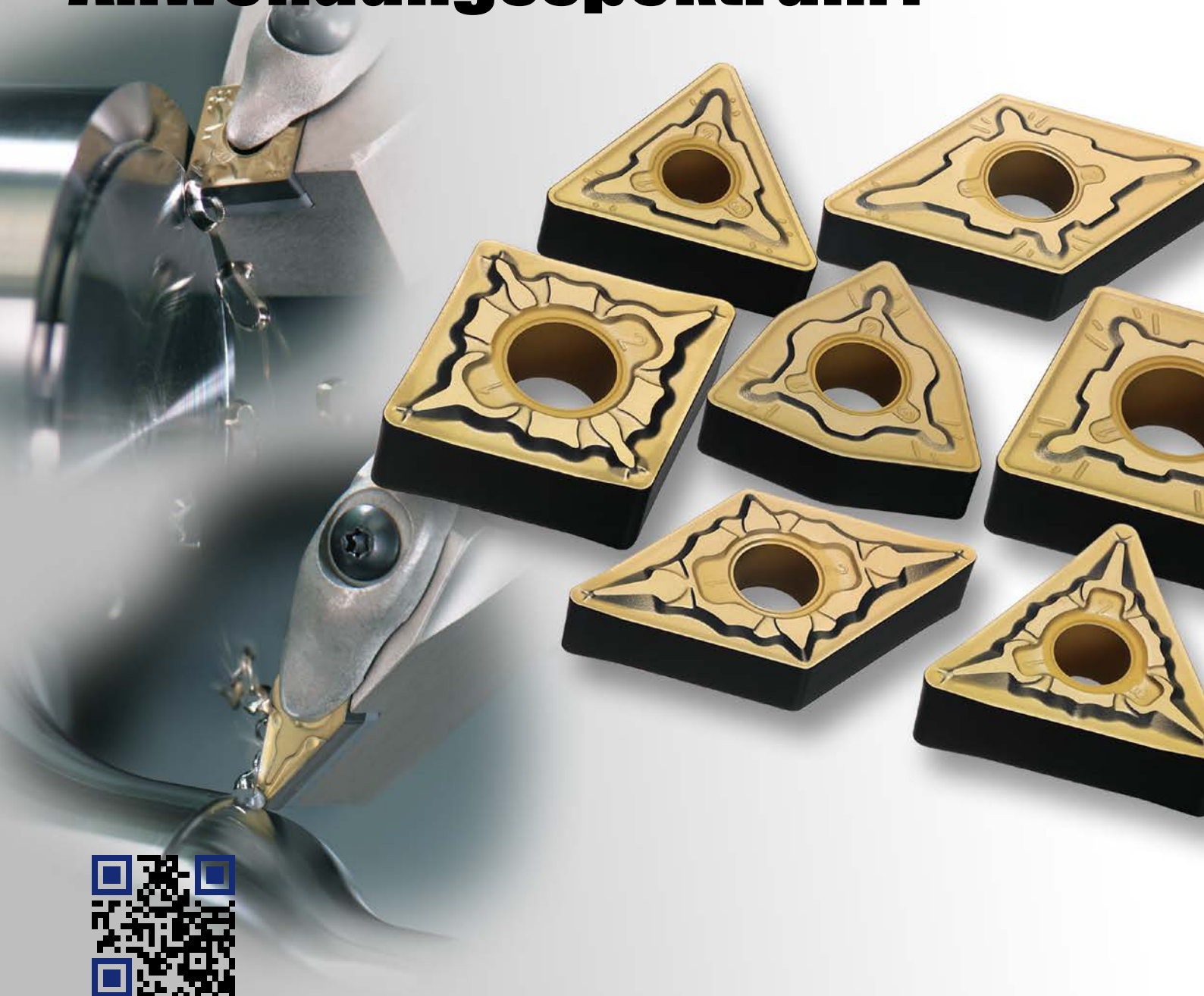


CVD-beschichtete Sorten für das Drehen von Stahl

UE6110

Serien-
erweiterung

Ausgezeichnete Stabilität in einem breiten Anwendungsspektrum!



CVD-beschichtete Sorten für das Drehen von Stahl

UE6110

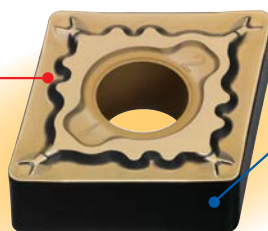
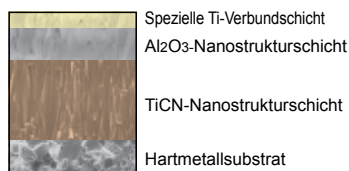
Eigenschaften

Ausgezeichnete Bearbeitungsleistung durch die 2-in-1-Technologie

Hoher Kolkverschleißwiderstand

Die goldene Ti-Verbundschicht an der Spanfläche weist eine außergewöhnlich hohe Kolkverschleißfestigkeit auf. Diese Oberflächenbeschichtung bewirkt eine weitere Verbesserung der Kolkverschleißfestigkeit der Al₂O₃-Nanostrukturschicht, die somit ideale Voraussetzungen für die hocheffiziente HSC-Drehbearbeitung erfüllt.

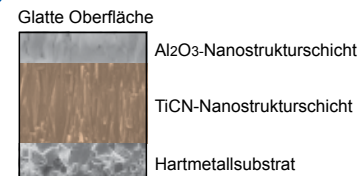
Beschichtungsstruktur an der Spanfläche



Hoher Freiflächenverschleißwiderstand

Die schwarze Beschichtung auf der Freifläche hat eine extrem glatte Oberfläche, die unerwarteten Verschleiß und Spanverschweißung verhindert. In Kombination mit der Nano-Textur-Beschichtung werden eine verbesserte Oberflächengüte und eine stabile Werkzeugstandzeit erreicht.

Beschichtungsstruktur an der Freifläche



Vergleich der Kolkverschleißfestigkeit

WSP : CNMG120408-MA
Werkstück : 40NiCrMo22
Schnittdaten: Schnittgeschwindigkeit 250 m/min, Vorschub 0,3 mm/U, Schnitttiefe 1,5 mm, Trockenbearbeitung, Schnittdauer 7 min

Mit einer Ti-Verbundschicht



Geringerer Kolkverschleiß

Ohne Ti-Verbundschicht



Hoher Kolkverschleiß

Vergleich der Flankenverschleißfestigkeit

WSP : CNMG120408-
Werkstück : 42Cr4
Schnittdaten: Schnittgeschwindigkeit 200 m/min, Vorschub 0,3 mm/U, Schnitttiefe 1,5 mm, Trockenbearbeitung, Schnittdauer 2 min

UE6110



Glatter, gleichmäßiger Verschleiß

Wettbewerber



Rauer, ungleichmäßiger Verschleiß

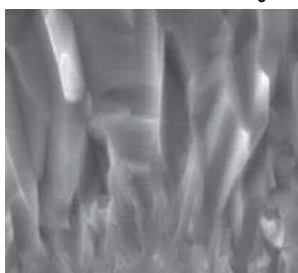
Hochmoderne Beschichtung mit 2-in-1-Technologie

1 Neue „Nano-Textur-Beschichtung“

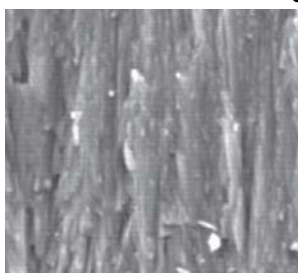
Mitsubishi Materials einzigartige, neue Beschichtungstechnologie aus TiCN- und Al₂O₃-Nano-Textur bietet eine Beschichtung, die extrem bruchfest ist und zugleich eine hohe Verschleißfestigkeit aufweist.

Vergleich der kristallinen Mikrostruktur

Herkömmliche Beschichtung



Nano-Textur-Beschichtung



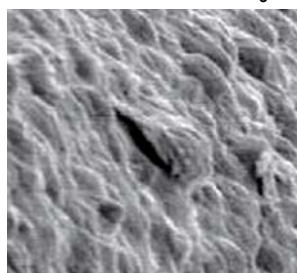
Feinste Kristalle sogar auf Nanoebene

2 Neue „schwarze, superglatte Beschichtung“

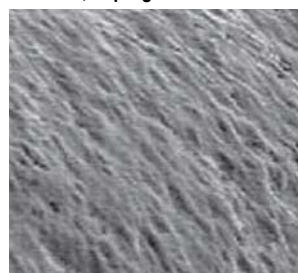
Die extrem glatte Beschichtung verhindert eine Verschleißausbreitung während der Bearbeitung und erzielt verbesserte Oberflächengüten, während Spanverschweißungen verhindert werden.

Vergleich der beschichteten Oberflächen

Herkömmliche Beschichtung



Schwarze, superglatte Beschichtung



2-in-1-Technologie für stabile Bearbeitung mit hoher Verschleiß- und Bruchfestigkeit.

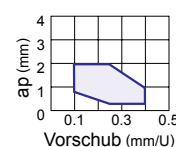
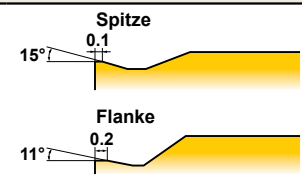
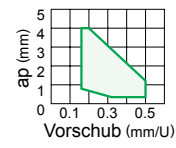
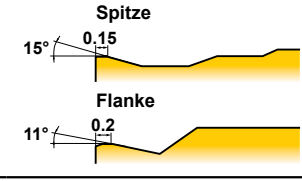
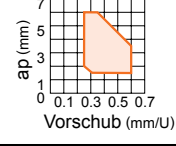
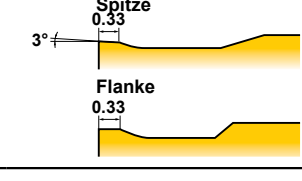
Anwendungsbereich

UE6110 ist die 1. Empfehlung für das Drehen von Stahl. Geeignet für die Bearbeitung von Baustahl, C-Stahl, legiertem Stahl und Kugellagerstahl.

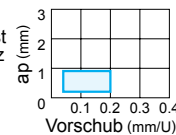
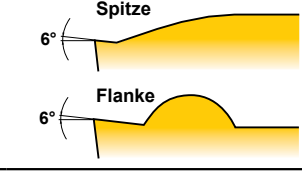
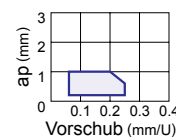
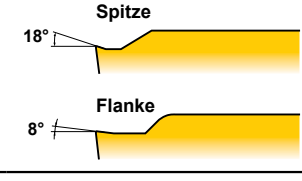
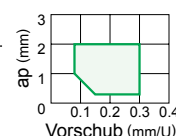
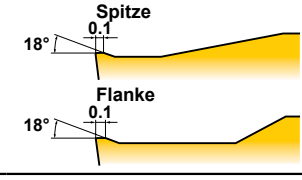
Anwendungsbereich

ISO	Stahl
P01	UE6105
P10	UE6110
P20	ML6025
P30	UE6020
P40	UE6035
	UE6400

Spanbrechsystem für das Drehen von Stahl (negative WSP)

Anwendung	Toleranz	Spanbrecher	Eigenschaften	Querschnitt Geometrie
Leichtzerspanung	M	NEW LP	Erste Empfehlung für die Leichtzerspanung von C-Stahl und legierten Stahlsorten Stabile Spankontrolle im Bereich der Leichtzerspanung. Die geschwungene Schneidkante ermöglicht eine weiche Spanabfuhr.	 
Mittlere Zerspanung	M	NEW MP	Erste Empfehlung für die mittlere Zerspanung von allgemeinen und legierten Stahlsorten Geeignet für mittleres bis leichtes Zerspanen. Spanbrechergeometrie geeignet für Kopier- und Plandrehen. Schneidengeometrie mit optimaler Balance aus Schärfe und Bruchfestigkeit.	 
Schruppszerspanung	M	NEW RP	Erste Empfehlung für die Schruppszerspanung von allgemeinen und legierten Stahlsorten Für unterbrochene Schnitte und die Entfernung von Zunder. Gute Balance von Schneidkantenstärke und geringem Schnittwiderstand durch optimierten Spanwinkel.	 

Spanbrechsystem für das Drehen von Stahl (positive WSP)

Anwendung	Toleranz	Spanbrecher	Eigenschaften	Querschnitt Geometrie
Schlichtzerspanung	M	NEW FP	Erste Empfehlung für die Schlichtzerspanung von C-Stahl und legiertem Stahl Die Erhöhung an der Spitze des Spanbrechers kontrolliert Späne selbst bei kleinen Schnitttiefen. Erhalt der Schneidkantenstabilität zum Schutz vor unerwartetem Bruch. 7° Positive WSP	 
Leichtzerspanung	M	NEW LP	Erste Empfehlung für die Leichtzerspanung von C-Stahl und legierten Stahlsorten Ausgezeichnete Schneidkantenschärfe durch großen Spanwinkel. Verhindert Spanverschweißung für eine hohe Oberflächengüte. Optimierter Spanbrecher ermöglicht eine weitreichende Spankontrolle. 7° Positive WSP	 
Mittlere Zerspanung	M	NEW MP	Erste Empfehlung für die mittlere Zerspanung von allgemeinen und legierten Stahlsorten Flache Primärfase für ausgezeichnete Verschleißfestigkeit und hervorragende Bruchfestigkeit. Die breite Spankammer verhindert Vibrationen und Spänestau und schützt zudem vor erhöhtem Schnittwiderstand auch bei größeren Schnitttiefen. 7° Positive WSP	 

Optimierte WSP-Auswahl



Baustahl, C-Stahl, legierter Stahl

NEGATIVE WSP

	Schlichtzerspanung	Leichtzerspanung	Mittlere Zerspanung	Schruppzerspanung	Schwerzerspanung
●	FH AP25N	LP UE6105	MP UE6105	RP UE6105	HX UE6110
◐	FH MP3025	LP UE6110	MP UE6110	RP UE6110	HX UE6020
⊕	FH UE6110	LP MC6025	MP MC6025	RP MC6025	HX UH6400

7° POSITIVE WSP MIT LOCH

	Schlichtzerspanung	Leichtzerspanung	Mittlere Zerspanung
●	FP NX2525	LP NX2525	MP NX2525
◐	FP UE6110	LP UE6110	MP UE6110
⊕	FP MC6025	LP MC6025	MP MC6025

11° POSITIVE WSP MIT LOCH

	Schlichtzerspanung	Leichtzerspanung	Mittlere Zerspanung
●	R-R/L NX2525	Standard NX2525	Standard NX2525
◐	R-R/L NX2525	Standard UE6110	Standard UE6110
⊕	R-R/L UTi20T	Standard UE6020	Standard UE6020

SCHNITTDATEN



Stabile Bearbeitung

Kontinuierlicher Schnitt
Konstante Schnitttiefe
Vorbearbeitet
Stabile Werkstückspannung



Allgemeine Zerspanung



Instabile Bearbeitung

Stark unterbrochene Zerspanung
Unregelmäßige Schnitttiefe
Geringe Klemmsteifigkeit

● : Lagerstandard.

Empfohlene Schnittdaten

Negative WSP

Werkstoff		Härte	Schnittmodus		Spanbrecher	Schnittgeschwindigkeit (m/min)	Vorschub (mm/U)	Schnitttiefe (mm)
P	C-Stahl, legierter Stahl (Ck45, 41CrMo4)	180—280HB	Allgemeine Zerspanung	Schlichtzerspanung	FH	230—390	0.08—0.20	0.20—1.00
			Allgemeine Zerspanung	Leichtzerspanung	LP	210—355	0.10—0.40	0.30—2.00
			Allgemeine Zerspanung		SH	210—355	0.10—0.40	0.30—2.00
			Allgemeine Zerspanung		SA	210—355	0.10—0.40	0.30—2.00
			Allgemeine Zerspanung		SW	210—355	0.10—0.50	0.30—2.50
			Allgemeine Zerspanung		Mittlere Zerspanung	MP	190—325	0.16—0.50
			Allgemeine Zerspanung	MA		190—325	0.20—0.50	0.30—4.00
			Allgemeine Zerspanung	MH		190—325	0.20—0.55	1.00—4.00
			Allgemeine Zerspanung	Std		190—325	0.25—0.60	1.50—5.00
			Allgemeine Zerspanung	MW		190—325	0.20—0.60	0.90—4.00
			Allgemeine Zerspanung	Schruppzerspanung	RP	180—310	0.25—0.60	1.50—6.00
			Allgemeine Zerspanung		GH	180—310	0.25—0.60	1.50—6.00
			Stabile Bearbeitung	Schwerzerspanung	HX	160—275	0.50—1.26	3.00—11.00
			Stabile Bearbeitung		HV	135—275	0.70—1.30	4.00—12.00
			Allgemeine Zerspanung		HZ	160—275	0.40—1.20	2.00—10.00

5°/7° positive WSP

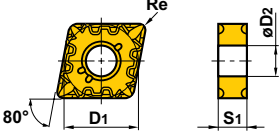
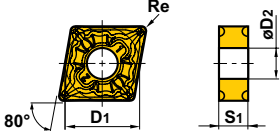
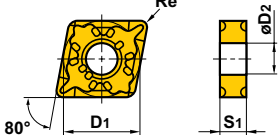
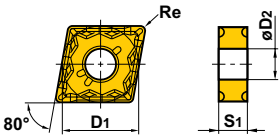
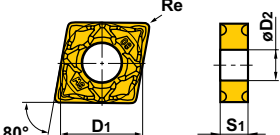
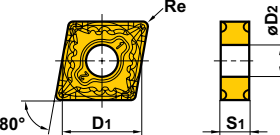
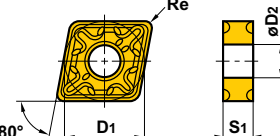
Werkstoff		Härte	Schnittmodus		Spanbrecher	Schnittgeschwindigkeit (m/min)	Vorschub (mm/U)	Schnitttiefe (mm)
P	Baustahl (Ck15, Ck25)	≤180HB	Allgemeine Zerspanung	Schlichtzerspanung	FP	250—425	0.04—0.20	0.20—0.90
			Allgemeine Zerspanung	Leichtzerspanung	LP	250—425	0.06—0.25	0.20—1.00
			Allgemeine Zerspanung	Mittlere Zerspanung	MP	205—350	0.08—0.30	0.30—2.00
	C-Stahl, legierter Stahl (Ck45, 41CrMo4)	180—280HB	Allgemeine Zerspanung	Schlichtzerspanung	FP	185—310	0.04—0.20	0.20—0.90
			Allgemeine Zerspanung	Leichtzerspanung	LP	185—310	0.06—0.25	0.20—1.00
			Allgemeine Zerspanung	Mittlere Zerspanung	MP	150—260	0.08—0.30	0.30—2.00
	C-Stahl, legierter Stahl (40NiCrMo6)	280—350HB	Allgemeine Zerspanung	Mittlere Zerspanung	MP	110—185	0.08—0.30	0.30—2.00

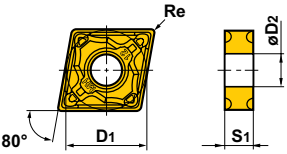
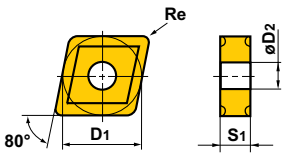
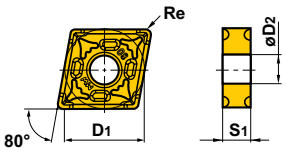
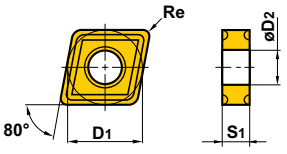
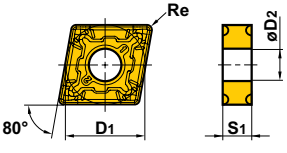
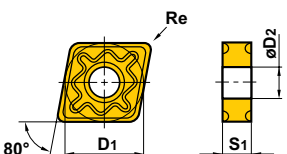
11° positive WSP

Werkstoff		Härte	Schnittmodus		Spanbrecher	Schnittgeschwindigkeit (m/min)	Vorschub (mm/U)	Schnitttiefe (mm)
P	Baustahl (Ck15, Ck25)	≤180HB	Allgemeine Zerspanung	Mittlere Zerspanung	Standard	205—350	0.08—0.30	0.30—2.00
	C-Stahl, legierter Stahl (Ck45, 41CrMo4)	180—280HB	Allgemeine Zerspanung	Mittlere Zerspanung	Standard	150—260	0.08—0.30	0.30—2.00
K	Gusseisen (GG30)	≤350MPa	Allgemeine Zerspanung	Mittlere Zerspanung	—	130—200	0.08—0.30	0.30—2.00
	Duktiles Gusseisen (GGG45)	≤450MPa	Allgemeine Zerspanung	Mittlere Zerspanung	—	120—190	0.08—0.30	0.30—2.00
		≤800MPa	Allgemeine Zerspanung	Mittlere Zerspanung	—	105—170	0.08—0.30	0.30—2.00

WSP

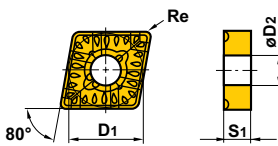
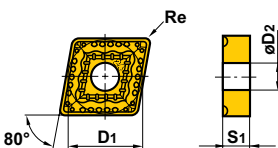
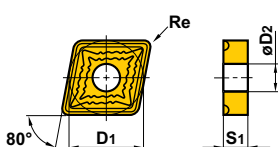
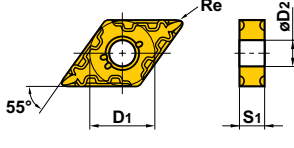
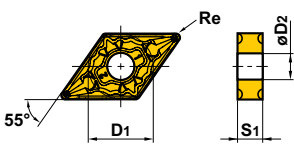
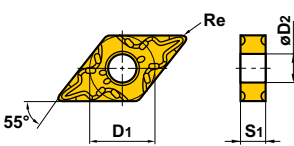
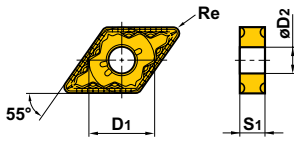
● Negative WSP (mit Loch)

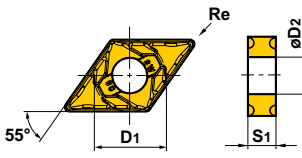
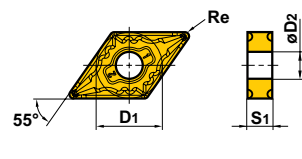
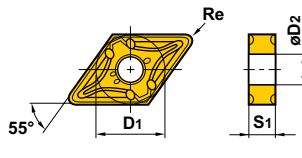
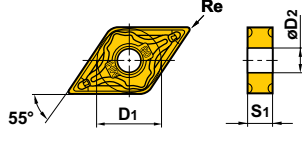
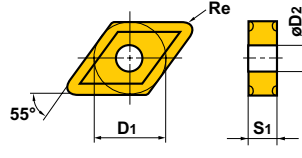
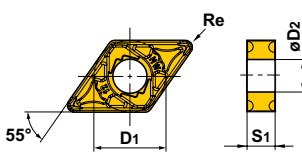
Form	Bestellbezeichnung	Lager	Abmessungen (mm)				Geometrie
		UE6110	D ₁	S ₁	Re	D ₂	
FH  Schlichtzerspanung	CNMG120402-FH	●	12.7	4.76	0.2	5.16	
	120404-FH	●	12.7	4.76	0.4	5.16	
	120408-FH	●	12.7	4.76	0.8	5.16	
LP  Leichtzerspanung	CNMG120404-LP	●	12.7	4.76	0.4	5.16	
	120408-LP	●	12.7	4.76	0.8	5.16	
	120412-LP	●	12.7	4.76	1.2	5.16	
SH  Leichtzerspanung	CNMG09T304-SH	●	9.525	3.97	0.4	3.81	
	09T308-SH	●	9.525	3.97	0.8	3.81	
	120404-SH	●	12.7	4.76	0.4	5.16	
	120408-SH	●	12.7	4.76	0.8	5.16	
	120412-SH	●	12.7	4.76	1.2	5.16	
SA  Leichtzerspanung	CNMG120404-SA	●	12.7	4.76	0.4	5.16	
	120408-SA	●	12.7	4.76	0.8	5.16	
	120412-SA	●	12.7	4.76	1.2	5.16	
SW  Leichtzerspanung (Wiper)	CNMG120404-SW	●	12.7	4.76	0.4	5.16	
	120408-SW	●	12.7	4.76	0.8	5.16	
	120412-SW	●	12.7	4.76	1.2	5.16	
MP  Mittlere Zerspanung	CNMG120404-MP	●	12.7	4.76	0.4	5.16	
	120408-MP	●	12.7	4.76	0.8	5.16	
	120412-MP	●	12.7	4.76	1.2	5.16	
	120416-MP	●	12.7	4.76	1.6	5.16	
	160608-MP	●	15.875	6.35	0.8	6.35	
	160612-MP	●	15.875	6.35	1.2	6.35	
	160616-MP	●	15.875	6.35	1.6	6.35	
MA  Mittlere Zerspanung	CNMG120404-MA	●	12.7	4.76	0.4	5.16	
	120408-MA	●	12.7	4.76	0.8	5.16	
	120412-MA	●	12.7	4.76	1.2	5.16	
	120416-MA	●	12.7	4.76	1.6	5.16	
	160608-MA	●	15.875	6.35	0.8	6.35	
	160612-MA	●	15.875	6.35	1.2	6.35	
	160616-MA	●	15.875	6.35	1.6	6.35	
	190612-MA	●	19.05	6.35	1.2	7.93	
	190616-MA	●	19.05	6.35	1.6	7.93	

Form	Bestellbezeichnung	Lager	Abmessungen (mm)				Geometrie
		<i>UE6110</i>	D1	S1	Re	D2	
MH 	CNMG120404-MH	●	12.7	4.76	0.4	5.16	
	120408-MH	●	12.7	4.76	0.8	5.16	
	120412-MH	●	12.7	4.76	1.2	5.16	
	120416-MH	●	12.7	4.76	1.6	5.16	
	160608-MH	●	15.875	6.35	0.8	6.35	
	160612-MH	●	15.875	6.35	1.2	6.35	
	160616-MH	●	15.875	6.35	1.6	6.35	
	190612-MH	●	19.05	6.35	1.2	7.93	
	190616-MH	●	19.05	6.35	1.6	7.93	
Mittlere Zerspanung							
Standard 	CNMG090308	●	9.525	3.18	0.8	3.81	
	09T304	●	9.525	3.97	0.4	3.81	
	09T308	●	9.525	3.97	0.8	3.81	
	120404	●	12.7	4.76	0.4	5.16	
	120408	●	12.7	4.76	0.8	5.16	
	120412	●	12.7	4.76	1.2	5.16	
	120416	●	12.7	4.76	1.6	5.16	
	160608	●	15.875	6.35	0.8	6.35	
	160612	●	15.875	6.35	1.2	6.35	
	160616	●	15.875	6.35	1.6	6.35	
	190608	●	19.05	6.35	0.8	7.93	
	190612	●	19.05	6.35	1.2	7.93	
	190616	●	19.05	6.35	1.6	7.93	
Mittlere Zerspanung							
MW 	CNMG120408-MW	●	12.7	4.76	0.8	5.16	
	120412-MW	●	12.7	4.76	1.2	5.16	
Mittlere Zerspanung (Wiper)							
MS 	CNMG090308-MS	●	9.525	3.18	0.8	3.81	
	09T308-MS	●	9.525	3.97	0.8	3.81	
	120404-MS	●	12.7	4.76	0.4	5.16	
	120408-MS	●	12.7	4.76	0.8	5.16	
	120412-MS	●	12.7	4.76	1.2	5.16	
Mittlere Zerspanung							
NEW RP 	CNMG120408-RP	●	12.7	4.76	0.8	5.16	
	120412-RP	●	12.7	4.76	1.2	5.16	
	120416-RP	●	12.7	4.76	1.6	5.16	
	160612-RP	●	15.875	6.35	1.2	6.35	
	160616-RP	●	15.875	6.35	1.6	6.35	
	190612-RP	●	19.05	6.35	1.2	7.93	
	190616-RP	●	19.05	6.35	1.6	7.93	
Schruppzerspanung							
GH 	CNMG120408-GH	●	12.7	4.76	0.8	5.16	
	120412-GH	●	12.7	4.76	1.2	5.16	
	120416-GH	●	12.7	4.76	1.6	5.16	
	160612-GH	●	15.875	6.35	1.2	6.35	
	160616-GH	●	15.875	6.35	1.6	6.35	
	190612-GH	●	19.05	6.35	1.2	7.93	
	190616-GH	●	19.05	6.35	1.6	7.93	
Schruppzerspanung							

WSP

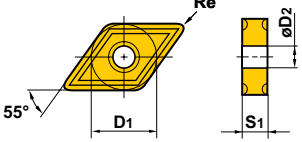
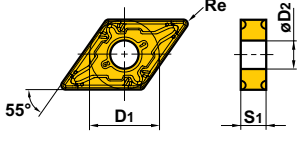
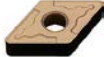
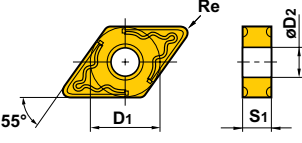
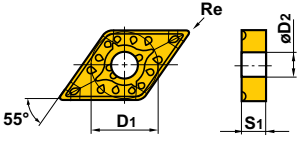
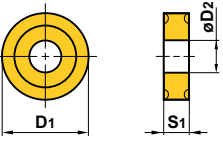
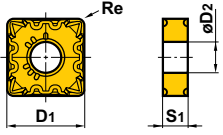
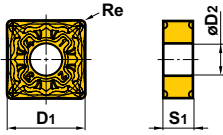
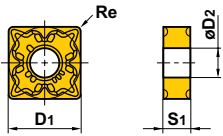
● Negative WSP (mit Loch)

Form	Bestellbezeichnung	Lager	Abmessungen (mm)				Geometrie
		UE6110	D ₁	S ₁	Re	D ₂	
 Schruppzerspanung	CNMM120408-HZ	●	12.7	4.76	0.8	5.16	
	120412-HZ	●	12.7	4.76	1.2	5.16	
	160612-HZ	●	15.875	6.35	1.2	6.35	
	160616-HZ	●	15.875	6.35	1.6	6.35	
	190612-HZ	●	19.05	6.35	1.2	7.93	
	190616-HZ	●	19.05	6.35	1.6	7.93	
 Schruppzerspanung	CNMM190612-HX	●	19.05	6.35	1.2	7.93	
	190616-HX	●	19.05	6.35	1.6	7.93	
	190624-HX	●	19.05	6.35	2.4	7.93	
	250924-HX	●	25.4	9.52	2.4	9.12	
 Schwerzerspanung	CNMM190616-HV	●	19.05	6.35	1.6	7.93	
	190624-HV	●	19.05	6.35	2.4	7.93	
	250924-HV	●	25.4	9.52	2.4	9.12	
 Schlichtzerspanung	DNMG150402-FH	●	12.7	4.76	0.2	5.16	
	150404-FH	●	12.7	4.76	0.4	5.16	
	150408-FH	●	12.7	4.76	0.8	5.16	
	150602-FH	●	12.7	6.35	0.2	5.16	
	150604-FH	●	12.7	6.35	0.4	5.16	
	150608-FH	●	12.7	6.35	0.8	5.16	
 Leichtzerspanung	DNMG110404-LP	●	9.525	4.76	0.4	3.81	
	110408-LP	●	9.525	4.76	0.8	3.81	
	150404-LP	●	12.7	4.76	0.4	5.16	
	150408-LP	●	12.7	4.76	0.8	5.16	
	150412-LP	●	12.7	4.76	1.2	5.16	
	150604-LP	●	12.7	6.35	0.4	5.16	
	150608-LP	●	12.7	6.35	0.8	5.16	
	150612-LP	●	12.7	6.35	1.2	5.16	
 Leichtzerspanung	DNMG110404-SH	●	9.525	4.76	0.4	3.81	
	110408-SH	●	9.525	4.76	0.8	3.81	
	150404-SH	●	12.7	4.76	0.4	5.16	
	150408-SH	●	12.7	4.76	0.8	5.16	
	150412-SH	●	12.7	4.76	1.2	5.16	
	150604-SH	●	12.7	6.35	0.4	5.16	
	150608-SH	●	12.7	6.35	0.8	5.16	
	150612-SH	●	12.7	6.35	1.2	5.16	
 Leichtzerspanung	DNMG150404-SA	●	12.7	4.76	0.4	5.16	
	150408-SA	●	12.7	4.76	0.8	5.16	
	150412-SA	●	12.7	4.76	1.2	5.16	
	150604-SA	●	12.7	6.35	0.4	5.16	
	150608-SA	●	12.7	6.35	0.8	5.16	
	150612-SA	●	12.7	6.35	1.2	5.16	

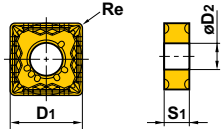
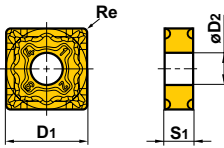
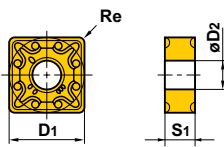
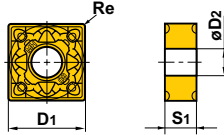
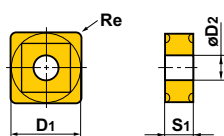
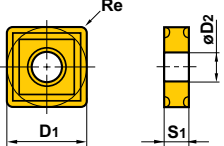
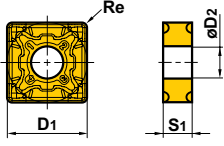
Form	Bestellbezeichnung	Lager	Abmessungen (mm)				Geometrie
		<i>UE6110</i>	D1	S1	Re	D2	
SW  Leichtzerspanung (Wiper)	DNMX150404-SW	●	12.7	4.76	0.4	5.16	
	150408-SW	●	12.7	4.76	0.8	5.16	
	150412-SW	●	12.7	4.76	1.2	5.16	
	150604-SW	●	12.7	6.35	0.4	5.16	
	150608-SW	●	12.7	6.35	0.8	5.16	
	150612-SW	●	12.7	6.35	1.2	5.16	
MP  Mittlere Zerspanung	DNMG150404-MP	●	12.7	4.76	0.4	5.16	
	150408-MP	●	12.7	4.76	0.8	5.16	
	150412-MP	●	12.7	4.76	1.2	5.16	
	150416-MP	●	12.7	4.76	1.6	5.16	
	150604-MP	●	12.7	6.35	0.4	5.16	
	150608-MP	●	12.7	6.35	0.8	5.16	
	150612-MP	●	12.7	6.35	1.2	5.16	
	150616-MP	●	12.7	6.35	1.6	5.16	
MA  Mittlere Zerspanung	DNMG110404-MA	●	9.525	4.76	0.4	3.81	
	110408-MA	●	9.525	4.76	0.8	3.81	
	110412-MA	●	9.525	4.76	1.2	3.81	
	150404-MA	●	12.7	4.76	0.4	5.16	
	150408-MA	●	12.7	4.76	0.8	5.16	
	150412-MA	●	12.7	4.76	1.2	5.16	
	150604-MA	●	12.7	6.35	0.4	5.16	
	150608-MA	●	12.7	6.35	0.8	5.16	
	150612-MA	●	12.7	6.35	1.2	5.16	
	150616-MA	●	12.7	6.35	1.6	5.16	
MH  Mittlere Zerspanung	DNMG150404-MH	●	12.7	4.76	0.4	5.16	
	150408-MH	●	12.7	4.76	0.8	5.16	
	150412-MH	●	12.7	4.76	1.2	5.16	
	150604-MH	●	12.7	6.35	0.4	5.16	
	150608-MH	●	12.7	6.35	0.8	5.16	
	150612-MH	●	12.7	6.35	1.2	5.16	
Standard  Mittlere Zerspanung	DNMG110408	●	9.525	4.76	0.8	3.81	
	150404	●	12.7	4.76	0.4	5.16	
	150408	●	12.7	4.76	0.8	5.16	
	150412	●	12.7	4.76	1.2	5.16	
	150416	●	12.7	4.76	1.6	5.16	
	150604	●	12.7	6.35	0.4	5.16	
	150608	●	12.7	6.35	0.8	5.16	
	150612	●	12.7	6.35	1.2	5.16	
	150616	●	12.7	6.35	1.6	5.16	
MW  Mittlere Zerspanung (Wiper-WSP)	DNMX150408-MW	●	12.7	4.76	0.8	5.16	
	150412-MW	●	12.7	4.76	1.2	5.16	
	150608-MW	●	12.7	6.35	0.8	5.16	
	150612-MW	●	12.7	6.35	1.2	5.16	

WSP

● Negative WSP (mit Loch)

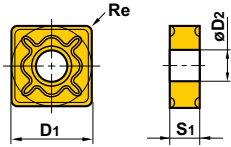
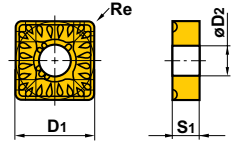
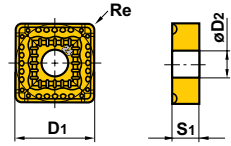
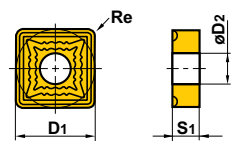
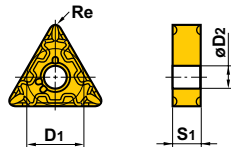
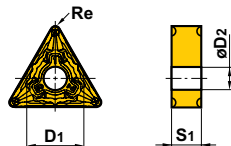
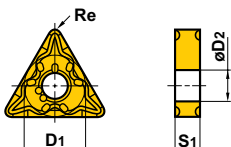
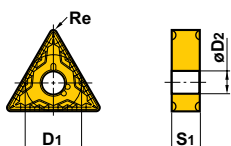
Form	Bestellbezeichnung	Lager	Abmessungen (mm)				Geometrie
		UE6110	D ₁	S ₁	Re	D ₂	
MS 	DNMG110408-MS	●	9.525	4.76	0.8	3.81	
	150404-MS	●	12.7	4.76	0.4	5.16	
	150408-MS	●	12.7	4.76	0.8	5.16	
	150412-MS	●	12.7	4.76	1.2	5.16	
	150604-MS	●	12.7	6.35	0.4	5.16	
	150608-MS	●	12.7	6.35	0.8	5.16	
Mittlere Zerspanung	150612-MS	●	12.7	6.35	1.2	5.16	
NEW RP 	DNMG150408-RP	●	12.7	4.76	0.8	5.16	
	150412-RP	●	12.7	4.76	1.2	5.16	
	150416-RP	●	12.7	4.76	1.6	5.16	
	150608-RP	●	12.7	6.35	0.8	5.16	
	150612-RP	●	12.7	6.35	1.2	5.16	
	150616-RP	●	12.7	6.35	1.6	5.16	
Schruppzerspanung							
GH 	DNMG150408-GH	●	12.7	4.76	0.8	5.16	
	150412-GH	●	12.7	4.76	1.2	5.16	
	150608-GH	●	12.7	6.35	0.8	5.16	
	150612-GH	●	12.7	6.35	1.2	5.16	
Schruppzerspanung							
HZ 	DNMG150408-HZ	●	12.7	4.76	0.8	5.16	
	150412-HZ	●	12.7	4.76	1.2	5.16	
	150608-HZ	●	12.7	6.35	0.8	5.16	
	150612-HZ	●	12.7	6.35	1.2	5.16	
Schwerzerspanung							
Standard 	RNMG120400	●	12.7	4.76	—	5.16	
Mittlere Zerspanung							
FH 	SNMG120404-FH	●	12.7	4.76	0.4	5.16	
	120408-FH	●	12.7	4.76	0.8	5.16	
Schlichtzerspanung							
NEW LP 	SNMG120404-LP	●	12.7	4.76	0.4	5.16	
	120408-LP	●	12.7	4.76	0.8	5.16	
	120412-LP	●	12.7	4.76	1.2	5.16	
Leichtzerspanung							
SH 	SNMG120404-SH	●	12.7	4.76	0.4	5.16	
	120408-SH	●	12.7	4.76	0.8	5.16	
	120412-SH	●	12.7	4.76	1.2	5.16	
Leichtzerspanung							

● : Lagerstandard.

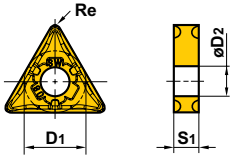
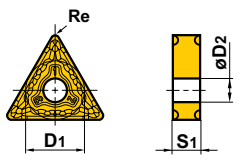
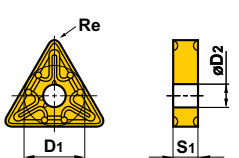
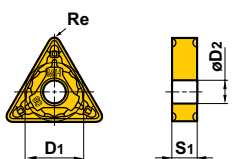
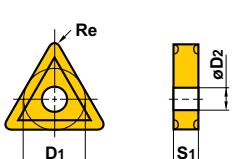
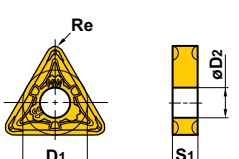
Form	Bestellbezeichnung	Lager	Abmessungen (mm)				Geometrie
		<i>UE6110</i>	D1	S1	Re	D2	
SA  Leichter Zerspanung	SNMG120404-SA	●	12.7	4.76	0.4	5.16	
	120408-SA	●	12.7	4.76	0.8	5.16	
	120412-SA	●	12.7	4.76	1.2	5.16	
MP  Mittlere Zerspanung	SNMG120404-MP	●	12.7	4.76	0.4	5.16	
	120408-MP	●	12.7	4.76	0.8	5.16	
	120412-MP	●	12.7	4.76	1.2	5.16	
MA  Mittlere Zerspanung	SNMG120404-MA	●	12.7	4.76	0.4	5.16	
	120408-MA	●	12.7	4.76	0.8	5.16	
	120412-MA	●	12.7	4.76	1.2	5.16	
	150608-MA	●	15.875	6.35	0.8	6.35	
	150612-MA	●	15.875	6.35	1.2	6.35	
	150616-MA	●	15.875	6.35	1.6	6.35	
	190612-MA	●	19.05	6.35	1.2	7.93	
	190616-MA	●	19.05	6.35	1.6	7.93	
MH  Mittlere Zerspanung	SNMG120408-MH	●	12.7	4.76	0.8	5.16	
	120412-MH	●	12.7	4.76	1.2	5.16	
	190612-MH	●	19.05	6.35	1.2	7.93	
	190616-MH	●	19.05	6.35	1.6	7.93	
Standard  Mittlere Zerspanung	SNMG090304	●	9.525	3.18	0.4	3.81	
	090308	●	9.525	3.18	0.8	3.81	
	120404	●	12.7	4.76	0.4	5.16	
	120408	●	12.7	4.76	0.8	5.16	
	120412	●	12.7	4.76	1.2	5.16	
	120416	●	12.7	4.76	1.6	5.16	
	150612	●	15.875	6.35	1.2	6.35	
	190612	●	19.05	6.35	1.2	7.93	
	190616	●	19.05	6.35	1.6	7.93	
MS  Mittlere Zerspanung	SNMG120404-MS	●	12.7	4.76	0.4	5.16	
	120408-MS	●	12.7	4.76	0.8	5.16	
	120412-MS	●	12.7	4.76	1.2	5.16	
NEW RP  Schrappzerspanung	SNMG120408-RP	●	12.7	4.76	0.8	5.16	
	120412-RP	●	12.7	4.76	1.2	5.16	
	120416-RP	●	12.7	4.76	1.6	5.16	
	150612-RP	●	15.875	6.35	1.2	6.35	
	150616-RP	●	15.875	6.35	1.6	6.35	
	190612-RP	●	19.05	6.35	1.2	7.93	
	190616-RP	●	19.05	6.35	1.6	7.93	

WSP

● Negative WSP (mit Loch)

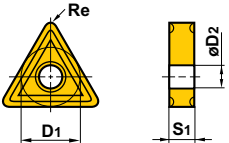
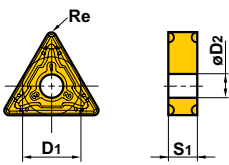
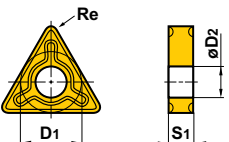
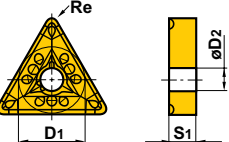
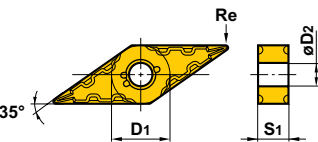
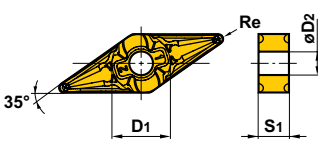
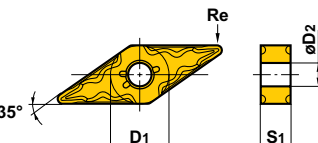
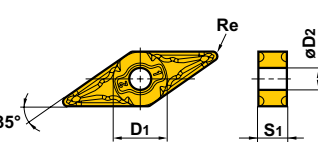
Form	Bestellbezeichnung	Lager	Abmessungen (mm)				Geometrie
		UE6110	D ₁	S ₁	Re	D ₂	
GH 	SNMG120408-GH	●	12.7	4.76	0.8	5.16	
	120412-GH	●	12.7	4.76	1.2	5.16	
	120416-GH	●	12.7	4.76	1.6	5.16	
	150612-GH	●	15.875	6.35	1.2	6.35	
	150616-GH	●	15.875	6.35	1.6	6.35	
	190612-GH	●	19.05	6.35	1.2	7.93	
	190616-GH	●	19.05	6.35	1.6	7.93	
Schruppzerspanung							
HZ 	SNMM120408-HZ	●	12.7	4.76	0.8	5.16	
	120412-HZ	●	12.7	4.76	1.2	5.16	
	150612-HZ	●	15.875	6.35	1.2	6.35	
	190612-HZ	●	19.05	6.35	1.2	7.93	
	190616-HZ	●	19.05	6.35	1.6	7.93	
Schwerzerspanung							
HX 	SNMM190612-HX	●	19.05	6.35	1.2	7.93	
	190616-HX	●	19.05	6.35	1.6	7.93	
	190624-HX	●	19.05	6.35	2.4	7.93	
	250724-HX	●	25.4	7.94	2.4	9.12	
	250924-HX	●	25.4	9.52	2.4	9.12	
Schwerzerspanung							
HV 	SNMM190616-HV	●	19.05	6.35	1.6	7.93	
	190624-HV	●	19.05	6.35	2.4	7.93	
	250724-HV	●	25.4	7.94	2.4	9.12	
	250924-HV	●	25.4	9.53	2.4	9.12	
Schwerzerspanung							
FH 	TNMG160402-FH	●	9.525	4.76	0.2	3.81	
	160404-FH	●	9.525	4.76	0.4	3.81	
	160408-FH	●	9.525	4.76	0.8	3.81	
Schlichtzerspanung							
NEW LP 	TNMG160404-LP	●	9.525	4.76	0.4	3.81	
	160408-LP	●	9.525	4.76	0.8	3.81	
	160412-LP	●	9.525	4.76	1.2	3.81	
	220408-LP	●	12.7	4.76	0.8	5.16	
	220412-LP	●	12.7	4.76	1.2	5.16	
Leichtzerspanung							
SH 	TNMG160404-SH	●	9.525	4.76	0.4	3.81	
	160408-SH	●	9.525	4.76	0.8	3.81	
	220408-SH	●	12.7	4.76	0.8	5.16	
Leichtzerspanung							
SA 	TNMG160404-SA	●	9.525	4.76	0.4	3.81	
	160408-SA	●	9.525	4.76	0.8	3.81	
	160412-SA	●	9.525	4.76	1.2	3.81	
	220408-SA	●	12.7	4.76	0.8	5.16	
	220412-SA	●	12.7	4.76	1.2	5.16	
Leichtzerspanung							

● : Lagerstandard.

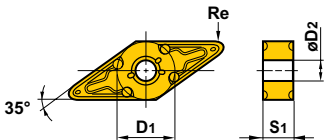
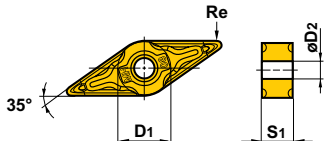
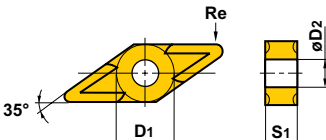
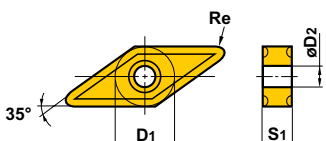
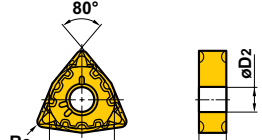
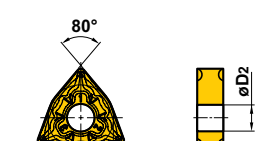
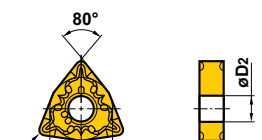
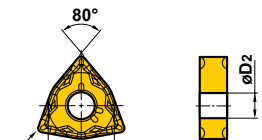
Form	Bestellbezeichnung	Lager	Abmessungen (mm)				Geometrie
		UE6110	D1	S1	Re	D2	
SW  Leichtzerspanung (Wiper)	TNMX160404-SW	●	9.525	4.76	0.4	3.81	
	160408-SW	●	9.525	4.76	0.8	3.81	
MP  Mittlere Zerspanung	TNMG160404-MP	●	9.525	4.76	0.4	3.81	
	160408-MP	●	9.525	4.76	0.8	3.81	
	160412-MP	●	9.525	4.76	1.2	3.81	
	220408-MP	●	12.7	4.76	0.8	5.16	
	220412-MP	●	12.7	4.76	1.2	5.16	
MA  Mittlere Zerspanung	TNMG160404-MA	●	9.525	4.76	0.4	3.81	
	160408-MA	●	9.525	4.76	0.8	3.81	
	160412-MA	●	9.525	4.76	1.2	3.81	
	220408-MA	●	12.7	4.76	0.8	5.16	
	220412-MA	●	12.7	4.76	1.2	5.16	
	270608-MA	●	15.875	6.35	0.8	6.35	
MH  Mittlere Zerspanung	TNMG160404-MH	●	9.525	4.76	0.4	3.81	
	160408-MH	●	9.525	4.76	0.8	3.81	
	160412-MH	●	9.525	4.76	1.2	3.81	
	220408-MH	●	12.7	4.76	0.8	5.16	
	220412-MH	●	12.7	4.76	1.2	5.16	
Standard  Mittlere Zerspanung	TNMG110304	●	6.35	3.18	0.4	2.26	
	110308	●	6.35	3.18	0.8	2.26	
	160304	●	9.525	3.18	0.4	3.81	
	160308	●	9.525	3.18	0.8	3.81	
	160404	●	9.525	4.76	0.4	3.81	
	160408	●	9.525	4.76	0.8	3.81	
	160412	●	9.525	4.76	1.2	3.81	
	160416	●	9.525	4.76	1.6	3.81	
	220404	●	12.7	4.76	0.4	5.16	
	220408	●	12.7	4.76	0.8	5.16	
	220412	●	12.7	4.76	1.2	5.16	
	220416	●	12.7	4.76	1.6	5.16	
	270608	●	15.875	6.35	0.8	6.35	
	270612	●	15.875	6.35	1.2	6.35	
	270616	●	15.875	6.35	1.6	6.35	
MW  Leichtzerspanung (Wiper)	TNMX160408-MW	●	9.525	4.76	0.8	3.81	
	160412-MW	●	9.525	4.76	1.2	3.81	

WSP

● Negative WSP (mit Loch)

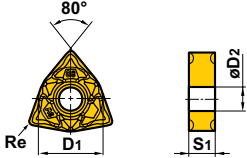
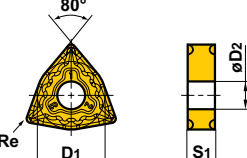
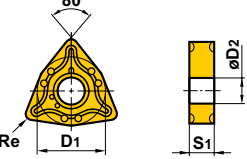
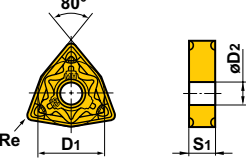
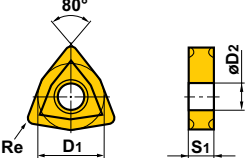
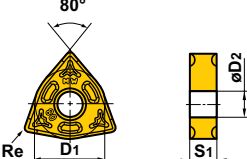
Form	Bestellbezeichnung	Lager	Abmessungen (mm)				Geometrie
		UE6110	D ₁	S ₁	Re	D ₂	
MS 	TNMG160404-MS	●	9.525	4.76	0.4	3.81	
	160408-MS	●	9.525	4.76	0.8	3.81	
	160412-MS	●	9.525	4.76	1.2	3.81	
	220408-MS	●	12.7	4.76	0.8	5.16	
Mittlere Zerspanung							
NEW RP 	TNMG160408-RP	●	9.525	4.76	0.8	3.81	
	160412-RP	●	9.525	4.76	1.2	3.81	
	220408-RP	●	12.7	4.76	0.8	5.16	
	220412-RP	●	12.7	4.76	1.2	5.16	
	220416-RP	●	12.7	4.76	1.6	5.16	
	270612-RP	●	15.875	6.35	1.2	6.35	
	270616-RP	●	15.875	6.35	1.6	6.35	
Schruppzerspanung							
GH 	TNMG160408-GH	●	9.525	4.76	0.8	3.81	
	160412-GH	●	9.525	4.76	1.2	3.81	
	220408-GH	●	12.7	4.76	0.8	5.16	
	220412-GH	●	12.7	4.76	1.2	5.16	
	220416-GH	●	12.7	4.76	1.6	5.16	
	270612-GH	●	15.875	6.35	1.2	6.35	
Schruppzerspanung	270616-GH	●	15.875	6.35	1.6	6.35	
HZ 	TNMG160408-HZ	●	9.525	4.76	0.8	3.81	
	220408-HZ	●	12.7	4.76	0.8	5.16	
	220412-HZ	●	12.7	4.76	1.2	5.16	
	220416-HZ	●	12.7	4.76	1.6	5.16	
Schwerzerspanung							
FH 	VNMG160402-FH	●	9.525	4.76	0.2	3.81	
	160404-FH	●	9.525	4.76	0.4	3.81	
	160408-FH	●	9.525	4.76	0.8	3.81	
Schlichtzerspanung							
NEW LP 	VNMG160404-LP	●	9.525	4.76	0.4	3.81	
	160408-LP	●	9.525	4.76	0.8	3.81	
Leichtzerspanung							
SH 	VNMG160404-SH	●	9.525	4.76	0.4	3.81	
	160408-SH	●	9.525	4.76	0.8	3.81	
Leichtzerspanung							
MP 	VNMG160404-MP	●	9.525	4.76	0.4	3.81	
	160408-MP	●	9.525	4.76	0.8	3.81	
	160412-MP	●	9.525	4.76	1.2	3.81	
Mittlere Zerspanung							

● : Lagerstandard.

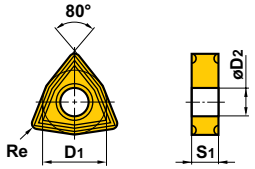
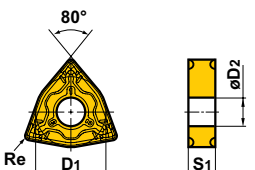
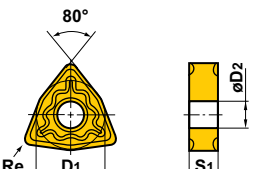
Form	Bestellbezeichnung	Lager	Abmessungen (mm)				Geometrie
		UE6110	D ₁	S ₁	Re	D ₂	
MA	VNMG160404-MA	●	9.525	4.76	0.4	3.81	
	160408-MA	●	9.525	4.76	0.8	3.81	
 Mittlere Zerspanung							
MH	VNMG160404-MH	●	9.525	4.76	0.4	3.81	
	160408-MH	●	9.525	4.76	0.8	3.81	
 Mittlere Zerspanung							
Standard	VNMG160404	●	9.525	4.76	0.4	3.81	
	160408	●	9.525	4.76	0.8	3.81	
	160412	●	9.525	4.76	1.2	3.81	
 Mittlere Zerspanung							
MS	VNMG160404-MS	●	9.525	4.76	0.4	3.81	
	160408-MS	●	9.525	4.76	0.8	3.81	
 Mittlere Zerspanung							
FH	WNMG080404-FH	●	12.7	4.76	0.4	5.16	
	080408-FH	●	12.7	4.76	0.8	5.16	
 Schlichtzerspanung							
NEW LP	WNMG06T304-LP	●	9.525	3.97	0.4	3.81	
	06T308-LP	●	9.525	3.97	0.8	3.81	
	060404-LP	●	9.525	4.76	0.4	3.81	
	060408-LP	●	9.525	4.76	0.8	3.81	
	080404-LP	●	12.7	4.76	0.4	5.16	
	080408-LP	●	12.7	4.76	0.8	5.16	
	080412-LP	●	12.7	4.76	1.2	5.16	
 Leichtzerspanung							
SH	WNMG06T304-SH	●	9.525	3.97	0.4	3.81	
	06T308-SH	●	9.525	3.97	0.8	3.81	
	060404-SH	●	9.525	4.76	0.4	3.81	
	060408-SH	●	9.525	4.76	0.8	3.81	
	080404-SH	●	12.7	4.76	0.4	5.16	
	080408-SH	●	12.7	4.76	0.8	5.16	
	080412-SH	●	12.7	4.76	1.2	5.16	
 Leichtzerspanung							
SA	WNMG080404-SA	●	12.7	4.76	0.4	5.16	
	080408-SA	●	12.7	4.76	0.8	5.16	
	080412-SA	●	12.7	4.76	1.2	5.16	
 Leichtzerspanung							

WSP

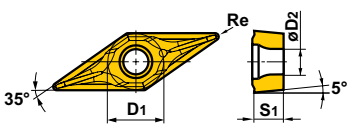
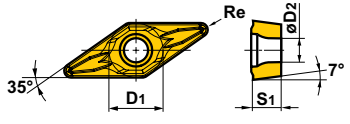
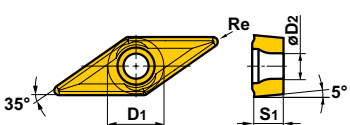
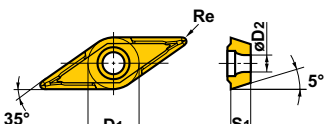
● Negative WSP (mit Loch)

Form	Bestellbezeichnung	Lager	Abmessungen (mm)				Geometrie
		UE6110	D ₁	S ₁	Re	D ₂	
SW  Leichtzerspanung (Wiper)	WNMG060404-SW	●	9.525	4.76	0.4	3.81	
	060408-SW	●	9.525	4.76	0.8	3.81	
	080404-SW	●	12.7	4.76	0.4	5.16	
	080408-SW	●	12.7	4.76	0.8	5.16	
	080412-SW	●	12.7	4.76	1.2	5.16	
MP  Mittlere Zerspanung	WNMG06T304-MP	●	9.525	3.97	0.4	3.81	
	06T308-MP	●	9.525	3.97	0.8	3.81	
	06T312-MP	●	9.525	3.97	1.2	3.81	
	060404-MP	●	9.525	4.76	0.4	3.81	
	060408-MP	●	9.525	4.76	0.8	3.81	
	060412-MP	●	9.525	4.76	1.2	3.81	
	080404-MP	●	12.7	4.76	0.4	5.16	
	080408-MP	●	12.7	4.76	0.8	5.16	
	080412-MP	●	12.7	4.76	1.2	5.16	
MA  Mittlere Zerspanung	WNMG06T304-MA	●	9.525	3.97	0.4	3.81	
	06T308-MA	●	9.525	3.97	0.8	3.81	
	06T312-MA	●	9.525	3.97	1.2	3.81	
	060404-MA	●	9.525	4.76	0.4	3.81	
	060408-MA	●	9.525	4.76	0.8	3.81	
	060412-MA	●	9.525	4.76	1.2	3.81	
	080404-MA	●	12.7	4.76	0.4	5.16	
	080408-MA	●	12.7	4.76	0.8	5.16	
	080412-MA	●	12.7	4.76	1.2	5.16	
MH  Mittlere Zerspanung	WNMG080404-MH	●	12.7	4.76	0.4	5.16	
	080408-MH	●	12.7	4.76	0.8	5.16	
	080412-MH	●	12.7	4.76	1.2	5.16	
Standard  Mittlere Zerspanung	WNMG080404	●	12.7	4.76	0.4	5.16	
	080408	●	12.7	4.76	0.8	5.16	
	080412	●	12.7	4.76	1.2	5.16	
MW  Mittlere Zerspanung (Wiper-WSP)	WNMG060408-MW	●	9.525	4.76	0.8	3.81	
	060412-MW	●	9.525	4.76	1.2	3.81	
	080408-MW	●	12.7	4.76	0.8	5.16	
	080412-MW	●	12.7	4.76	1.2	5.16	

● : Lagerstandard.

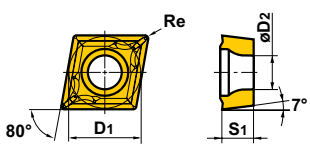
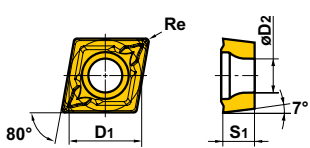
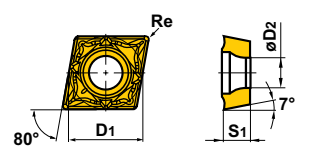
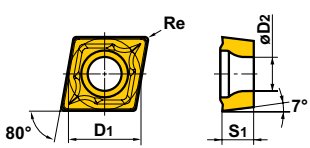
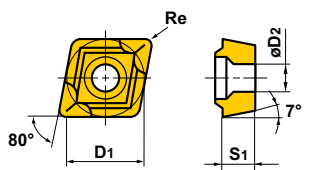
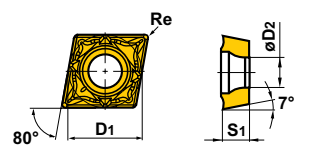
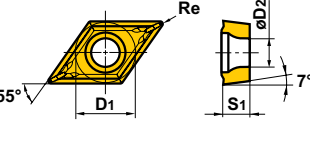
Form	Bestellbezeichnung	Lager	Abmessungen (mm)				Geometrie
		UE6110	D ₁	S ₁	Re	D ₂	
MS  Mittlere Zerspanung	WNMG06T304-MS	●	9.525	3.97	0.4	3.81	
	06T308-MS	●	9.525	3.97	0.8	3.81	
	060404-MS	●	9.525	4.76	0.4	3.81	
	060408-MS	●	9.525	4.76	0.8	3.81	
	080404-MS	●	12.7	4.76	0.4	5.16	
	080408-MS	●	12.7	4.76	0.8	5.16	
	080412-MS	●	12.7	4.76	1.2	5.16	
NEW RP  Schruppzerspanung	WNMG080408-RP	●	12.7	4.76	0.8	5.16	
	080412-RP	●	12.7	4.76	1.2	5.16	
GH  Schruppzerspanung	WNMG080408-GH	●	12.7	4.76	0.8	5.16	
	080412-GH	●	12.7	4.76	1.2	5.16	

● 5° positive WSP (mit Loch)

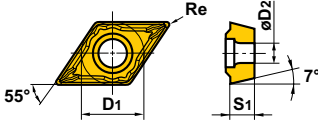
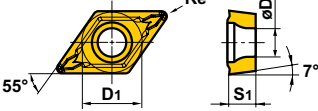
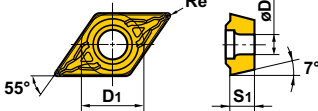
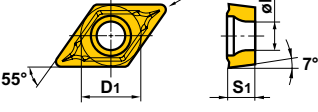
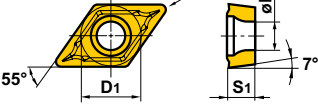
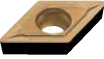
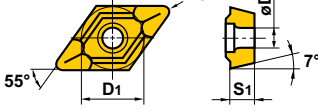
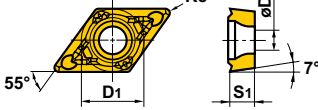
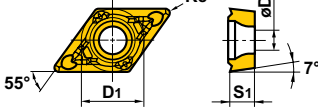
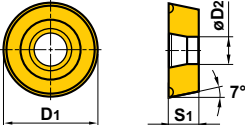
Form	Bestellbezeichnung	Lager	Abmessungen (mm)				Geometrie
		UE6110	D ₁	S ₁	Re	D ₂	
FH  Schlichtzerspanung	VBMT110302-FP	●	6.35	3.18	0.2	2.9	
	110304-FP	●	6.35	3.18	0.4	2.9	
	110308-FP	●	6.35	3.18	0.8	2.9	
	160404-FP	●	9.525	4.76	0.4	4.4	
	160408-FP	●	9.525	4.76	0.8	4.4	
LP  Leichtzerspanung	VBMT110304-LP	●	6.35	3.18	0.4	2.9	
	110308-LP	●	6.35	3.18	0.8	2.9	
	160404-LP	●	9.525	4.76	0.4	4.4	
	160408-LP	●	9.525	4.76	0.8	4.4	
MP  Mittlere Zerspanung	VBMT160404-MP	●	9.525	4.76	0.4	4.4	
	160408-MP	●	9.525	4.76	0.8	4.4	
Standard  Mittlere Zerspanung	VBMT160404	●	9.525	4.76	0.4	4.43	
	160408	●	9.525	4.76	0.8	4.43	

WSP

● 7° positive WSP (mit Loch)

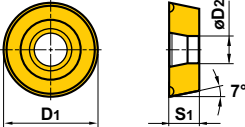
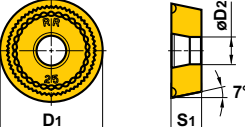
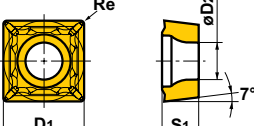
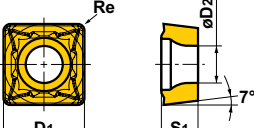
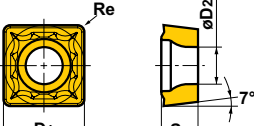
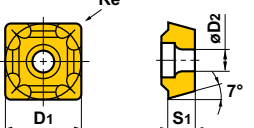
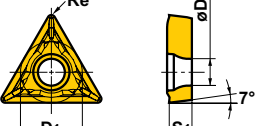
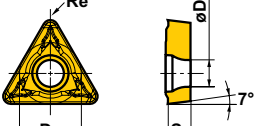
Form	Bestellbezeichnung	Lager	Abmessungen (mm)				Geometrie
		UE6110	D ₁	S ₁	Re	D ₂	
NEW FP 	CCMT060202-FP	●	6.35	2.38	0.2	2.8	
	060204-FP	●	6.35	2.38	0.4	2.8	
	09T302-FP	●	9.525	3.97	0.2	4.4	
	09T304-FP	●	9.525	3.97	0.4	4.4	
	09T308-FP	●	9.525	3.97	0.8	4.4	
Schlichtzerspanung							
NEW LP 	CCMT060204-LP	●	6.35	2.38	0.4	2.8	
	060208-LP	●	6.35	2.38	0.8	2.8	
	09T304-LP	●	9.525	3.97	0.4	4.4	
	09T308-LP	●	9.525	3.97	0.8	4.4	
Leichtzerspanung							
SW 	CCMT060202-SW	●	6.35	2.38	0.2	2.8	
	060204-SW	●	6.35	2.38	0.4	2.8	
	09T302-SW	●	9.525	3.97	0.2	4.4	
	09T304-SW	●	9.525	3.97	0.4	4.4	
Leichtzerspanung (Wiper)							
NEW MP 	CCMT060204-MP	●	6.35	2.38	0.4	2.8	
	060208-MP	●	6.35	2.38	0.8	2.8	
	09T304-MP	●	9.525	3.97	0.4	4.4	
	09T308-MP	●	9.525	3.97	0.8	4.4	
	120404-MP	●	12.7	4.76	0.4	5.5	
	120408-MP	●	12.7	4.76	0.8	5.5	
	120412-MP	●	12.7	4.76	1.2	5.5	
Mittlere Zerspanung							
Standard 	CCMT060202	●	6.35	2.38	0.2	2.8	
	060204	●	6.35	2.38	0.4	2.8	
	060208	●	6.35	2.38	0.8	2.8	
	080302	●	7.94	3.18	0.2	3.4	
	080304	●	7.94	3.18	0.4	3.4	
	080308	●	7.94	3.18	0.8	3.4	
	09T302	●	9.525	3.97	0.2	4.4	
	09T304	●	9.525	3.97	0.4	4.4	
	09T308	●	9.525	3.97	0.8	4.4	
	120404	●	12.7	4.76	0.4	5.5	
	120408	●	12.7	4.76	0.8	5.5	
	120412	●	12.7	4.76	1.2	5.5	
Mittlere Zerspanung							
MW 	CCMT060208-MW	●	6.35	2.38	0.8	2.8	
	09T304-MW	●	9.525	3.97	0.4	4.4	
	09T308-MW	●	9.525	3.97	0.8	4.4	
	120404-MW	●	12.7	4.76	0.4	5.5	
	120408-MW	●	12.7	4.76	0.8	5.5	
Mittlere Zerspanung ((Wiper-WSP))							
NEW FP 	DCMT070202-FP	●	6.35	2.38	0.2	2.8	
	070204-FP	●	6.35	2.38	0.4	2.8	
	11T302-FP	●	9.525	3.97	0.2	4.4	
	11T304-FP	●	9.525	3.97	0.4	4.4	
	11T308-FP	●	9.525	3.97	0.8	4.4	
Schlichtzerspanung							

● : Lagerstandard.

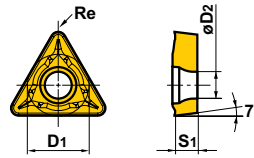
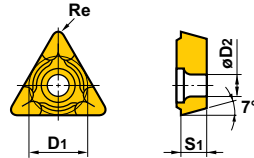
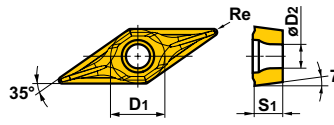
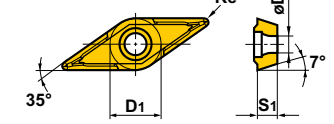
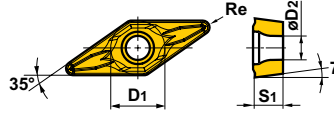
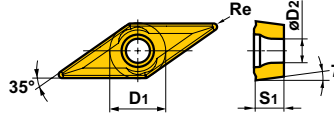
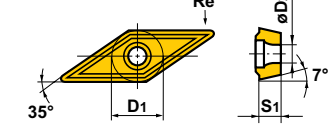
Form	Bestellbezeichnung	Lager	Abmessungen (mm)				Geometrie
		UE6110	D1	S1	Re	D2	
FV 	DCMT070202-FV	●	6.35	2.38	0.2	2.8	
	070204-FV	●	6.35	2.38	0.4	2.8	
	11T304-FV	●	9.525	3.97	0.4	4.4	
	11T308-FV	●	9.525	3.97	0.8	4.4	
Schlichtzerspanung							
NEW LP 	DCMT070204-LP	●	6.35	2.38	0.4	2.8	
	070208-LP	●	6.35	2.38	0.8	2.8	
	11T304-LP	●	9.525	3.97	0.4	4.4	
	11T308-LP	●	9.525	3.97	0.8	4.4	
Leichtzerspanung							
SV 	DCMT070204-SV	●	6.35	2.38	0.4	2.8	
	070208-SV	●	6.35	2.38	0.8	2.8	
	11T302-SV	●	9.525	3.97	0.2	4.4	
	11T304-SV	●	9.525	3.97	0.4	4.4	
Leichtzerspanung NEW MP 	DCMT070204-MP	●	6.35	2.38	0.4	2.8	
	070208-MP	●	6.35	2.38	0.8	2.8	
	11T304-MP	●	9.525	3.97	0.4	4.4	
	11T308-MP	●	9.525	3.97	0.8	4.4	
Mittlere Zerspanung 	150404-MP	●	12.7	4.76	0.4	5.5	
	150408-MP	●	12.7	4.76	0.8	5.5	
Standard 	DCMT070202	●	6.35	2.38	0.2	2.8	
	070204	●	6.35	2.38	0.4	2.8	
	070208	●	6.35	2.38	0.8	2.8	
	11T302	●	9.525	3.97	0.2	4.4	
	11T304	●	9.525	3.97	0.4	4.4	
	11T308	●	9.525	3.97	0.8	4.4	
	11T312	●	9.525	3.97	1.2	4.4	
	150404	●	12.7	4.76	0.4	5.5	
	150408	●	12.7	4.76	0.8	5.5	
	150412	●	12.7	4.76	1.2	5.5	
Mittlere Zerspanung							
MV 	DCMT070202-MV	●	6.35	2.38	0.2	2.8	
	070204-MV	●	6.35	2.38	0.4	2.8	
	070208-MV	●	6.35	2.38	0.8	2.8	
	11T302-MV	●	9.525	3.97	0.2	4.4	
Mittlere Zerspanung 	11T304-MV	●	9.525	3.97	0.4	4.4	
	11T308-MV	●	9.525	3.97	0.8	4.4	
Standard 	RCMT0602M0	●	6	2.38	—	2.8	
	0803M0	●	8	3.18	—	3.4	
Mittlere Zerspanung							

UE6110**WSP**

● 7° positive WSP (mit Loch)

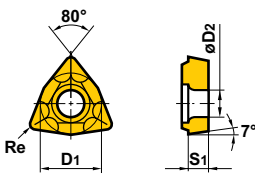
Form	Bestellbezeichnung	Lager	Abmessungen (mm)				Geometrie
		UE6110	D ₁	S ₁	Re	D ₂	
Standard 	RCMX1003M0	●	10	3.18	—	3.6	
	1204M0	●	12	4.76	—	4.2	
	1606M0	●	16	6.35	—	5.2	
	2006M0	●	20	6.35	—	6.5	
	2507M0	●	25	7.94	—	7.2	
	3209M0	●	32	9.52	—	9.5	
Mittlere Zerspanung							
RR 	RCMX1606M0-RR	●	16	6.35	—	5.2	
	2006M0-RR	●	20	6.35	—	6.5	
	2507M0-RR	●	25	7.94	—	7.2	
	3209M0-RR	●	32	9.52	—	9.5	
Mittlere Zerspanung							
NEW FP 	SCMT09T304-FP	●	9.525	3.97	0.4	4.4	
	09T308-FP	●	9.525	3.97	0.8	4.4	
Schlichtzerspanung							
NEW LP 	SCMT09T304-LP	●	9.525	3.97	0.4	4.4	
	09T308-LP	●	9.525	3.97	0.8	4.4	
Leichtzerspanung							
NEW MP 	SCMT09T304-MP	●	9.525	3.97	0.4	4.4	
	09T308-MP	●	9.525	3.97	0.8	4.4	
	120404-MP	●	12.7	4.76	0.4	5.5	
	120408-MP	●	12.7	4.76	0.8	5.5	
Mittlere Zerspanung							
Standard 	SCMT09T304	●	9.525	3.97	0.4	4.4	
	09T308	●	9.525	3.97	0.8	4.4	
	120404	●	12.7	4.76	0.4	5.5	
	120408	●	12.7	4.76	0.8	5.5	
	120412	●	12.7	4.76	1.2	5.5	
Mittlere Zerspanung							
NEW FP 	TCMT090202-FP	●	5.56	2.38	0.2	2.5	
	090204-FP	●	5.56	2.38	0.4	2.5	
	110202-FP	●	6.35	2.38	0.2	2.8	
	110204-FP	●	6.35	2.38	0.4	2.8	
	16T304-FP	●	9.525	3.97	0.4	4.4	
Schlichtzerspanung							
NEW LP 	TCMT090204-LP	●	5.56	2.38	0.4	2.5	
	090208-LP	●	5.56	2.38	0.8	2.5	
	110204-LP	●	6.35	2.38	0.4	2.8	
	110208-LP	●	6.35	2.38	0.8	2.8	
	16T304-LP	●	9.525	3.97	0.4	4.4	
	16T308-LP	●	9.525	3.97	0.8	4.4	
Leichtzerspanung							

● : Lagerstandard.

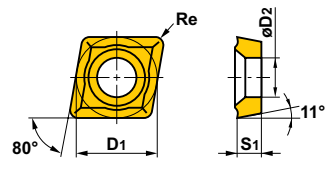
Form	Bestellbezeichnung	Lager	Abmessungen (mm)				Geometrie
		UE6110	D1	S1	Re	D2	
NEW MP 	TCMT090204-MP	●	5.56	2.38	0.4	2.5	
	090208-MP	●	5.56	2.38	0.8	2.5	
	110204-MP	●	6.35	2.38	0.4	2.8	
	110208-MP	●	6.35	2.38	0.8	2.8	
	130304-MP	●	7.94	3.18	0.4	3.4	
	16T304-MP	●	9.525	3.97	0.4	4.4	
	16T308-MP	●	9.525	3.97	0.8	4.4	
	16T312-MP	●	9.525	3.97	1.2	4.4	
Mittlere Zerspanung							
Standard 	TCMT090204	●	5.56	2.38	0.4	2.5	
	110202	●	6.35	2.38	0.2	2.8	
	110204	●	6.35	2.38	0.4	2.8	
	110208	●	6.35	2.38	0.8	2.8	
	130304	●	7.94	3.18	0.4	3.4	
	16T304	●	9.525	3.97	0.4	4.4	
	16T308	●	9.525	3.97	0.8	4.4	
	16T312	●	9.525	3.97	1.2	4.4	
Mittlere Zerspanung							
NEW FP 	VCMT110302-FP	●	6.35	3.18	0.2	2.8	
	110304-FP	●	6.35	3.18	0.4	2.8	
	160404-FP	●	9.525	4.76	0.4	4.4	
	160408-FP	●	9.525	4.76	0.8	4.4	
Schlichtzerspanung							
FV 	VCMT160404-FV	●	9.525	4.76	0.4	4.4	
	160408-FV	●	9.525	4.76	0.8	4.4	
Schlichtzerspanung							
NEW LP 	VCMT110304-LP	●	6.35	3.18	0.4	2.8	
	110308-LP	●	6.35	3.18	0.8	2.8	
	160404-LP	●	9.525	4.76	0.4	4.4	
	160408-LP	●	9.525	4.76	0.8	4.4	
Leichtzerspanung							
NEW MP 	VCMT160404-MP	●	9.525	4.76	0.4	4.4	
	160408-MP	●	9.525	4.76	0.8	4.4	
	160412-MP	●	9.525	4.76	1.2	4.4	
Mittlere Zerspanung							
Standard 	VCMT110304	●	6.35	3.18	0.4	2.8	
	160404	●	9.525	4.76	0.4	4.4	
	160408	●	9.525	4.76	0.8	4.4	
	160412	●	9.525	4.76	1.2	4.4	
Mittlere Zerspanung							

WSP

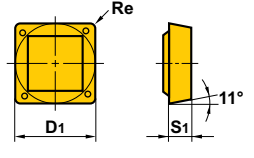
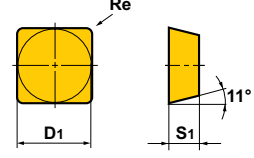
● 7° positive WSP (mit Loch)

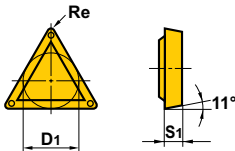
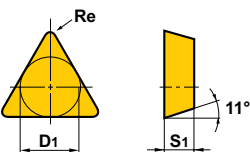
Form	Bestellbezeichnung	Lager	Abmessungen (mm)				Geometrie
		UE6110	D ₁	S ₁	Re	D ₂	
Standard 	WCMT020102	●	3.97	1.59	0.2	2.3	
	020104	●	3.97	1.59	0.4	2.3	
	L30202	●	4.76	2.38	0.2	2.3	
	L30204	●	4.76	2.38	0.4	2.3	
	040202	●	6.35	2.38	0.2	2.8	
	040204	●	6.35	2.38	0.4	2.8	
	06T304	●	9.525	3.97	0.4	4.4	
	06T308	●	9.525	3.97	0.8	4.4	
Mittlere Zerspanung							

● 11° positive WSP (mit Loch)

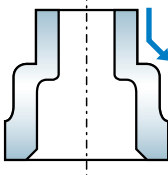
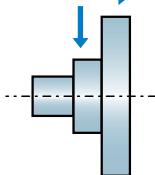
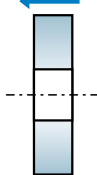
Form	Bestellbezeichnung	Lager	Abmessungen (mm)				Geometrie
		UE6110	D ₁	S ₁	Re	D ₂	
Standard 	CPMX080204	●	7.94	2.38	0.4	3.5	
	080208	●	7.94	2.38	0.8	3.5	
	090304	●	9.525	3.18	0.4	4.6	
	090308	●	9.525	3.18	0.8	4.6	
Mittlere Zerspanung							

● 11° positive WSP (ohne Loch)

Form	Bestellbezeichnung	Lager	Abmessungen (mm)			Geometrie
		UE6110	D ₁	S ₁	Re	
Standard 	SPMR090304	●	9.525	3.18	0.4	
	090308	●	9.525	3.18	0.8	
	120304	●	12.7	3.18	0.4	
	120308	●	12.7	3.18	0.8	
Glatt 	SPMN090308	●	9.525	3.18	0.8	
	120304	●	12.7	3.18	0.4	
	120308	●	12.7	3.18	0.8	
	120312	●	12.7	3.18	1.2	

Form	Bestellbezeichnung	Lager	Abmessungen (mm)			Geometrie
		UE6110	D1	S1	Re	
Standard  Leichte bis Mittlere Zerspanung	TPMR110304	●	6.35	3.18	0.4	
	110308	●	6.35	3.18	0.8	
	160304	●	9.525	3.18	0.4	
	160308	●	9.525	3.18	0.8	
	160312	●	9.525	3.18	1.2	
Glatt 	TPMN110304	●	6.35	3.18	0.4	
	110308	●	6.35	3.18	0.8	
	160304	●	9.525	3.18	0.4	
	160308	●	9.525	3.18	0.8	
	160312	●	9.525	3.18	1.2	
	220404	●	12.7	4.76	0.4	
	220408	●	12.7	4.76	0.8	
	220412	●	12.7	4.76	1.2	

ANWENDUNGSBEISPIELE

WSP		CNMG120416-MA	WNMG080412-MW	TNMG160408-RP
Werkstück		100Cr6 	41CrMo4 	25CrMo4 
Schnittdaten	Schnittgeschwindigkeit (m/min)	240	210	250
	Vorschub (mm/min)	0.3 – 0.4	0.3	0.25
	Schnitttiefe (mm)	3.0 – 4.0	3.0	2.0
Kühlmittel		Nassbearbeitung	Nassbearbeitung	Nassbearbeitung
Ergebnisse		Teile / Schneide 100 200 300 UE6110 Wettbewerber UE6110 erzielt durch die hohe Verschleißfestigkeit eine 1,5 Mal längere Werkzeugstandzeit.	Teile / Schneide 10 20 UE6110 Wettbewerber Mit UE6110 wurde die Standzeit mehr als verdoppelt.	UE6110 Wettbewerber  Mit UE6110 konnte ein Kolkverschleiß dank der ausgezeichneten Verschleißfestigkeit verhindert werden.



www.mitsubishicarbide.com

MMC HARTMETALL GmbH

Comeniusstr. 2, 40670 Meerbusch, Germany
Tel. +49-2159-9189-0 Fax +49-2159-918966
e-mail admin@mmchg.de

MMC HARDMETAL U.K. LTD.

Mitsubishi House, Galena Close, Tamworth, Staffs. B77 4AS, U.K.
Tel. +44-1827-312312 Fax +44-1827-312314
e-mail sales@mitsubishicarbide.co.uk

MMC METAL FRANCE s.a.r.l.

6, Rue Jacques Monod, 91400 Orsay, France
Tel. +33-1-69 35 53 53 Fax +33-1-69 35 53 50
e-mail mmfsales@mmc-metal-france.fr

MITSUBISHI MATERIALS ESPAÑA, S.A.

Calle Emperador 2, 46136 Museros/Valencia, Spain
Tel. +34-96-144-1711 Fax +34-96-144-3786
e-mail mme@mmevalencia.com

MMC ITALIA S.r.l.

V.le Delle Industrie 2, 20020 Milano, Italy
Tel. +39-02 93 77 03 1 Fax +39-02 93 58 90 93
e-mail info@mmc-italia.it

MMC HARDMETAL POLAND SP. z o.o.

Al. Armii Krajowej 61, 50-541 Wrocław, Poland
Tel. +48-71335-16-20 Fax +48-71335-16-21
e-mail sales@mitsubishicarbide.com.pl

MMC HARDMETAL RUSSIA OOO LTD.

UL. Bolschaja Semenovskaya, 11, bld 5, 107023 Moscow, Russia
Tel. +7-495-72558-85 Fax +7-495-98139-73
e-mail info@mmc-carbide.ru

