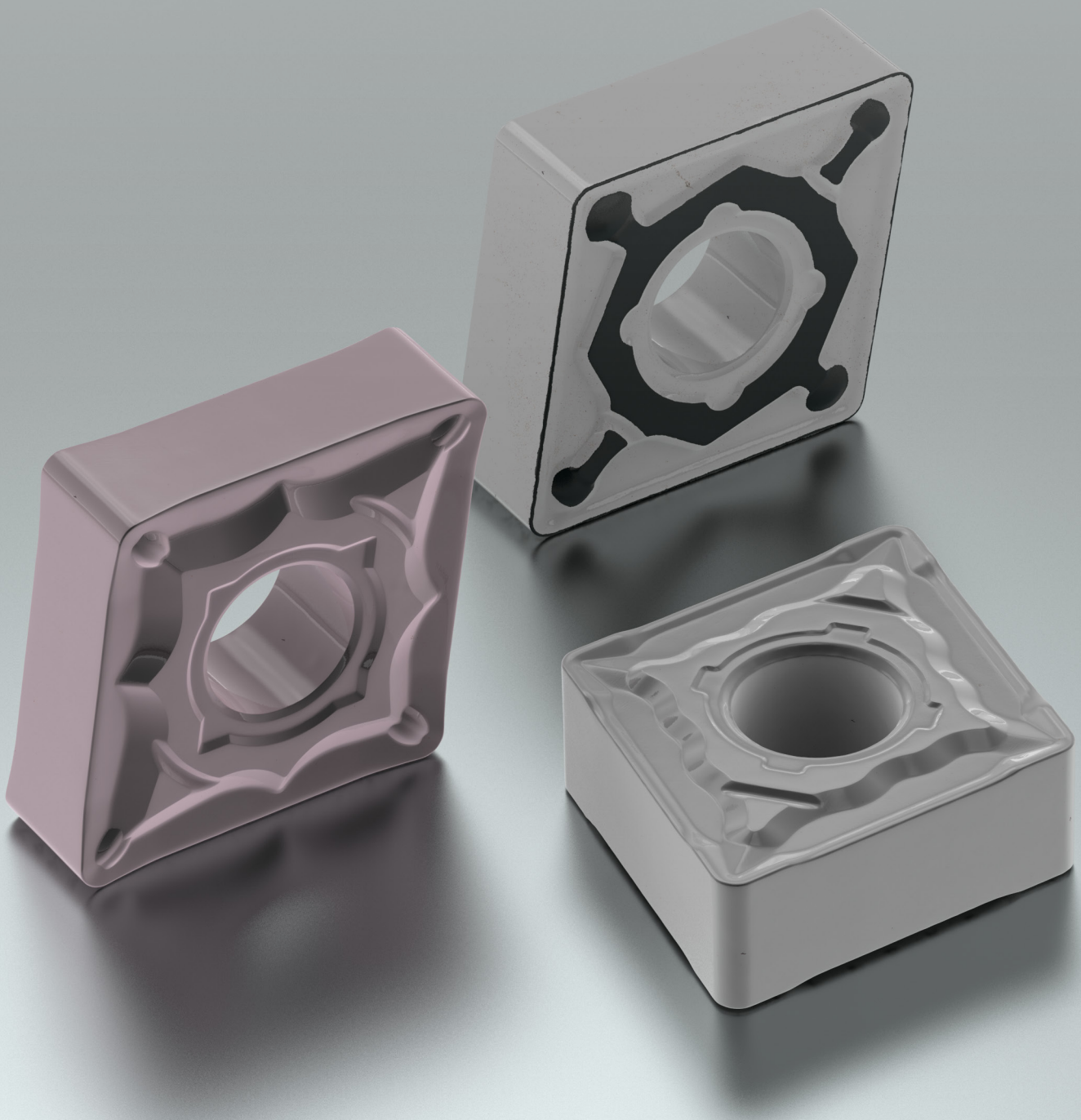
multidec®
ISO turn

ENGLISH

Negative ISO indexable inserts



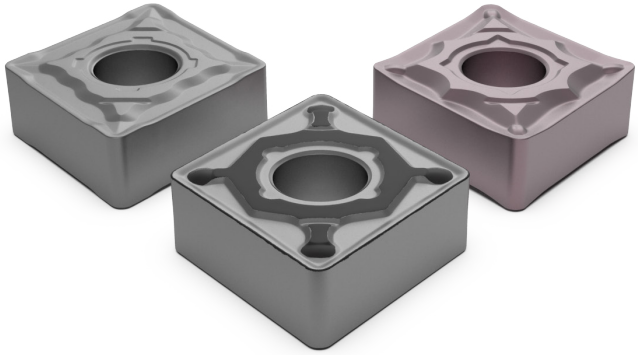
111 future since 1915

UTILIS®
Tooling for High Technology

Negative ISO indexable inserts from multidec®

multidec® ISO turn

The negative indexable inserts according to ISO standard are universal and usable for precision cutting work. Available in CNMG, DNMG and WNMG versions, they provide optimum cutting conditions thanks to having three different geometries. Our indexable inserts are characterised by having outstanding wear resistance and stability, which makes efficient machining of different materials possible. This is ideal for users who place value on reliable and flexible cutting.



Legend

Page information
12… See page 12 and the following (example)

Recommended usage
● Preferred application
○ Possible application
– Application not recommended

Availability
12345 Standard articles
12345 Standard articles, new in this catalog
12345 Discontinued articles

Symbols for tool characteristics and tool applications

HM	**Tool material** Carbide
80°	**Form of insert** Example: 80°
M	**Tolerance class** Class M (sintered)

FE	**Geometry** FE = Finishing
MN	MN = Medium Normal machining
RV	RV = Roughing

P	**Application** For steels
M	For Stainless steels

Categorization of materials

The application data for multidec® tools is defined for specific material groups. All machinable materials are classified using a standardized color-coding system that is applied consistently throughout the entire catalog.

P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metals
S	High-alloy materials
H	Hard materials

Dimensions

All dimensions are in millimeter (mm).

Order designation

Order designation	Coated
⚠ To the designation of the selected type of product, the desired grade code must be added.	○ ● – – – – 1 UMP30A1
DNMG 110404 MN1 … 1	Art. no. 560870 2

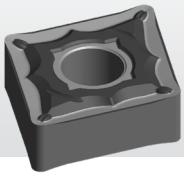
1 Order using order designation:
DNMG 110404 MN1 UMP30A1

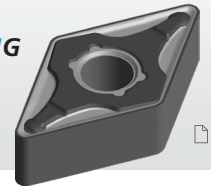
2 Order using art. no.: **560870**

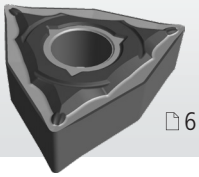
General information

Symbol legend 2

Information about the indexable inserts

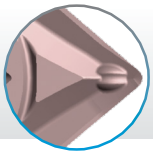
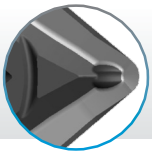
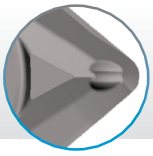
CNMG  4

DNMG  5

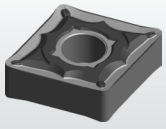
WNMG  6

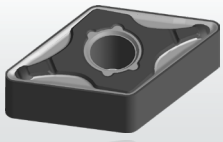
Success Stories 7

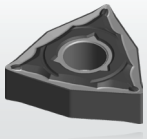
Designation key 8

Application diagram and grades    9

Indexable inserts

CNMG... 80°  10–11

DNMG... 55°  12–13

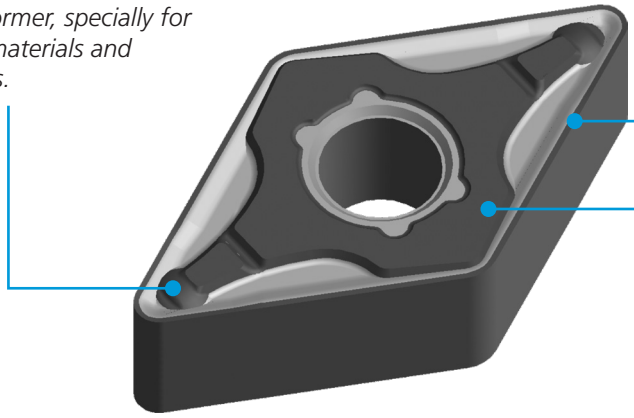
WNMG... 80°  14–15

Information about the DNMG indexable insert

– DNMG 1104, DNMG 1504 and DNMG 1506
– Corner radius: 0.4, 0.8 and 1.2 mm
– 4 carbide grades with different toughness and different coatings

Overview of DNMG

Optimised chip former, specially for machining steel materials and stainless materials.



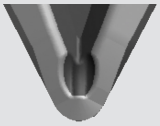
Cutting edge in accordance with EN = rounded

Coordinated substrate & coating, toughness of:
– 15 and 25 with steel grades
– 20 and 30 with grades for stainless materials

Geometries

Geometries for steels

P



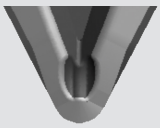
FE
Finishing geometry



MN
For medium machining

Geometries for stainless steels

M



FE
Finishing geometry



MN
For medium machining

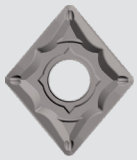
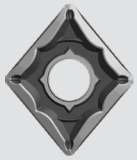
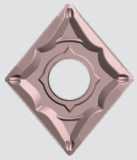
Applications and advantages

– Turning
– Optimised chip former breaks the chips, even during finishing
– Medium machining with the MN geometry
– Finishing with the FE geometry
– Versatile use in mechanical engineering in general, in the aerospace industry, in the defence area, in medical engineering, and much more

Indexable inserts

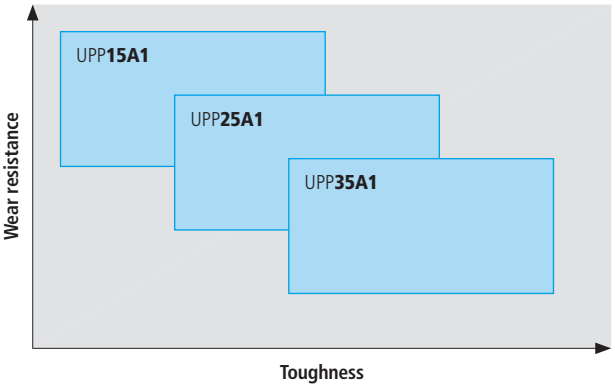
ISO designation	ISO dimension code	Machining recommendation
16	16	4–6

C N M G 1 2 0 4 0 8 M N 1 U M P 2 0 A 1

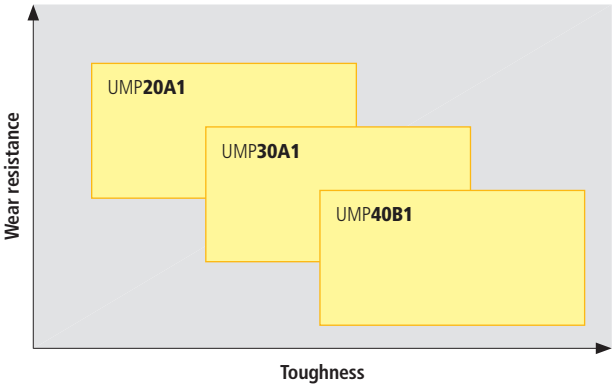
UTILIS	Main application	Secondary application	Hardness/toughness	Coating				Coating index
U	P Steels M Stainless steels	P Steels	Wear resistance ↑ 15 20 25 30 35 40 ↓ Toughness	A	CVD	Al_2O_3 TiCN		1
						Al_2O_3 TiCN with treatment		
				B	PVD	TiAlSiN		

Wear resistance and toughness

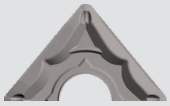
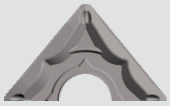
UPP – Wear resistance and toughness

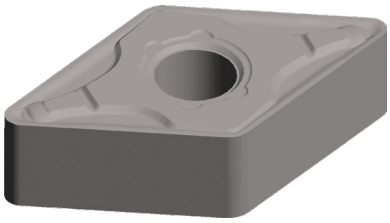


UMP – Wear resistance and toughness



The grades

Material	Hardness/toughness	Coating		Colour	
		Type	Layers		
P Steels	15A1	CVD	Al_2O_3 TiCN	Silver	
	25A1	CVD	Al_2O_3 TiCN	Silver/ Black	
	35A1	CVD	Al_2O_3 TiCN	Silver	
M Stainless steels	20A1	CVD	Al_2O_3 TiCN	Silver/ Black	
	30A1	CVD	Al_2O_3 TiCN	Silver/ Black	
	40B1	PVD	TiAlSiN	Copper	



Coated		
●	●	●
–	–	–
–	–	–
–	–	–
–	–	–
–	–	–

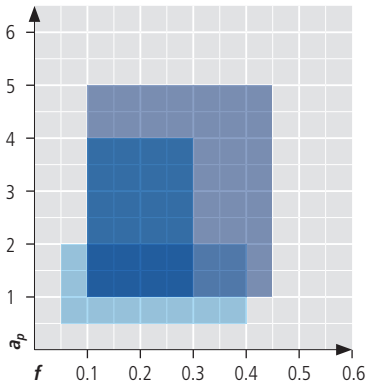
← More wear-resistant

Tougher →

Geometry	Size	R	Order designation	UPP15A1	UPP25A1	UPP35A1
					Art. no.	
FE	DN 11 ~11	0.4	DNMG 110404 FE1 …		560986	
	DN 15 ~15	0.4	DNMG 150404 FE1 …		560694	
		0.8	DNMG 150408 FE1 …		560697	
		0.8	DNMG 150608 FE1 …		560702	
MN	DN 11 ~11	0.4	DNMG 110404 MN1 …	560689	560690	
		0.8	DNMG 110408 MN1 …	560691	560693	
	DN 15 ~15	0.4	DNMG 150404 MN1 …	560695	560696	
		0.8	DNMG 150408 MN1 …	560698	560699	
		1.2	DNMG 150412 MN1 …	560700	560701	
		0.8	DNMG 150608 MN1 …	560708	560710	
		1.2	DNMG 150612 MN1 …	560712	560713	

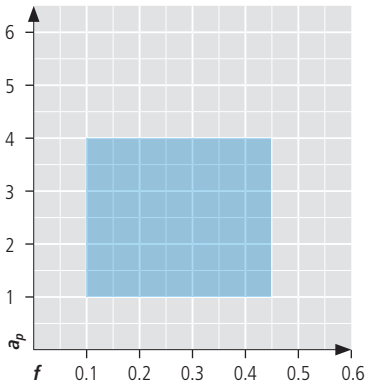
Application range

ISO P – Steels
a_p (mm) / f (mm/U)



FE: 25A1
MN: 15A1 (110404)
15A1 / 25A1 (150608/150612)

ISO P – Steels
a_p (mm) / f (mm/U)

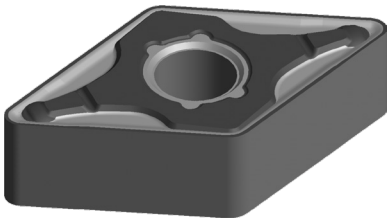


MN: 15A1 / 25A1 (110408)

v_c (m/min)

	UPP15A1		UPP25A1		UPP35A1	
	P	M	P	M	P	M
FE	–	–	130-300	–	–	–
MN	250-450	–	130-300	–	–	–

Legend 2



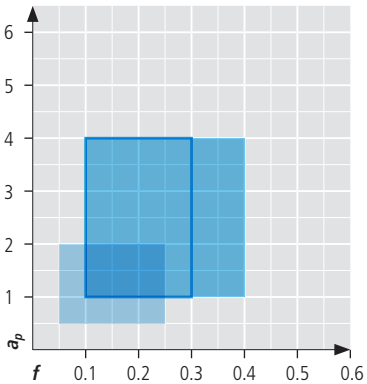
Coated		
○	○	○
●	●	●
–	–	–
–	–	–
–	–	–
–	–	–

← More wear-resistant — Tougher →

Geometry	Size	R	Order designation	UMP20A1	UMP30A1	UMP40B1
					Art. no.	
FE	DN 11 ~11	0.4	DNMG 110404 FE1 …	560500	560501	
	DN 15 ~15	0.8	DNMG 150408 FE1 …	560872	560873	
		0.8	DNMG 150608 FE1 …	560876	560877	
MN	DN 11 ~11	0.4	DNMG 110404 MN1 …		560870	
		0.8	DNMG 110408 MN1 …		560871	
	DN 15 ~15	0.8	DNMG 150408 MN1 …		560874	
		1.2	DNMG 150412 MN1 …		560875	
		0.8	DNMG 150608 MN1 …		560878	
		1.2	DNMG 150612 MN1 …		560879	

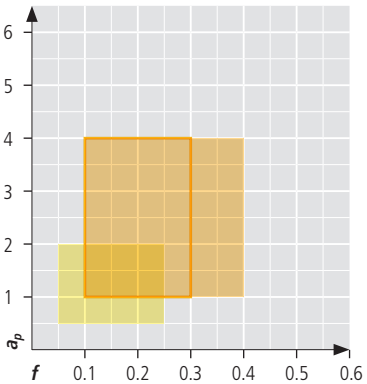
Application range

ISO P – Steels
a_p (mm) / f (mm/U)



FE: 20A1 / 30A1
MN: 30A1
30A1 (110404)

ISO M – Stainless steels
a_p (mm) / f (mm/U)



FE: 20A1 / 30A1
MN: 30A1
30A1 (110404)

v_c (m/min)

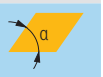
	UMP20A1		UMP30A1		UMP40B1	
	P	M	P	M	P	M
FE	90-210	120-240	80-180	100-200	–	–
MN	–	–	80-180	100-200	–	–

Legend 2

Designation system

Indexable inserts

Form of insert

Index	α	
C	80°	
D	55°	
W	80°	

Clearance angle

Index	α	
N	0°	

Tolerance

Index	s ±	d ±	
M	0.13	0.05–0.15*	

* Dependent on dimension of insert

Distinctive mark

Index	
G	

C N M G 1 2 0 4 0 8 M N 1 U M P 2 0 A 1

Edge length

Index	≈l	d	
12	12	12.7	C = 80° 
16	16	15.88	
11	11	9.53	D = 55° 
15	15	12.7	
06	6.5	9.53	W = 80° 
08	8.7	12.7	

Insert thickness

Index	s	
04	4.76	
06	6.35	

Corner radius

Index	R
04	0.4
08	0.8
12	1.2

Machining recommendation

Index	
FE1	Finishing
MN1	Medium Normal machining
RV1	Roughing

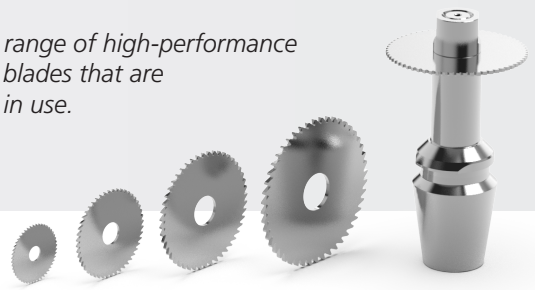
Grades

8–9

More multidec® products from the company UTILIS

multidec®-SAW – Solid carbide circular saw blades

multidec®-SAW is a large range of high-performance solid carbide circular saw blades that are very versatile and flexible in use.

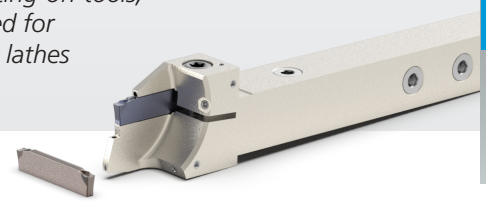




Article 400929

multidec®-5000 – High-performance parting-off tools

multidec®-5000 offers a comprehensive range of high-quality, high-performance parting-off tools, which have been specially developed for use on sliding headstock automatic lathes





Article 400933

multidec®-CUT – G-LINE inserts

The performance boost in machining. New technology for creation of any three-dimensional chip-breaker shapes.

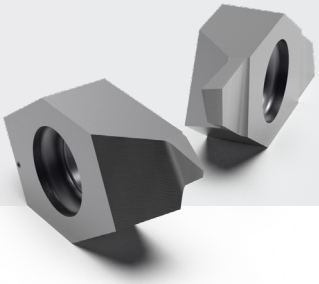




Article 400870

multidec®-CUT – WATCH-LINE inserts

The WATCH-LINE range of turning inserts is designed for the efficient machining of very small parts in the watchmaking industry.





Article 400918

More multidec® products from the company UTILIS

multidec®-LUB – Tool plates, complete

multidec®-LUB tool plate with an integrated coolant system and a tool stop system, which can be quickly and easily replaced with the existing one.

Increase the performance of your machine!

CITIZEN star TORNOS





Article 400882

multidec®-WHIRLING – The efficient way to make threads

multidec®-WHIRLING is the thread whirling tool system with multiple cutting edges; unlike the thread turning method, this enables the thread to be finished without burr in a single pass.

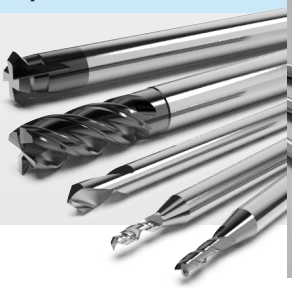




Article 300969

multidec®-MICRO TOOLS & -MILL – Solid carbide precision tools

multidec®-MICRO TOOLS contain various solid carbide micro tools for drilling, milling and TORX® milling. You will find a wide range of universal milling tools in the multidec®-MILL product range.





Article 400925

multidec®-CARE – From the idea to the machine

You have an order or an idea, and you want to know how to implement it? Together, we can realise a cost-effective solution for you.





Article 400885

Product video



SCAN ME!

UTILIS®

Tooling for High Technology

■ ***UTILIS AG, Precision Tools***

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*UTILIS, MULTIDEC-ISO, NEGATIVE ISO INDEXABLE INSERTS, CATALOG 2026.02 EN – **400943***