

Product overview

Nutex Plus - with 3 cutting edges!



Nutex Plus HSS
No 6055
p. 6



Nutex Plus carbide
No 6355
p. 7

NEW



Holders
No 6058
p. 8

Nutex Mini - minimum diameter 15 mm!!



Nutex Mini HSS
No 6041
p. 10



Nutex Mini carbide
No 6341
p. 11



Holders
No 6044
p. 12

NEW

Nutex - approved and powerful



Nutex HSS
No 6045
p. 14



Nutex HSS
No 6046
p. 16

coated



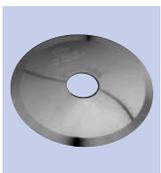
Nutex carbide
No 6345
p. 17

NEW



Holders
No 6048
p. 19

Circular knives - you choose form, dimension and material



Circular knives
Nr. 6900
S. 22

■ Precision tool factory

Precision.

We specialise in the manufacture of highly positive, sharply ground, precision cutting tools produced from HSS and carbide. These offer the highest possible performance figures particularly on difficult materials and extraordinary applications. We can offer engineering solutions to the most demanding machining problems reducing cycle times, vibration

and tooling costs whilst improving surface finishes and chip formation. Call us now and realise the potential of ALESA!

ALESA Ltd.
Tool Factory
CH-5707 Seengen
Phone +41 62 7676 262
Fax +41 62 7676 282
info@alesa.ch, www.alesa.ch

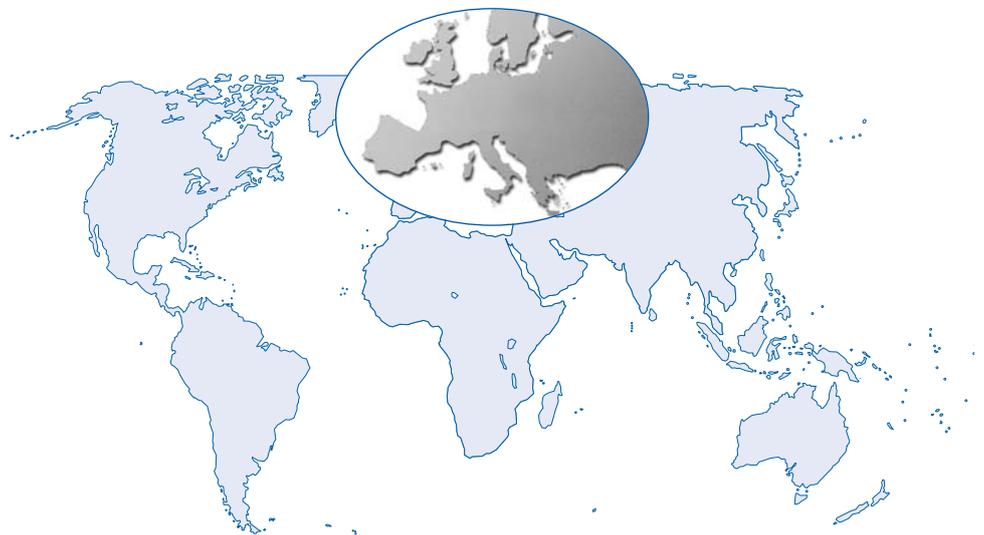


■ Your partner – worldwide

We look forward to making contact with you for the first time.

Would you like to find out more about our products? Then simply give us a call or visit our Internet site. If you would like to discuss a particular problem with one of our consultants, we will be pleased to pay you a visit.

We are represented by our local sales partners in many countries. You will find the nearest contact address on the Internet or simply ask us.



Metal cutting with creativity

Milling: The ALESA TWIST helical indexable insert which was developed and patented by us in 1996 is distinguished by a high-tech cutting geometry and is being used to great success all over the world.

The extensive range of ISO standard indexable inserts is of course also equipped with our highly positive, extremely sharp ground cutting edge. ALESA indexable inserts are available in HSS-E and finest grain metal carbide. Various hard material coatings ensure a long tool life.

It goes without saying that almost all our toolholders are prepared for internal coolant supply.

Turning/parting: In this area, too, we have an extensive range of toolholders for external and internal turning with the matching indexable inserts in HSS-E to ISO standard. Our ALESA GOLD high-precision ISO toolbits and cutting tools are also world-renowned. Similarly, the Minicut and Duocut parting inserts and cutting-off tools in HSS-E are a byword in the trade.

Sawing: The ALESA metal-cutting circular saws in HSS and carbide give top performance all around. Our circular saws with steam-tempered surface or hard-material coating achieve even better life expectancy.

Nutex: The extraordinary combination of circular saw blade and holder in one tool indicates the system Nutex, Nutex Mini and Nutex Plus. With this tool it is possible to machine on CNC centres without fixings protruding out of the tool face.

Custom-made products: If you have any processing problems, we consider it our duty to be able to offer a solution. Our development department welcomes the challenge of producing special tools to individual requirements or customer drawings.

With you as partner we aim to develop visions and pursue new methods.

Circular saw blade system Nutex, Nutex Mini and Nutex Plus

The extraordinary combination of circular saw blade and holder in one tool indicates the system Nutex, Nutex Mini and Nutex Plus. With this tool it is possible to machine on CNC centres without fixings protruding out of the tool face.

Nutex / Nutex Mini:

If the standard widths and toothings don't apply, the number of teeth and the width can be adapted to your requirements by means of the "Data sheet".

The saws are available in HSS and carbide starting from a width of 0.2 mm.

The following holders are available: cylindrical shaft, threaded shaft or standard tool holder.

All the Nutex holders can be mounted on standard holders.

The holders are equipped with holes for internal lubrication.

On customer request the tool is available with a hard material coating (PVD) which allows to achieve longer tool life.

Nutex Plus:

Nutex Plus, with its 3 cutting edges, combines the advantages of a side milling cutter and the features of the Nutex saw blade.

Thanks to its 3 cutting edges, Nutex Plus is the ideal tool for making deep slots.

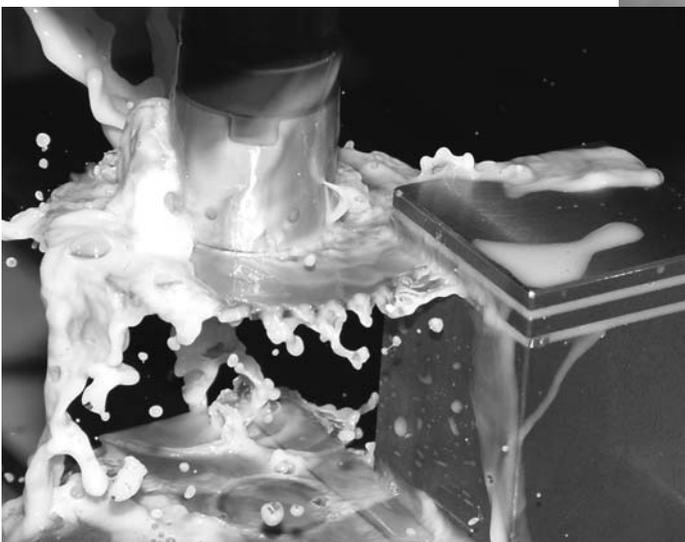
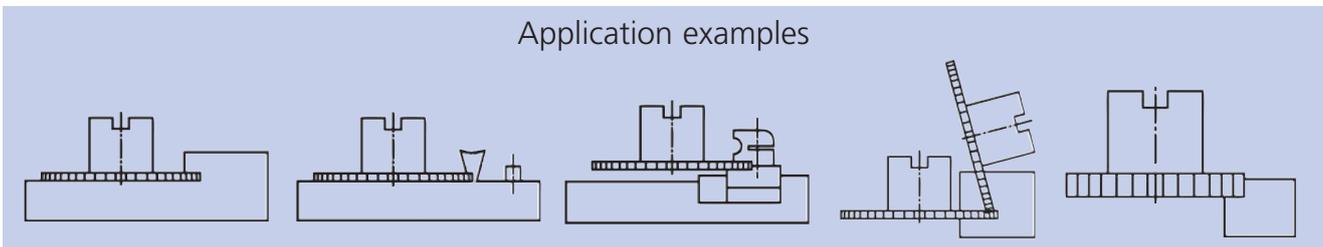
The proven curved tooth form guarantees a good chip removal.

The driving pin ensures a perfect torque transfer.

All the holders allow internal cooling.

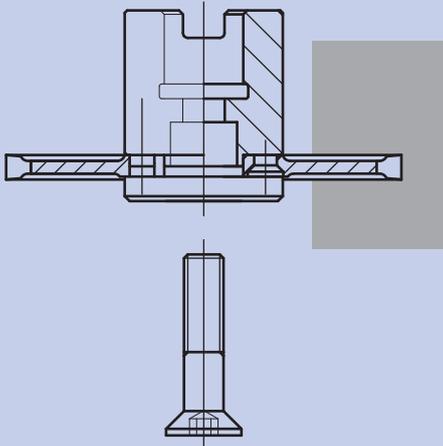
If necessary the saw can be admitted from both sides with lubricant by means of the clamping disk.

Application examples



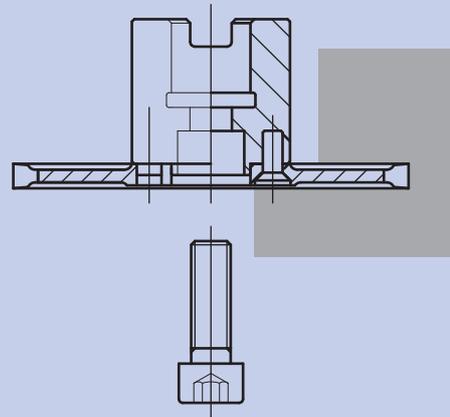
Assembly instructions Nutex Plus

Application with clamping disk and countersunk screw for work pieces
WITHOUT protruding edge:



The circular saw blade can be mounted without fastening screws (Torx).
Advantage: lubrication from both sides of the saw blade through the internal cooling.

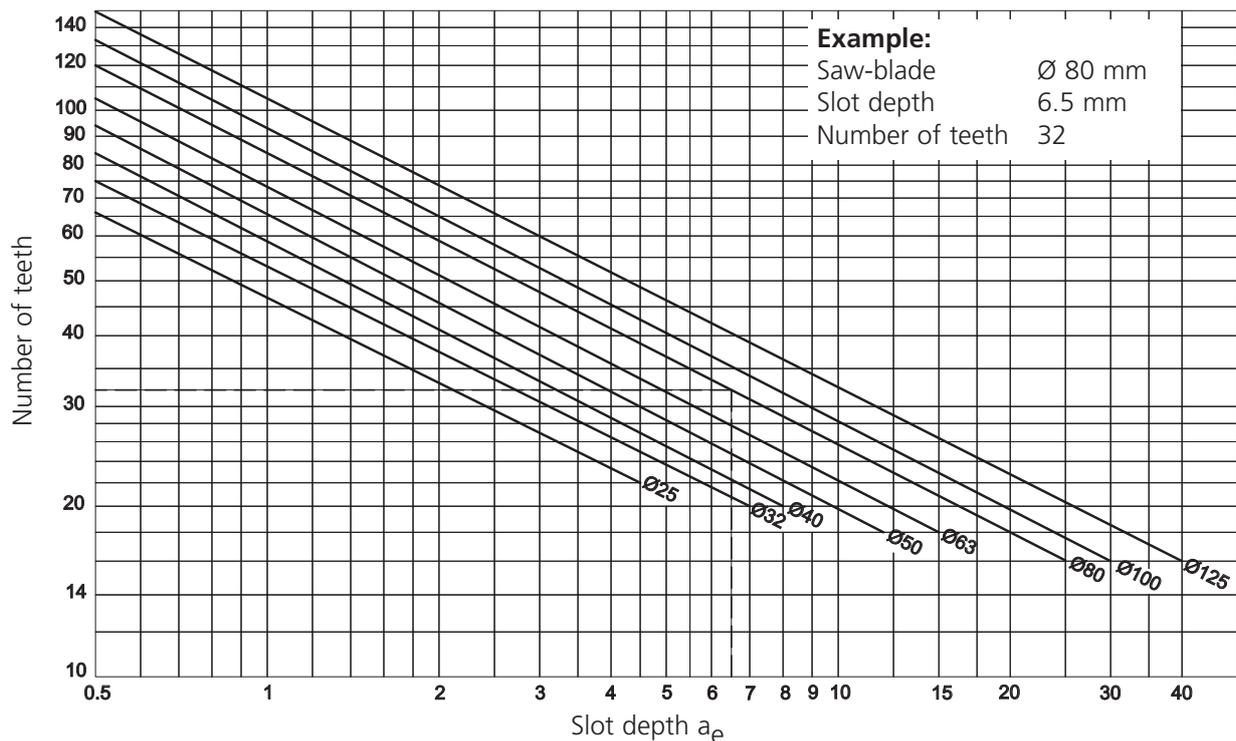
Application without clamping disk, with flex-head screw for work pieces
WITH protruding edge:



The circular saw blade must be mounted through fastening screws (Torx).
Advantage: no protruding fastening elements.
Milling in peripheral area is possible.

Diagram to determine the number of teeth for slot sawing

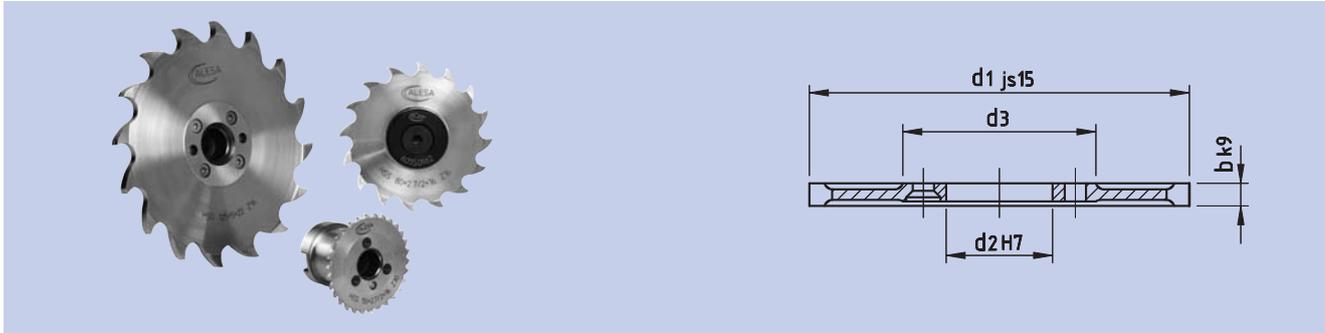
(3 teeth in contact)



Nutex Plus HSS

Circular saws

6055



No 6055	d1 mm	b mm	No. of teeth	Slot depth max. (a _e)	d2 mm	d3 mm	Holder 6058. _ _ _ _
.0568	50	2.00	30	10 (5*)	16	28	.0530, .0630
.0569	50	2.00	20	10	16	28	.0530, .0630
.0572	50	3.00	30	10 (5*)	16	28	.0530, .0630
.0573	50	3.00	20	10	16	28	.0530, .0630
.0574	50	4.00	30	10 (5*)	16	28	.0530, .0630
.0575	50	4.00	20	10	16	28	.0530, .0630
.0576	50	5.00	30	10 (5*)	16	28	.0530, .0630
.0577	50	5.00	20	10	16	28	.0530, .0630
.0579	50	6.00	20	10	16	28	.0530, .0630
.0628	63	2.00	26	14 (7*)	16	32	.0540, .0640
.0629	63	2.00	18	14	16	32	.0540, .0640
.0632	63	3.00	26	14 (7*)	16	32	.0540, .0640
.0633	63	3.00	18	14	16	32	.0540, .0640
.0634	63	4.00	26	14 (7*)	16	32	.0540, .0640
.0635	63	4.00	18	14	16	32	.0540, .0640
.0636	63	5.00	26	14 (7*)	16	32	.0540, .0640
.0637	63	5.00	18	14	16	32	.0540, .0640
.0639	63	6.00	18	14	16	32	.0540, .0640
.0658	80	2.00	24	22 (11*)	16	32	.0540, .0640
.0659	80	2.00	16	22	16	32	.0540, .0640
.0662	80	3.00	24	22 (11*)	16	32	.0540, .0640
.0663	80	3.00	16	22	16	32	.0540, .0640
.0664	80	4.00	24	22 (11*)	16	32	.0540, .0640
.0665	80	4.00	16	22	16	32	.0540, .0640
.0666	80	5.00	24	22 (11*)	16	32	.0540, .0640
.0667	80	5.00	16	22	16	32	.0540, .0640
.0669	80	6.00	16	22	16	32	.0540, .0640
.0718	100	2.00	24	28 (14*)	22	40	.0650
.0719	100	2.00	16	28	22	40	.0650
.0722	100	3.00	24	28 (14*)	22	40	.0650
.0723	100	3.00	16	28	22	40	.0650
.0724	100	4.00	24	28 (14*)	22	40	.0650
.0725	100	4.00	16	28	22	40	.0650
.0726	100	5.00	24	28 (14*)	22	40	.0650
.0727	100	5.00	16	28	22	40	.0650
.0729	100	6.00	16	28	22	40	.0650
.0748	125	2.00	24	40 (20*)	22	40	.0650
.0749	125	2.00	16	40	22	40	.0650
.0752	125	3.00	24	40 (20*)	22	40	.0650
.0753	125	3.00	16	40	22	40	.0650
.0754	125	4.00	24	40 (20*)	22	40	.0650
.0755	125	4.00	16	40	22	40	.0650
.0756	125	5.00	24	40 (20*)	22	40	.0650
.0757	125	5.00	16	40	22	40	.0650
.0759	125	6.00	16	40	22	40	.0650

* Maximal recommended depth of cut with saw blades with a large amount of teeth.

Info All Nutex Plus saws are available with TiN- or TiAlN-coating too.

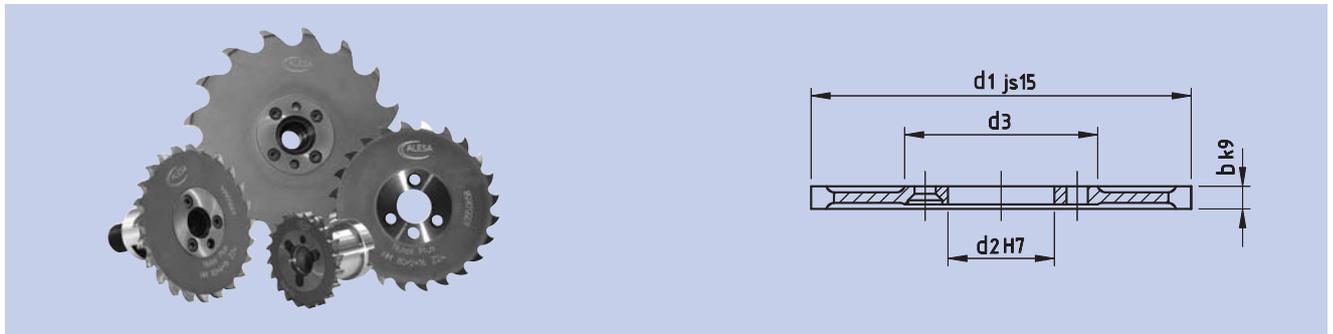
Info All the Nutex Plus saws are provided with curved teeth and chip splitting. This way all the teeth can be counted for the calculation of the cutting data.

Info All the Nutex Plus saws are available from stock!

Nutex Plus carbide

Circular saws

6355



No 6355	d1 mm	b mm	No. of teeth	Slot depth max. (a _e)	d2 mm	d3 mm	Holder 6058. _____
.0568	50	2.00	30	10 (5*)	16	28	.0530, .0630
.0569	50	2.00	20	10	16	28	.0530, .0630
.0572	50	3.00	30	10 (5*)	16	28	.0530, .0630
.0573	50	3.00	20	10	16	28	.0530, .0630
.0574	50	4.00	30	10 (5*)	16	28	.0530, .0630
.0575	50	4.00	20	10	16	28	.0530, .0630
.0628	63	2.00	26	14 (7*)	16	32	.0540, .0640
.0629	63	2.00	18	14	16	32	.0540, .0640
.0632	63	3.00	26	14 (7*)	16	32	.0540, .0640
.0633	63	3.00	18	14	16	32	.0540, .0640
.0634	63	4.00	26	14 (7*)	16	32	.0540, .0640
.0635	63	4.00	18	14	16	32	.0540, .0640
.0658	80	2.00	24	22 (11*)	16	32	.0540, .0640
.0659	80	2.00	16	22	16	32	.0540, .0640
.0662	80	3.00	24	22 (11*)	16	32	.0540, .0640
.0663	80	3.00	16	22	16	32	.0540, .0640
.0664	80	4.00	24	22 (11*)	16	32	.0540, .0640
.0665	80	4.00	16	22	16	32	.0540, .0640
.0718	100	2.00	24	28 (14*)	22	40	.0650
.0719	100	2.00	16	28	22	40	.0650
.0722	100	3.00	24	28 (14*)	22	40	.0650
.0723	100	3.00	16	28	22	40	.0650
.0724	100	4.00	24	28 (14*)	22	40	.0650
.0725	100	4.00	16	28	22	40	.0650
.0726	100	5.00	24	28 (14*)	22	40	.0650
.0727	100	5.00	16	28	22	40	.0650
.0752	125	3.00	24	40 (20*)	22	40	.0650
.0753	125	3.00	16	40	22	40	.0650
.0754	125	4.00	24	40 (20*)	22	40	.0650
.0755	125	4.00	16	40	22	40	.0650
.0756	125	5.00	24	40 (20*)	22	40	.0650
.0757	125	5.00	16	40	22	40	.0650

* Maximal recommended depth of cut with saw blades with a large amount of teeth.

Info Nutex Plus carbide saws are available with TiAlN- or AlCrN-coating too.

Info All the Nutex Plus saws are provided with curved teeth and chip splitting. This way all the teeth can be counted for the calculation of the cutting data.

Info All the Nutex Plus saws are available from stock!

Holder for Nutex Plus and accessories / spare parts

6058



6058 for Nutex Plus	d1 mm	d2 mm	d3 mm	d4 mm	G	l1 mm	l2 mm		Type
6058.0530	21	16	28		M12	55	32.7	✓	D
6058.0540	29	16	32		M16	64	39.7	✓	D
6058.0630	16	16	28	9		35.8	18	✓	C
6058.0640	16	16	32	9		31.8	18	✓	C
6058.0650	22	22	40	11		39.8	20	✓	C

Tool will be delivered with: holder with Torx screws, screw-driver (Torx), clamping disk, countersunk screw and fitting screw-driver.

Accessories / spare parts

Accessories adapted to	Torx spare screws for saw blades	Torx screw-driver	Straight pin	Clamping disk	Countersunk screw for clamping disk	Screw-driver for countersunk screw
6058.0530	M 3.5 x 7 1490.0530	T9 1492.0400	Ø 4 x 16 6058.0940	Ø 28 x 9.5 x 9 6058.0830	M 8 x 20 6058.0910	sw 5 6058.0980
6058.0540	M 4 x 10 1490.0600	T15 1492.0500	Ø 5 x 20 6058.0950	Ø 32 x 10 x 9 6058.0840	M 8 x 20 6058.0910	sw 5 6058.0980
6058.0630	M 3.5 x 7 1490.0530	T9 1492.0400	Ø 4 x 35.6 6058.0945	Ø 28 x 9.5 x 9 6058.0830	M 8 x 35 6058.0915	sw 5 6058.0978
6058.0640	M 4 x 10 1490.0600	T15 1492.0500	Ø 5 x 31.6 6058.0955	Ø 32 x 10 x 9 6058.0840	M 8 x 35 6058.0915	sw 5 6058.0978
6058.0650	M 4 x 10 1490.0600	T15 1492.0500	Ø 5 x 39.6 6058.0960	Ø 40 x 11 x 11 6058.0850	M 10 x 45 6058.0920	sw 6 6058.0982

The assembly instructions for the clamping disk are on page 5.



The Nutex Plus holder will be delivered in a very practical protection box.

■ Notes

Nutex Mini HSS, individual toothing

Circular saws

NEW

6041



No 6041	d1 mm	b mm	Slot depth max. (a _e)	d2 mm	d3 mm	Holder 6044.
.0132	15	0.25	2	5	9.85	.0410, .0420, .0500
.0136	15	0.50	2	5	9.85	.0410, .0420, .0500
.0140 *	15	0.20 - 0.99	2	5	9.85	.0410, .0420, .0500
.0141	15	1.00	2	5	9.85	.0410, .0420, .0500
.0146	15	1.50	2	5	9.85	.0410, .0420, .0500
.0148 *	15	1.01 - 1.99	2	5	9.85	.0410, .0420, .0500
.0149	15	2.00	2	5	9.85	.0410, .0420, .0500
.0192	20	0.25	4	5	9.85	.0410, .0420, .0500
.0196	20	0.50	4	5	9.85	.0410, .0420, .0500
.0200 *	20	0.20 - 0.99	4	5	9.85	.0410, .0420, .0500
.0201	20	1.00	4	5	9.85	.0410, .0420, .0500
.0206	20	1.50	4	5	9.85	.0410, .0420, .0500
.0209	20	2.00	4	5	9.85	.0410, .0420, .0500
.0210 *	20	1.01 - 2.49	4	5	9.85	.0410, .0420, .0500
.0211	20	2.50	4	5	9.85	.0410, .0420, .0500
.0312	25	0.25	6.5	5	9.85	.0410, .0420, .0500
.0316	25	0.50	6.5	5	9.85	.0410, .0420, .0500
.0320 *	25	0.20 - 0.99	6.5	5	9.85	.0410, .0420, .0500
.0321	25	1.00	6.5	5	9.85	.0410, .0420, .0500
.0326	25	1.50	6.5	5	9.85	.0410, .0420, .0500
.0329	25	2.00	6.5	5	9.85	.0410, .0420, .0500
.0330 *	25	1.01 - 2.49	6.5	5	9.85	.0410, .0420, .0500
.0331	25	2.50	6.5	5	9.85	.0410, .0420, .0500
.0376	32	0.50	10	5	9.85	.0410, .0420, .0500
.0380 *	32	0.30 - 0.99	10	5	9.85	.0410, .0420, .0500
.0381	32	1.00	10	5	9.85	.0410, .0420, .0500
.0386	32	1.50	10	5	9.85	.0410, .0420, .0500
.0388 *	32	1.01 - 1.99	10	5	9.85	.0410, .0420, .0500
.0389	32	2.00	10	5	9.85	.0410, .0420, .0500
.0391	32	2.50	10	5	9.85	.0410, .0420, .0500
.0392 *	32	2.01 - 2.99	10	5	9.85	.0410, .0420, .0500
.0393	32	3.00	10	5	9.85	.0410, .0420, .0500

* Tools with widths beyond standard widths 0.25, 0.5, 1, 1.5, 2, 2.5 and 3 mm as well as special width tolerances can be produced. When you order an article beyond standard width (for example article no. 6041.0320 with a width of 0.85 mm), please indicate the requested cutting width. Please fill in the data sheet on page 13. Please ask for a specific quotation.



Minimum order quantity saw blades: 2 pcs of the same dimension.



All Nutex and Nutex Mini saws are available with TiN- or TiAlN-coating too.



Number, form, type and geometry of teeth have to be chosen by you.

Nutex Mini carbide, individual toothing

Circular saws

NEW

6341



No 6341	d1 mm	b mm	Slot depth max. (a _e)	d2 mm	d3 mm	Holder 6044. _ _ _ _
.0135 *	15	0.20 - 0.49	2	5	9.85	.0410, .0420, .0500
.0136	15	0.50	2	5	9.85	.0410, .0420, .0500
.0140 *	15	0.51 - 0.99	2	5	9.85	.0410, .0420, .0500
.0141	15	1.00	2	5	9.85	.0410, .0420, .0500
.0145 *	15	1.01 - 1.49	2	5	9.85	.0410, .0420, .0500
.0146	15	1.50	2	5	9.85	.0410, .0420, .0500
.0148 *	15	1.51 - 1.99	2	5	9.85	.0410, .0420, .0500
.0149	15	2.00	2	5	9.85	.0410, .0420, .0500
.0195 *	20	0.20 - 0.49	4	5	9.85	.0410, .0420, .0500
.0196	20	0.50	4	5	9.85	.0410, .0420, .0500
.0200 *	20	0.51 - 0.99	4	5	9.85	.0410, .0420, .0500
.0201	20	1.00	4	5	9.85	.0410, .0420, .0500
.0205 *	20	1.01 - 1.49	4	5	9.85	.0410, .0420, .0500
.0206	20	1.50	4	5	9.85	.0410, .0420, .0500
.0208 *	20	1.51 - 1.99	4	5	9.85	.0410, .0420, .0500
.0209	20	2.00	4	5	9.85	.0410, .0420, .0500
.0210 *	20	2.01 - 2.49	4	5	9.85	.0410, .0420, .0500
.0211	20	2.50	4	5	9.85	.0410, .0420, .0500
.0315 *	25	0.20 - 0.49	6.5	5	9.85	.0410, .0420, .0500
.0316	25	0.50	6.5	5	9.85	.0410, .0420, .0500
.0320 *	25	0.51 - 0.99	6.5	5	9.85	.0410, .0420, .0500
.0321	25	1.00	6.5	5	9.85	.0410, .0420, .0500
.0325 *	25	1.01 - 1.49	6.5	5	9.85	.0410, .0420, .0500
.0326	25	1.50	6.5	5	9.85	.0410, .0420, .0500
.0328 *	25	1.51 - 1.99	6.5	5	9.85	.0410, .0420, .0500
.0329	25	2.00	6.5	5	9.85	.0410, .0420, .0500
.0330 *	25	2.01 - 2.49	6.5	5	9.85	.0410, .0420, .0500
.0331	25	2.50	6.5	5	9.85	.0410, .0420, .0500
.0380 *	32	0.30 - 0.99	10	5	9.85	.0410, .0420, .0500
.0381	32	1.00	10	5	9.85	.0410, .0420, .0500
.0385 *	32	1.01 - 1.49	10	5	9.85	.0410, .0420, .0500
.0386	32	1.50	10	5	9.85	.0410, .0420, .0500
.0388 *	32	1.51 - 1.99	10	5	9.85	.0410, .0420, .0500
.0389	32	2.00	10	5	9.85	.0410, .0420, .0500
.0390 *	32	2.01 - 2.49	10	5	9.85	.0410, .0420, .0500
.0391	32	2.50	10	5	9.85	.0410, .0420, .0500
.0392 *	32	2.51 - 2.99	10	5	9.85	.0410, .0420, .0500
.0393	32	3.00	10	5	9.85	.0410, .0420, .0500

* Tools with widths beyond standard widths 0.25, 0.5, 1, 1.5, 2, 2.5 and 3 mm as well as special width tolerances can be produced. When you order an article beyond standard width (for example article no. 6341.0320 with a width of 0.85 mm), please indicate the requested cutting width. Please fill in the data sheet on page 13. Please ask for a specific quotation.



Minimum order quantity saw blades: 2 pcs of the same dimension.



Various coatings can be chosen for the carbide Nutex and Nutex Mini saws. Please contact us for further information.



Number, form, type and geometry of teeth have to be chosen by you.

■ Holder for Nutex Mini and accessories / spare parts

NEW

6044



No 6044	d1 mm	d2 mm	d3 mm	G	l1 mm	l2 mm		Type
.0410	8	5	9.85		54.00		✓	F
.0420	10	5	9.85		58.00		✓	F
.0500		5	9.85	M6	32.00	18.00	✓	G

Tool will be delivered with: holder with screw and screw-driver

Accessories / spare parts

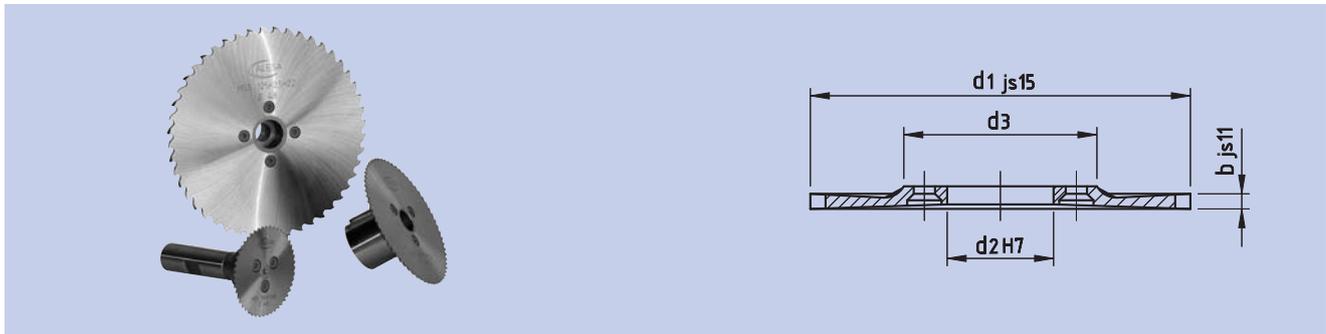
Accessories adapted to	screw	screw-driver
6044.0410	M4 / Ø 6.5 x 16 mm 6044.0800	T15 1492.0500
6044.0420	M4 / Ø 6.5 x 16 mm 6044.0800	T15 1492.0500
6044.0500	M4 / Ø 6.5 x 16 mm 6044.0800	T15 1492.0500

Circular saw Nutex Mini			Data sheet	
Customer: _____ _____		Date: _____ Signature: _____		
Contact person : _____		<input type="checkbox"/> Quotation <input type="checkbox"/> Order		
Tel. : _____		Quotation no.: _____		
Fax : _____		Order no.: _____		
E-Mail : _____		Delivery date : _____		
Circular saw blade	Quantity	Material		Coating
	<input type="checkbox"/> Minimum 2 pcs	<input type="checkbox"/> HSS	<input type="checkbox"/> Carbide	_____
	Toothing		Workpiece	
	No. of teeth		Material	
	Tooth pitch		Width of slot	
	Type		Depth of slot	
	Rake angle		Sketch :	
	Clearance angle			
	Sense of rotation			
<input type="checkbox"/> clockwise <input type="checkbox"/> counter-clockwise				
Toolholder	No. of pcs <input type="checkbox"/>	Article no. 6044.0410	Ø 5 / 9.85 x 54 shank Ø 8	
	No. of pcs <input type="checkbox"/>	Article no. 6044.0420	Ø 5 / 9.85 x 58 shank Ø10	
	No. of pcs <input type="checkbox"/>	Article no. 6044.0500	Ø 5 / 9.85 x 32 thread M6	
	<input type="checkbox"/>			
		ALESA AG Werkzeugfabrik CH-5707 Seengen Telefon +41 (0) 62 7676 262 Telefax +41 (0) 62 7676 282 www.alesa.ch		Gezeichnet: 19.08.09/le D 1407

Nutex HSS, individual toothing

Circular saws

6045



No 6045	d1 mm	b mm	Slot depth max. (a _e)	d2 mm	d3 mm	Holder 6048. - - - -
.0312	25	0.25	3	5	16	.0400, .0410, .0420, .0520
.0316	25	0.50	3	5	16	.0400, .0410, .0420, .0520
.0321	25	1.00	3	5	16	.0400, .0410, .0420, .0520
.0326 *	25	0.20 - 1.49	3	5	16	.0400, .0410, .0420, .0520
.0328	25	1.50	3	5	16	.0400, .0410, .0420, .0520
.0329 *	25	1.51 - 1.99	3	5	16	.0400, .0410, .0420, .0520
.0330	25	2.00	3	5	16	.0400, .0410, .0420, .0520
.0331 *	25	2.01 - 2.49	3	5	16	.0400, .0410, .0420, .0520
.0332	25	2.50	3	5	16	.0400, .0410, .0420, .0520
.0376	32	0.50	6	5	16	.0400, .0410, .0420, .0520
.0381	32	1.00	6	5	16	.0400, .0410, .0420, .0520
.0386 *	32	0.30 - 1.49	6	5	16	.0400, .0410, .0420, .0520
.0388	32	1.50	6	5	16	.0400, .0410, .0420, .0520
.0389 *	32	1.51 - 1.99	6	5	16	.0400, .0410, .0420, .0520
.0390	32	2.00	6	5	16	.0400, .0410, .0420, .0520
.0391 *	32	2.01 - 2.49	6	5	16	.0400, .0410, .0420, .0520
.0392	32	2.50	6	5	16	.0400, .0410, .0420, .0520
.0393 *	32	2.51 - 2.99	6	5	16	.0400, .0410, .0420, .0520
.0394	32	3.00	6	5	16	.0400, .0410, .0420, .0520
.0466	40	0.50	6	8	24	.0430, .0530
.0471	40	1.00	6	8	24	.0430, .0530
.0478	40	1.50	6	8	24	.0430, .0530
.0480	40	2.00	6	8	24	.0430, .0530
.0481 *	40	0.40 - 2.49	6	8	24	.0430, .0530
.0482	40	2.50	6	8	24	.0430, .0530
.0483 *	40	2.51 - 2.99	6	8	24	.0430, .0530
.0484	40	3.00	6	8	24	.0430, .0530
.0485 *	40	3.01 - 3.99	6	8	24	.0430, .0530
.0486	40	4.00	6	8	24	.0430, .0530
.0487 *	40	4.01 - 4.99	6	8	24	.0430, .0530
.0489	40	5.00	6	8	24	.0430, .0530
.0526	50	0.50	11	8	24	.0430, .0530
.0531	50	1.00	11	8	24	.0430, .0530
.0538	50	1.50	11	8	24	.0430, .0530
.0540	50	2.00	11	8	24	.0430, .0530
.0541 *	50	0.51 - 2.49	11	8	24	.0430, .0530
.0542	50	2.50	11	8	24	.0430, .0530
.0543 *	50	2.51 - 2.99	11	8	24	.0430, .0530
.0544	50	3.00	11	8	24	.0430, .0530
.0545 *	50	3.01 - 3.99	11	8	24	.0430, .0530
.0546	50	4.00	11	8	24	.0430, .0530
.0547 *	50	4.01 - 4.99	11	8	24	.0430, .0530
.0549	50	5.00	11	8	24	.0430, .0530
.0621	63	1.00	13	16	32	.0440, .0540, .0640
.0628	63	1.50	13	16	32	.0440, .0540, .0640
.0630	63	2.00	13	16	32	.0440, .0540, .0640
.0631 *	63	0.60 - 2.49	13	16	32	.0440, .0540, .0640
.0632	63	2.50	13	16	32	.0440, .0540, .0640



Minimum order quantity saw blades: 2 pcs of the same dimension.



All Nutex and Nutex Mini saws are available with TiN- or TiAlN-coating too.



Number, form, type and geometry of teeth have to be chosen by you.

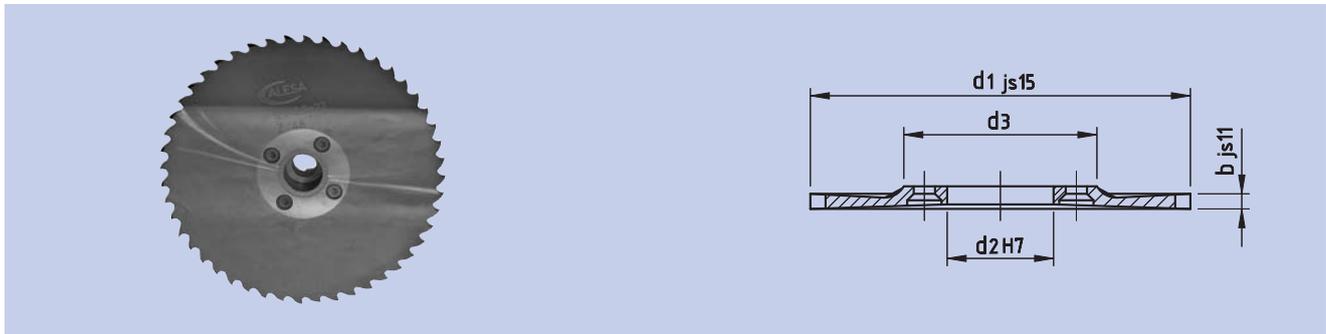
No 6045	d1 mm	b mm	Slot depth max. (a _e)	d2 mm	d3 mm	Holder 6048. ----
.0633 *	63	2.51 - 2.99	13	16	32	.0440, .0540, .0640
.0634	63	3.00	13	16	32	.0440, .0540, .0640
.0635 *	63	3.01 - 3.99	13	16	32	.0440, .0540, .0640
.0636	63	4.00	13	16	32	.0440, .0540, .0640
.0637 *	63	4.01 - 4.99	13	16	32	.0440, .0540, .0640
.0639	63	5.00	13	16	32	.0440, .0540, .0640
.0651	80	1.00	21	16	32	.0440, .0540, .0640
.0658	80	1.50	21	16	32	.0440, .0540, .0640
.0660	80	2.00	21	16	32	.0440, .0540, .0640
.0661 *	80	0.80 - 2.49	21	16	32	.0440, .0540, .0640
.0662	80	2.50	21	16	32	.0440, .0540, .0640
.0663 *	80	2.51 - 2.99	21	16	32	.0440, .0540, .0640
.0664	80	3.00	21	16	32	.0440, .0540, .0640
.0665 *	80	3.01 - 3.99	21	16	32	.0440, .0540, .0640
.0666	80	4.00	21	16	32	.0440, .0540, .0640
.0667 *	80	4.01 - 4.99	21	16	32	.0440, .0540, .0640
.0669	80	5.00	21	16	32	.0440, .0540, .0640
.0711	100	1.00	27	22	40	.0650
.0718	100	1.50	27	22	40	.0650
.0720	100	2.00	27	22	40	.0650
.0721 *	100	1.01 - 2.49	27	22	40	.0650
.0722	100	2.50	27	22	40	.0650
.0723 *	100	2.51 - 2.99	27	22	40	.0650
.0724	100	3.00	27	22	40	.0650
.0725 *	100	3.01 - 3.99	27	22	40	.0650
.0726	100	4.00	27	22	40	.0650
.0727 *	100	4.01 - 4.99	27	22	40	.0650
.0729	100	5.00	27	22	40	.0650
.0741	125	1.00	38	22	40	.0650
.0748	125	1.50	38	22	40	.0650
.0750	125	2.00	38	22	40	.0650
.0751 *	125	1.01 - 2.49	38	22	40	.0650
.0752	125	2.50	38	22	40	.0650
.0753 *	125	2.51 - 2.99	38	22	40	.0650
.0754	125	3.00	38	22	40	.0650
.0755 *	125	3.01 - 3.99	38	22	40	.0650
.0756	125	4.00	38	22	40	.0650
.0757 *	125	4.01 - 4.99	38	22	40	.0650
.0759	125	5.00	38	22	40	.0650

* Tools with widths beyond standard widths 0.25, 0.5, 1, 1.5, 2, 2.5, 3, 4 and 5 mm as well as special width tolerances can be produced. When you order an article beyond standard width (for example article no. 6045.0326 with a width of 1.35 mm), please indicate the requested cutting width. Please fill in the data sheet on page 20. Please ask for a specific quotation.

Nutex HSS, standard tootinging

Circular saws, TiAlN-coated

6046



No 6046	d1 mm	b mm	No. of teeth	Slot depth max. (a _e)	d2 mm	d3 mm	Holder 6048. _ _ _ _
.0355	40	1.00	36 B	6(3*)	8	24	.0430, .0530
.0356	40	1.00	24 B	6	8	24	.0430, .0530
.0361	40	1.50	36 B	6(3*)	8	24	.0430, .0530
.0362	40	1.50	24 B	6	8	24	.0430, .0530
.0367	40	2.00	36 B	6(3*)	8	24	.0430, .0530
.0368	40	2.00	24 B	6	8	24	.0430, .0530
.0415	50	1.00	32 Bw	11(5*)	8	24	.0430, .0530
.0416	50	1.00	22 Bw	11	8	24	.0430, .0530
.0421	50	1.50	32 Bw	11(5*)	8	24	.0430, .0530
.0422	50	1.50	22 Bw	11	8	24	.0430, .0530
.0427	50	2.00	32 Bw	11(5*)	8	24	.0430, .0530
.0428	50	2.00	22 Bw	11	8	24	.0430, .0530
.0535	63	1.00	30 Bw	13(6*)	16	32	.0440, .0540, .0640
.0536	63	1.00	20 Bw	13	16	32	.0440, .0540, .0640
.0541	63	1.50	30 Bw	13(6*)	16	32	.0440, .0540, .0640
.0542	63	1.50	20 Bw	13	16	32	.0440, .0540, .0640
.0547	63	2.00	30 Bw	13(6*)	16	32	.0440, .0540, .0640
.0548	63	2.00	20 Bw	13	16	32	.0440, .0540, .0640
.0595	80	1.00	30 Bw	21(9*)	16	32	.0440, .0540, .0640
.0596	80	1.00	20 Bw	21	16	32	.0440, .0540, .0640
.0601	80	1.50	30 Bw	21(9*)	16	32	.0440, .0540, .0640
.0602	80	1.50	20 Bw	21	16	32	.0440, .0540, .0640
.0607	80	2.00	30 Bw	21(9*)	16	32	.0440, .0540, .0640
.0608	80	2.00	20 Bw	21	16	32	.0440, .0540, .0640
.0619	80	3.00	30 Bw	21(9*)	16	32	.0440, .0540, .0640
.0620	80	3.00	20 Bw	21	16	32	.0440, .0540, .0640
.0715	100	1.00	28 Bw	27(12*)	22	40	.0650
.0716	100	1.00	18 Bw	27	22	40	.0650
.0721	100	1.50	28 Bw	27(12*)	22	40	.0650
.0722	100	1.50	18 Bw	27	22	40	.0650
.0727	100	2.00	28 Bw	27(12*)	22	40	.0650
.0728	100	2.00	18 Bw	27	22	40	.0650
.0739	100	3.00	28 Bw	27(12*)	22	40	.0650
.0740	100	3.00	18 Bw	27	22	40	.0650
.0775	125	1.00	28 Bw	38(15*)	22	40	.0650
.0776	125	1.00	18 Bw	38	22	40	.0650
.0781	125	1.50	28 Bw	38(15*)	22	40	.0650
.0782	125	1.50	18 Bw	38	22	40	.0650
.0787	125	2.00	28 Bw	38(15*)	22	40	.0650
.0788	125	2.00	18 Bw	38	22	40	.0650
.0799	125	3.00	28 Bw	38(15*)	22	40	.0650
.0800	125	3.00	18 Bw	38	22	40	.0650

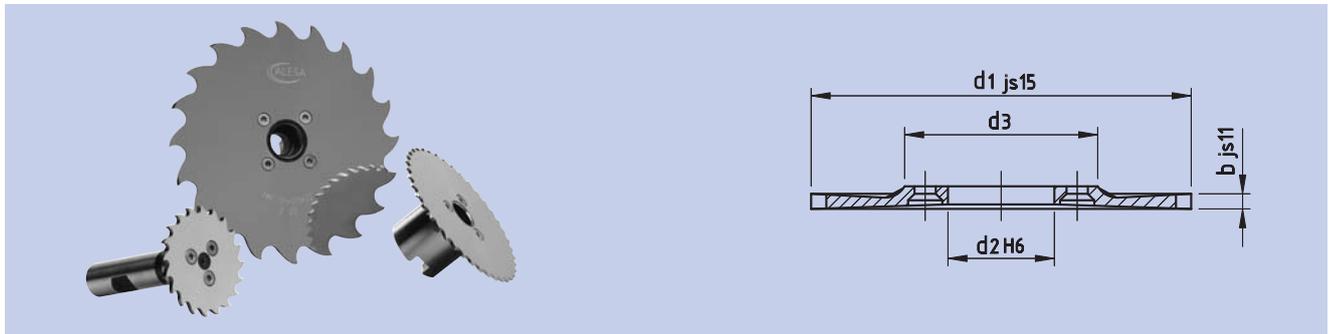
* Maximal recommended depth of cut with saw blades with a large amount of teeth.

Info All the Nutex saws, standard tootinging are available from stock!

Nutex carbide, individual toothing

Circular saws

6345



No 6345	d1 mm	b mm	Slot depth max. (a _e)	d2 mm	d3 mm	Holder 6048. _ _ _ _
.0320 *	25	0.20 - 0.99	3	5	16	.0400, .0410, .0420, .0520
.0321	25	1.00	3	5	16	.0400, .0410, .0420, .0520
.0325 *	25	1.01 - 1.49	3	5	16	.0400, .0410, .0420, .0520
.0326	25	1.50	3	5	16	.0400, .0410, .0420, .0520
.0328 *	25	1.51 - 1.99	3	5	16	.0400, .0410, .0420, .0520
.0329	25	2.00	3	5	16	.0400, .0410, .0420, .0520
.0330 *	25	2.01 - 2.49	3	5	16	.0400, .0410, .0420, .0520
.0331	25	2.50	3	5	16	.0400, .0410, .0420, .0520
.0380 *	32	0.30 - 0.99	6	5	16	.0400, .0410, .0420, .0520
.0381	32	1.00	6	5	16	.0400, .0410, .0420, .0520
.0385 *	32	1.01 - 1.49	6	5	16	.0400, .0410, .0420, .0520
.0386	32	1.50	6	5	16	.0400, .0410, .0420, .0520
.0388 *	32	1.51 - 1.99	6	5	16	.0400, .0410, .0420, .0520
.0389	32	2.00	6	5	16	.0400, .0410, .0420, .0520
.0390 *	32	2.01 - 2.49	6	5	16	.0400, .0410, .0420, .0520
.0391	32	2.50	6	5	16	.0400, .0410, .0420, .0520
.0392 *	32	2.51 - 2.99	6	5	16	.0400, .0410, .0420, .0520
.0393	32	3.00	6	5	16	.0400, .0410, .0420, .0520
.0470 *	40	0.40 - 0.99	6	8	24	.0430, .0530
.0471	40	1.00	6	8	24	.0430, .0530
.0475 *	40	1.01 - 1.49	6	8	24	.0430, .0530
.0476	40	1.50	6	8	24	.0430, .0530
.0478 *	40	1.51 - 1.99	6	8	24	.0430, .0530
.0479	40	2.00	6	8	24	.0430, .0530
.0480 *	40	2.01 - 2.49	6	8	24	.0430, .0530
.0481	40	2.50	6	8	24	.0430, .0530
.0482 *	40	2.51 - 2.99	6	8	24	.0430, .0530
.0483	40	3.00	6	8	24	.0430, .0530
.0484 *	40	3.01 - 3.99	6	8	24	.0430, .0530
.0485	40	4.00	6	8	24	.0430, .0530
.0486 *	40	4.01 - 4.99	6	8	24	.0430, .0530
.0487	40	5.00	6	8	24	.0430, .0530
.0530 *	50	0.50 - 0.99	11	8	24	.0430, .0530
.0531	50	1.00	11	8	24	.0430, .0530
.0535 *	50	1.01 - 1.49	11	8	24	.0430, .0530
.0536	50	1.50	11	8	24	.0430, .0530
.0538 *	50	1.51 - 1.99	11	8	24	.0430, .0530
.0539	50	2.00	11	8	24	.0430, .0530
.0540 *	50	2.01 - 2.49	11	8	24	.0430, .0530
.0541	50	2.50	11	8	24	.0430, .0530
.0542 *	50	2.51 - 2.99	11	8	24	.0430, .0530
.0543	50	3.00	11	8	24	.0430, .0530
.0544 *	50	3.01 - 3.99	11	8	24	.0430, .0530
.0545	50	4.00	11	8	24	.0430, .0530
.0546 *	50	4.01 - 4.99	11	8	24	.0430, .0530
.0547	50	5.00	11	8	24	.0430, .0530
.0620 *	63	0.60 - 0.99	13	16	32	.0440, .0540, .0640
.0621	63	1.00	13	16	32	.0440, .0540, .0640



Minimum order quantity saw blades: 2 pcs of the same dimension.



Various coatings can be chosen for the carbide Nutex and Nutex Mini saws. Please contact us for further information.



Number, form, type and geometry of teeth have to be chosen by you.

No 6345	d1 mm	b mm	Slot depth max. (a _e)	d2 mm	d3 mm	Holder 6048. ----
.0625 *	63	1.01 - 1.49	13	16	32	.0440, .0540, .0640
.0626	63	1.50	13	16	32	.0440, .0540, .0640
.0628 *	63	1.51 - 1.99	13	16	32	.0440, .0540, .0640
.0629	63	2.00	13	16	32	.0440, .0540, .0640
.0630 *	63	2.01 - 2.49	13	16	32	.0440, .0540, .0640
.0631	63	2.50	13	16	32	.0440, .0540, .0640
.0632 *	63	2.51 - 2.99	13	16	32	.0440, .0540, .0640
.0633	63	3.00	13	16	32	.0440, .0540, .0640
.0634 *	63	3.01 - 3.99	13	16	32	.0440, .0540, .0640
.0635	63	4.00	13	16	32	.0440, .0540, .0640
.0636 *	63	4.01 - 4.99	13	16	32	.0440, .0540, .0640
.0637	63	5.00	13	16	32	.0440, .0540, .0640
.0650 *	80	0.80 - 0.99	21	16	32	.0440, .0540, .0640
.0651	80	1.00	21	16	32	.0440, .0540, .0640
.0655 *	80	1.01 - 1.49	21	16	32	.0440, .0540, .0640
.0656	80	1.50	21	16	32	.0440, .0540, .0640
.0658 *	80	1.51 - 1.99	21	16	32	.0440, .0540, .0640
.0659	80	2.00	21	16	32	.0440, .0540, .0640
.0660 *	80	2.01 - 2.49	21	16	32	.0440, .0540, .0640
.0661	80	2.50	21	16	32	.0440, .0540, .0640
.0662 *	80	2.51 - 2.99	21	16	32	.0440, .0540, .0640
.0663	80	3.00	21	16	32	.0440, .0540, .0640
.0664 *	80	3.01 - 3.99	21	16	32	.0440, .0540, .0640
.0665	80	4.00	21	16	32	.0440, .0540, .0640
.0666 *	80	4.01 - 4.99	21	16	32	.0440, .0540, .0640
.0667	80	5.00	21	16	32	.0440, .0540, .0640
.0715 *	100	1.00 - 1.49	27	22	40	.0650
.0716	100	1.50	27	22	40	.0650
.0718 *	100	1.51 - 1.99	27	22	40	.0650
.0719	100	2.00	27	22	40	.0650
.0720 *	100	2.01 - 2.49	27	22	40	.0650
.0721	100	2.50	27	22	40	.0650
.0722 *	100	2.51 - 2.99	27	22	40	.0650
.0723	100	3.00	27	22	40	.0650
.0724 *	100	3.01 - 3.99	27	22	40	.0650
.0725	100	4.00	27	22	40	.0650
.0726 *	100	4.01 - 4.99	27	22	40	.0650
.0727	100	5.00	27	22	40	.0650
.0745 *	125	1.00 - 1.49	38	22	40	.0650
.0746	125	1.50	38	22	40	.0650
.0748 *	125	1.51 - 1.99	38	22	40	.0650
.0749	125	2.00	38	22	40	.0650
.0750 *	125	2.01 - 2.49	38	22	40	.0650
.0751	125	2.50	38	22	40	.0650
.0752 *	125	2.51 - 2.99	38	22	40	.0650
.0753	125	3.00	38	22	40	.0650
.0754 *	125	3.01 - 3.99	38	22	40	.0650
.0755	125	4.00	38	22	40	.0650
.0756 *	125	4.01 - 4.99	38	22	40	.0650
.0757	125	5.00	38	22	40	.0650

* Tools with widths beyond standard widths 0.25, 0.5, 1, 1.5, 2, 2.5, 3, 4 and 5 mm as well as special width tolerances can be produced. When you order an article beyond standard width (for example article no. 6345.0326 with a width of 1.35 mm), please indicate the requested cutting width. Please fill in the data sheet on page 20. Please ask for a specific quotation.

Holder for Nutex and accessories / spare parts

6048



No 6048 for Nutex	d1 mm	d2 mm	d3 mm	d4 mm	G	l1 mm	l2 mm		Type
6048.0400	7	5	16			51.9		✓	A
6048.0410	8	5	16			51.9		✓	A
6048.0420	10	5	16			55.9		✓	A
6048.0430	16	8	24			71.8		✓	A
6048.0440	16	16	32			75.8		✓	A
6048.0520	13	5	16		M8	38	20.6	✓	E
6048.0530	21	8	24		M12	48	25.7	✓	E
6048.0540	29	16	32		M16	55	30.7	✓	E
6048.0640	16	16	32	9		31.8	18	✓	B
6048.0650	22	22	40	11		39.8	20	✓	B

Tool will be delivered with: holder with Torx screws and screw-driver (Torx)

Accessories / spare parts

Accessories adapted to	Torx spare screws for saw blades	Torx screw-driver	Clamping disk	Countersunk screw for clamping disk	Screw-driver for countersunk screw
6048.0400, 6048.0410, 6048.0420, 6048.0520	M 3.5 x 7 1490.0530	T9 1492.0400			
6048.0430, 6048.0440, 6048.0530, 6048.0540	M 4 x 10 1490.0600	T15 1492.0500			
6048.0640	M 4 x 10 1490.0600	T15 1492.0500	Ø 32 x 10 x 9 6058.0840	M 8 x 35 6058.0915	sw 5 6058.0978
6048.0650	M 4 x 10 1490.0600	T15 1492.0500	Ø 40 x 11 x 11 6058.0850	M 10 x 45 6058.0920	sw 6 6058.0982

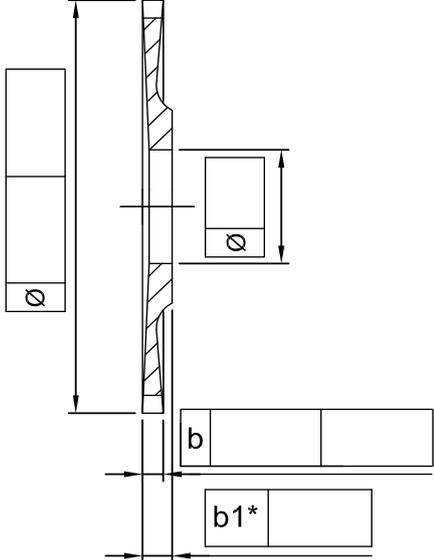


Nutex holders are not suited for being used with a Nutex Plus saw.

Circular saw Nutex Data sheet

Customer: _____ _____ _____ Contact person : _____ Tel. : _____ Fax : _____ E-Mail : _____	Date: _____ Signature: _____ <input type="checkbox"/> Quotation <input type="checkbox"/> Order Quotation no.: _____ Order no.: _____ Delivery date : _____
--	---

Circular saw blade	Quantity	Material		Coating
	<input type="checkbox"/> Minimum 2 pcs	<input type="checkbox"/> HSS	<input type="checkbox"/> Carbide	_____

	Toothing		Workpiece	
	No. of teeth		Material	
	Tooth pitch		Width of slot	
	Type		Depth of slot	
	Rake angle		Sketch :	
	Clearance angle			
	Sense of rotation			
	<input type="checkbox"/> clockwise <input type="checkbox"/> counter-clockwise			
			Article no. blank	

* Thickness blank b1: 1.5; 2.0; 2.5; 3.0; 4.0; 5.0

Toolholder	No. of pcs <input type="checkbox"/>	Article no. 6048.0400	Ø 5 / 16 x 51.9 shank Ø 7	For saw Ø 25+32
	No. of pcs <input type="checkbox"/>	Article no. 6048.0410	Ø 5 / 16 x 51.9 shank Ø 8	
	No. of pcs <input type="checkbox"/>	Article no. 6048.0420	Ø 5 / 16 x 55.9 shank Ø10	
	No. of pcs <input type="checkbox"/>	Article no. 6048.0520	Ø 5 / 16 x 35 thread M8	For saw Ø 40+50
	No. of pcs <input type="checkbox"/>	Article no. 6048.0430	Ø 8 / 24 x 71.8 shank Ø16	
	No. of pcs <input type="checkbox"/>	Article no. 6048.0530	Ø 8 / 24 x 48 thread M12	
	No. of pcs <input type="checkbox"/>	Article no. 6048.0440	Ø 16 / 32 x 75.8 shank Ø16	For saw Ø 63+80
	No. of pcs <input type="checkbox"/>	Article no. 6048.0540	Ø 16 / 32 x 31.8 hole Ø16	
	No. of pcs <input type="checkbox"/>	Article no. 6048.0640	Ø 16 / 32 x 55 thread M16	
	No. of pcs <input type="checkbox"/>	Article no. 6048.0650	Ø 22 / 40 x 39.8 hole Ø22	For saw Ø 100+125

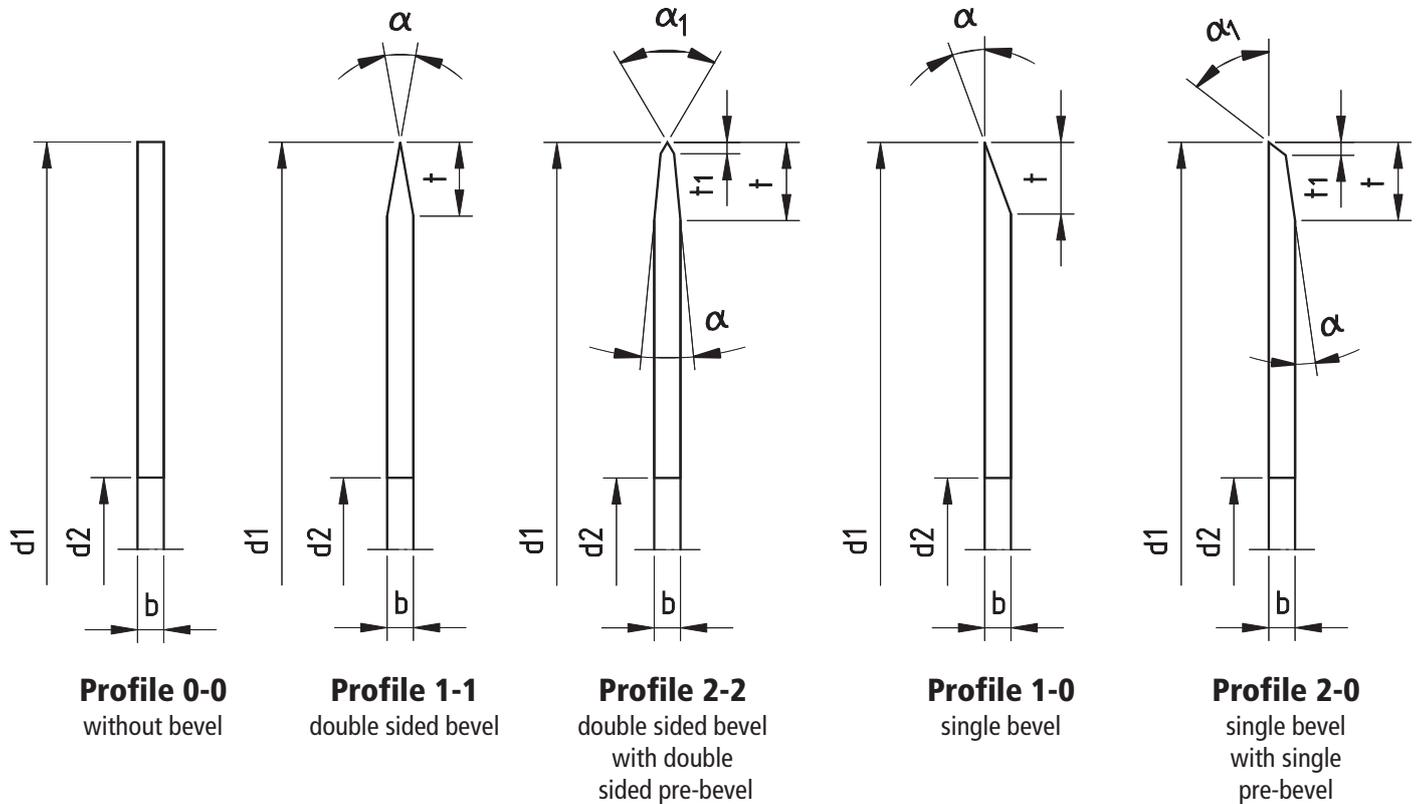
	ALESA AG · Werkzeugfabrik · CH-5707 Seengen Telefon +41 (0) 62 7676 262 Telefax +41 (0) 62 7676 282 www.alesa.ch	Gezeichnet: 24.10.02/le <b style="font-size: 1.2em;">D 1244
---	--	--

■ Notes

Circular knives

There are almost innumerable possible profiles of circular knives. We configure every circular knife according to your individual requirements. We therefore kindly ask you to copy the opposite page, fill it in and fax it to +41 62 7676 282.

Bevel profiles for circular knives



Legend

- d1 = Knife diameter [mm] / ± 0.5 mm
- d2 = Bore diameter [mm] / H7
- b = Knife width [mm] / ± 0.05 mm
- α = Bevel angle [°]
- α_1 = Pre-bevel angle [°]
- t = Bevel length [mm]
- t_1 = Pre-bevel length [mm]

Materials

ALESA circular knives are available in various HSS qualities, high-grade steel or carbide.

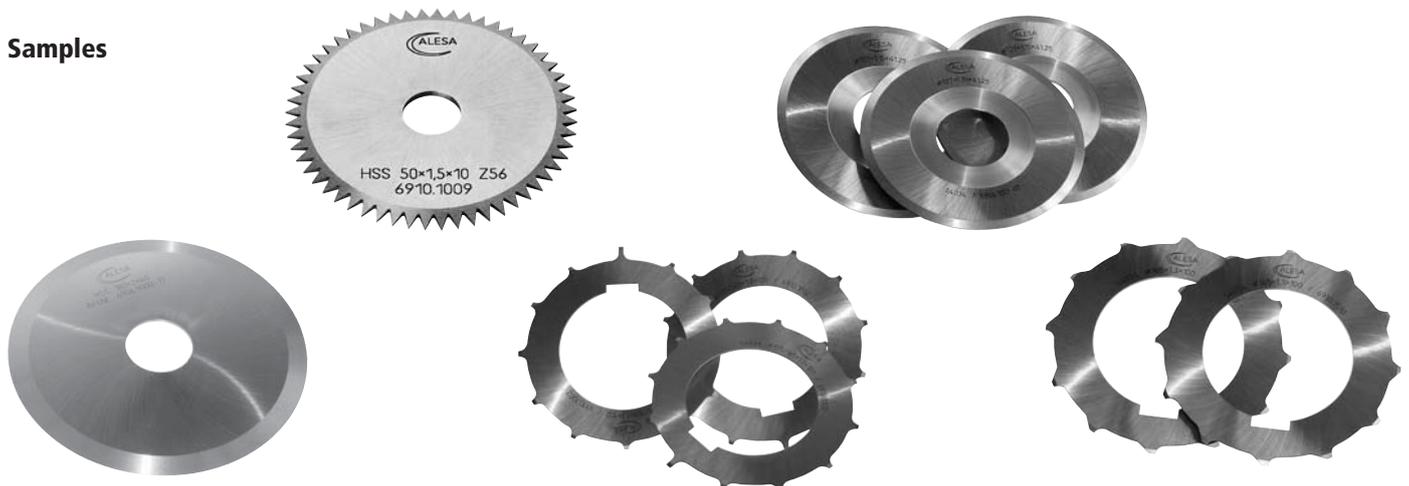
Coatings

ALESA offers various coatings for a wide range of applications. We look forward to advice you with the appropriate coating for maximum performance.

Tooth shapes

Almost all tooth profiles are available. Just ask us.

Samples



■ Circular knives Fax order

Please fill in a copy of this page and fax it to +41 62 7676 282

Enquiry

Order

Date _____

Customer _____	Last name _____
_____	First name _____
Address _____	Phone/fax _____
Place _____	Email _____

Required bevel profile

Profile 0-0
 Profile 1-1
 Profile 2-2
 Profile 1-0
 Profile 2-0
 Profile X*

Dimensions

d1 = _____ mm

d2 = _____ mm

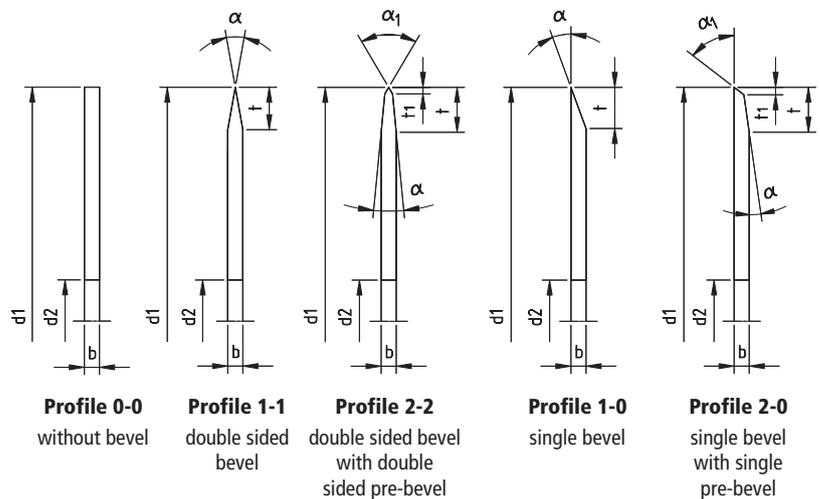
b = _____ mm

α = _____ °

α_1 = _____ °

t = _____ mm

t₁ = _____ mm



Material _____

Coating _____

Quantity _____

Delivery date _____

* Sketch of your bevel profile

Notes

■ Teeth and cutting angles



Type A

A (DIN 1837) toothforms are normally used in **fine machining operations** and jewellery. This type of teeth is normally used on thin blades with **pitch range from 0.8 to 3.0 mm**.

These blades have sharp cutting edges. The chip clearance is reduced.



Type B

B and Bw (DIN 1838) toothforms are the most common used on cut-off machines saws to cut **ferrous materials**. They have a **larger chip clearance** and allow to cut **thicker materials**. With Bw teeth (alternatively bevelled teeth) the chip is in one part 2/3 of the blade thickness. We suggest using this toothform **to cut tubes and profiles** with section up to 3–4 mm.



Type Bw

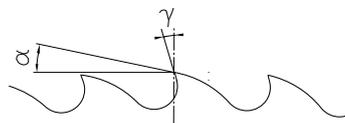
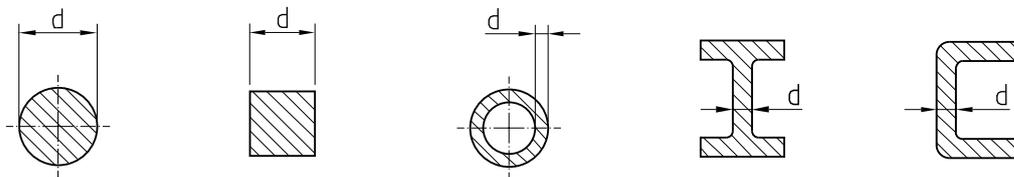
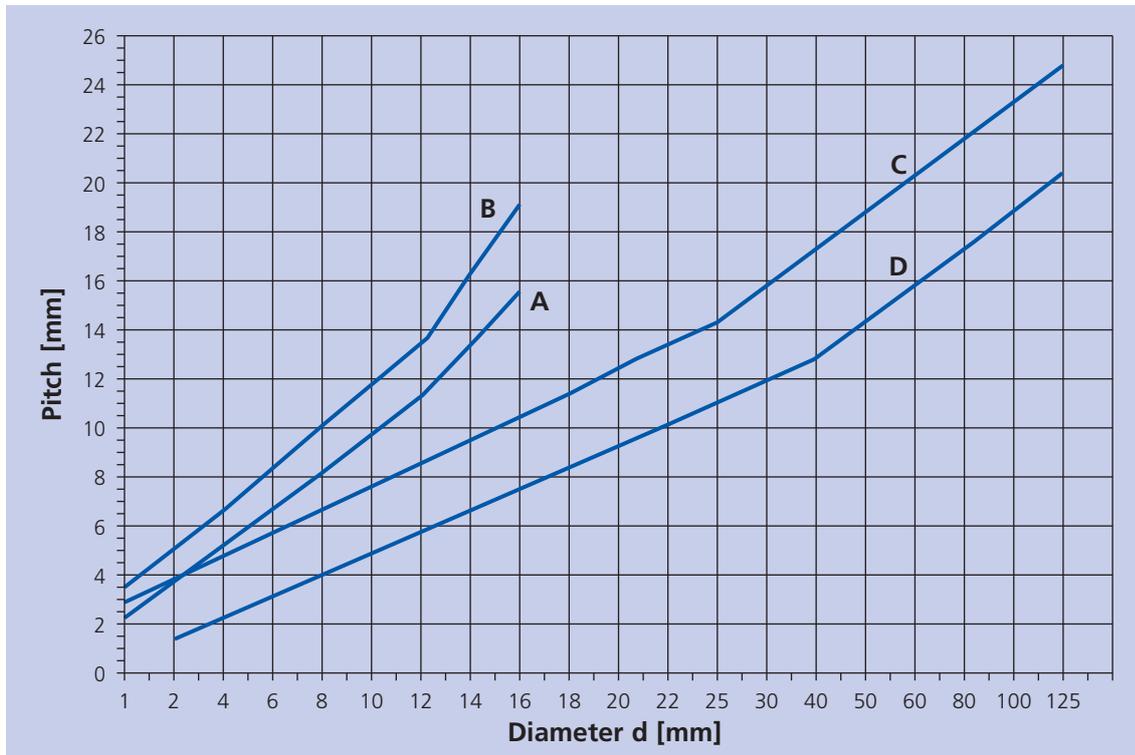


Type C

C toothform has the characteristic of **splitting the chip** into three parts, each 1/3 of the blade thickness, that is due to the presence of a roughing and a finishing teeth. We recommend this tooth form to cut sections above 4–5 mm, when it is important to remove the chips away from the cutting area

efficiently, avoiding poor tool life or even tool breakage due to the teeth clogging.

■ Tooth pitch selector and cutting geometries HSS-circular saw blades



Material classification	Cutting geometries		Pitch see diagram	
	Rake-angle γ	Clearance-angle α	Profiles/tubes	Full material
1, 2 Steel < 800 N/mm ²	16°–20°	8°–10°	B	D
3 Steel 800 N/mm ² –1200 N/mm ²	12°–16°	6°–8°	C	D
3, 4 Grey cast iron	10°–14°	6°–8°		D
7 Copper	20°–25°	10°–12°	B	C
8 Bronze	6°–10°	5°–7°	B	C
7 Brass, zinc alloy	12°–16°	6°–8°	A	D
9÷11 Aluminium alloy	22°–28°	10°–12°	B	C



When selecting the appropriate circular saw blade, the correct tooth pitch is an important factor for achieving good results. (General rule: 2–3 teeth in contact)

■ Cutting conditions: HSS

Nutex / Nutex Mini / Nutex Plus (guide lines)

By choosing the right coating, tool life will be improved considerably.

Material classification	HSS			
	uncoated $v_c = \text{m /min}$	coated $v_c = \text{m /min}$	cutting-off $f_z = \text{mm}$	slotting $f_z = \text{mm}$
1 Steels < 700 N/mm ² – construction steels – free-cutting steels – cementation steels	40–60	60–95	0.002–0.06	up to 0.1
2 Steels < 800 N/mm ² – construction steels – cementation steels – heat-treatable steels – heat resistant construction steels – nitriding steels Non-alloyed titanium	30–45	50–75		
3 Steels more than 800–1200 N/mm ² – tempering steels – heat resistant construction steels – nitriding steels – tool steels – stainless steels – titanium alloys soft-annealed Cast iron 150 HB	20–35	30–55	0.002–0.04	
4 Steels more than 1200 N/mm ² – tempering steels – nitriding steels – tool steels – stainless steels Cast iron > 150 HB	15–25	20–40		
5 High temperature alloys Nickel-based alloys Titanium alloys hardened	10–15	15–25		
6 High temperature alloys Nickel-based alloys	5–10	8–15	0.002–0.06	
7 Pure copper Copper-zinc alloys (brass)	120–250	190–400		
8 Copper forging alloys hardenable Copper forging alloys non hardenable Copper-tin-alloys (bronze)	40–120	65–195	0.002–0.06	
9 Pure aluminium Non-hardened aluminium Forging materials	800–1400	1200–2000		
10 Hardened aluminium Forging materials Aluminium cast material 6% Si	400–600	600–950	0.004–0.08	
11 Aluminium cast material > 6% Si	120–200	190–320		
12 Thermoplast	100–150	160–250		
13 Duroplast non laminated	60–100	95–160		
14 Duroplast laminated	50–80	80–120		

v_c = Cutting speed
 f_z = Feed per tooth

■ Cutting conditions: Carbide

Nutex / Nutex Mini / Nutex Plus (guide lines)

By choosing the right coating, tool life will be improved considerably.

Material classification	Carbide			
	uncoated $v_c = m / min$	coated $v_c = m / min$	cutting-off $f_z = mm$	slotting $f_z = mm$
1 Steels < 800 N/mm ² – construction steels – free-cutting steels – cementation steels – heat-treatable steels – heat resistant construction steels – nitriding steels – tool steels Cast iron < 150 HB	100-160	120-200	0.005-0.06	0.005 up to 0.1
2 Steels more than 800–1200 N/mm ² – tempering steels – heat resistant construction steels – nitriding steels – tool steels – stainless steels Cast iron > 150 HB	80-130	95-160	0.005-0.04	
3 Steels more than 1200 N/mm ² – tempering steels – nitriding steels – tool steels – stainless steels Non-alloyed titanium	60-100	70-120	0.005-0.04	
4 High temperature alloys Nickel-based alloys Titanium alloys soft-annealed	25-60	30-75	0.005-0.03	
5 High temperature alloys Nickel-based alloys Titanium alloys hardened	20-40	25-50		
6 Pure copper Copper-zinc alloys (brass)	200-600	240-750	0.005-0.06	
7 Copper forging alloys hardenable Copper forging alloys non hardenable Copper-tin-alloys (bronze)	150-400	180-480		
8 Pure aluminium Non-hardened aluminium Forging materials	800-1600	1000-2000		
9 Hardened aluminium Forging materials Aluminium cast material 6% Si	400-600	480-720	0.01-0.1	
10 Aluminium cast material > 6% Si	120-300	140-360		
11 Thermoplast Duroplast non laminated Duroplast laminated	80-240	95-300	0.01-0.08	

v_c = Cutting speed
 f_z = Feed per tooth

Slotting (cutting-off)

To remain above an average **chip thickness of h_m 0.01 mm**, the feed rate should remain above the following values (for HSS and carbide).

$a_e/D:$	0.01	0.02	0.04	0.06	0.10	0.30
Min.- $f_z:$	0.10	0.07	0.05	0.04	0.03	0.02

a_e = Slotting depth

D = Diameter of circular saw blades