-----------------|
| Material | Inconel® 718 |
| WSP | CNGG120404 |
| Vc (m/min) | 50 |
| f (mm/U) | 0.1 |
| ap (mm) | 0.5 |
| Schnittmodus | Nassbearbeitung |



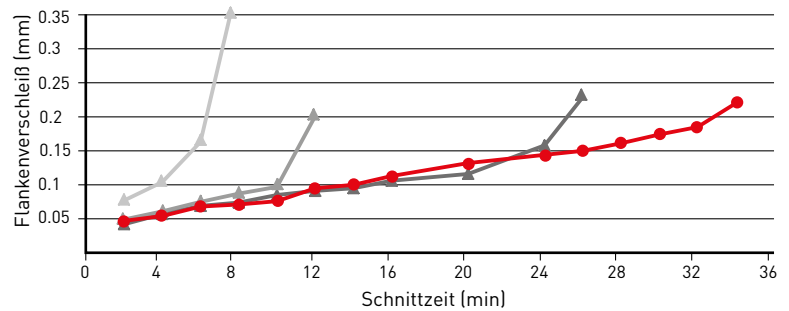
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Vertikale Skala: x 2.000.00
Horizontale Skala: x 50.00

SCHNITTLLEISTUNG

INCONEL®718, KONTINUIERLICHE ZERSPANUNG

| | |
|--------------|-----------------|
| Material | Inconel®718 |
| WSP | CNMG120408-MS |
| Vc (m/min) | 60 |
| f (mm/U) | 0.15 |
| ap (mm) | 0.75 |
| Schnittmodus | Nassbearbeitung |

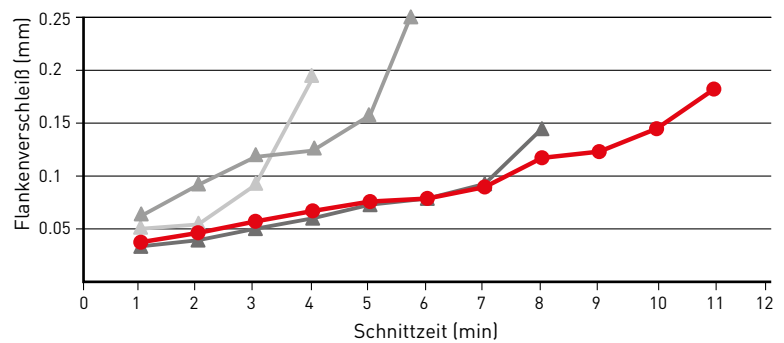
Um 28 % verbesserte Werkzeugstandzeit



INCONEL®718, KONTINUIERLICHE ZERSPANUNG

| | |
|--------------|-----------------|
| Material | Inconel®718 |
| WSP | CNMG120408-MS |
| Vc (m/min) | 100 |
| f (mm/U) | 0.15 |
| ap (mm) | 0.5 |
| Schnittmodus | Nassbearbeitung |

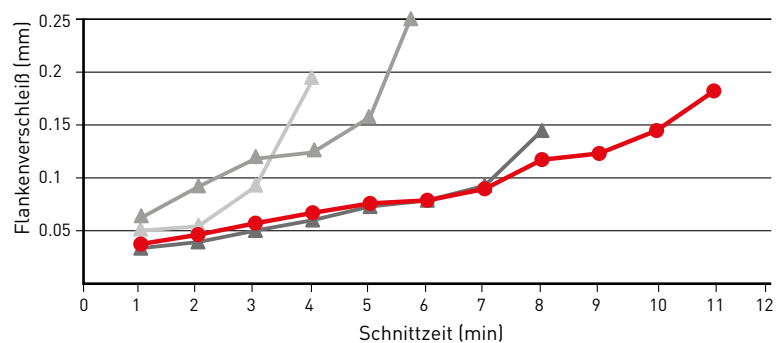
Um 37 % verbesserte Werkzeugstandzeit



INCONEL®718, KONTINUIERLICHE BEARBEITUNG

| | |
|--------------|-----------------|
| Material | Inconel®718 |
| WSP | CNMG120408-RS |
| Vc (m/min) | 40 |
| f (mm/U) | 0.2 |
| ap (mm) | 2.0 |
| Schnittmodus | Nassbearbeitung |

Um 33 % verbesserte Werkzeugstandzeit



—●— MP9005/15 —▲— Herkömmlich A —▲— Herkömmlich B —▲— Herkömmlich C

WASPALLOY®-BEARBEITUNG

MP9015 MIT SPANBRECHER RS WIES DEN GERINGSTEN VERSCHLEISS AUF

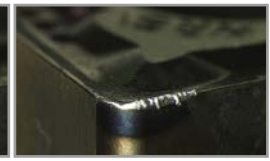
| | |
|-------------------|-----------------|
| Werkstoff | WASPALLOY® |
| WSP | CNMG120408-RS |
| Vc (m/min) | 29 |
| f (mm/U) | 0.22 |
| ap (mm) | 4.0 |
| Schnittzeit (min) | 7 |
| Schnittmodus | Nassbearbeitung |



MP9015 - RS



Herkömmlich A

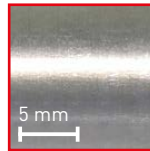


Herkömmlich B

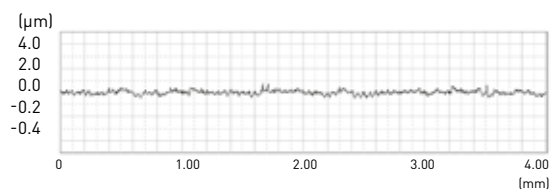
TITANLEGIERUNG, VERGLEICH DER OBERFLÄCHENGÜTE

| | |
|--------------|------------------|
| Werkstoff | Ti-6Al-6V(325HB) |
| WSP | CNMG120408-LS |
| Vc (m/min) | 70 |
| f (mm/U) | 0.05 |
| ap (mm) | 0.25 |
| Schnittmodus | Nassbearbeitung |

Glanzoberfläche

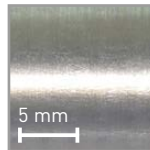


MT9015 - LS

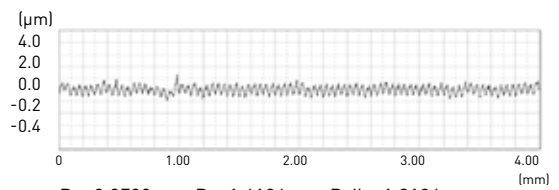


Hervorragende Oberflächenqualität

Weiße Trübung

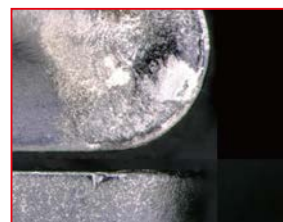


Herkömmlich



MP9015 MIT SPANBRECHER LS WIES DEN GERINGSTEN VERSCHLEISS AUF

| | |
|--------------|-------------------------------|
| Werkstoff | Hitzebeständiger Stahlguss |
| WSP | DCMT11T304-LS |
| Vc (m/min) | 100 |
| f (mm/U) | 0.1 |
| ap (mm) | 0.25 |
| Schnittmodus | Nassbearbeitung |



MP9015 - LS

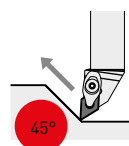


Herkömmlich

SPANKONTROLLE BEIM KEGELDREHEN

Kein Verhaken der Späne beim Hinderdrehen von Inconel®718.

| | |
|--------------|-----------------|
| Werkstoff | Inconel®718 |
| WSP | DNMG150408-MS |
| Vc (m/min) | 40 |
| f (mm/U) | 0.2 |
| ap (mm) | 1.0 |
| Schnittmodus | Nassbearbeitung |

MS Spanbrecher
(neuartiges Design)

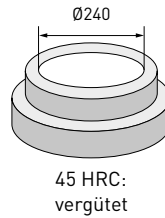
Herkömmlich

ANWENDUNGSBEISPIELE

| | |
|--------------|-------------------------------------|
| WSP | DNMG150408-MS (MP9005) |
| Material | Inconel®718 (Nickel-basislegierung) |
| Schnittmodus | Nassbearbeitung |
| Vc (m/min) | 60 |
| f (mm/U) | 0.15 |
| ap (mm) | 0.25 |
| Bauteil | Scheibe-Luft-/Raumfahrtbauteil |

Ergebnisse

MP9005 – stabile Zerspanung und weniger Verschleiß bei langer Werkzeugstandzeit und ohne Spanverhaken.



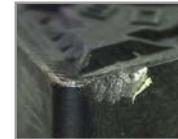
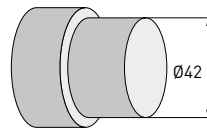
MP9005 + RS

Herkömmliches System (S10)

| | |
|--------------|--|
| WSP | CNMG120408-RS (MP9015) |
| Material | HAYNES®-Legierung 25 (Nickel-Kobaltbasislegierung) |
| Schnittmodus | Nassbearbeitung |
| Vc (m/min) | 34 |
| f (mm/U) | 0.20 |
| ap (mm) | 1.5 |
| Bauteil | Abdeckblende-Luft-/Raumfahrtbauteil |

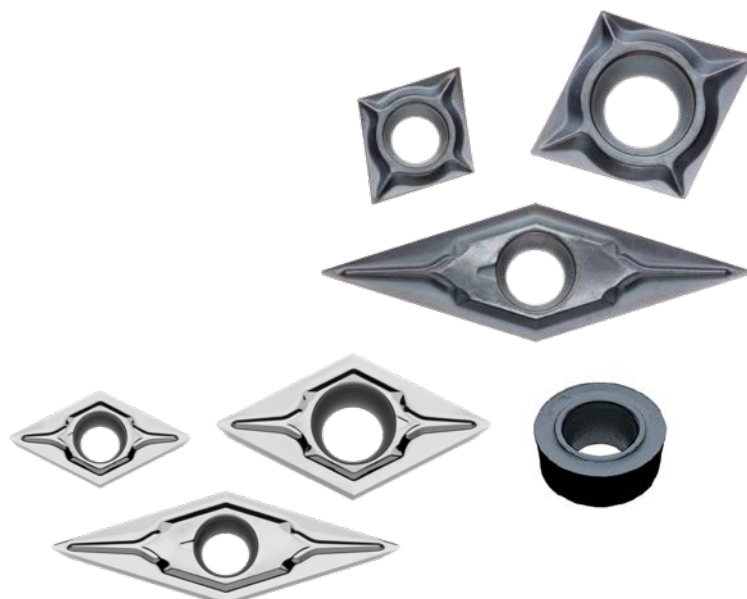
Ergebnisse

Sowohl das herkömmliche Werkzeug als auch MP9015 zeigen Kerbverschleiß, wobei der Verschleiß beim Herkömmlichen größer war und das Substrat hervortrat.



MP9015 + RS

Herkömmliches System (S10)



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VERTRIEB DURCH:

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