



CIRCULAR SAW BLADES
BAND SAW BLADES
PLANING TOOLS
MOULDER & PCD TOOLS



WHEN PERFORMANCE COUNTS

MICOR
TOOLING

OUR COMPANY IN BRIEF

3

PRODUCTION SITES

+150

YEARS

>40

MARKETS

+2K

CUSTOMERS

100%

RENEWABLE ENERGY

CONTENTS

MICOR TOOLING	2	PLANING	62
ABOUT US	2	SPLITTING	68
OUR PRODUCTION SITES	6	PLANER KNIVES	71
OUR BRANDS	7	ACCESSORIES	73
SUSTAINABILITY	8		
CIRCULAR SAW BLADES	10	MOULDER & PCD TOOLS	76
SAWMILL	12	DIAMOND TOOLS	78
PANEL SIZING	18	CNC-TOOLS SHANK CUTTER HW	78
CUT & RIPPING	22	CUTTER WITH PROFILE AND	
FLOOR & MULTI	25	REVERSIBLE KNIVES	79
OTHERS	29	PLANING CUTTER HEAD	79
		PANELLING AND FLOORING	
BAND SAW BLADES	32	CUTTER SET HS	79
SWAGE	34	STRAIGHT CUTTERS HS HW	80
STELLITE	34	PROFILE CUTTERS HW HS	80
KAJAANI	34	PROFILE CUTTERS FOR LOGHOUSE	81
YIELDMAX	34		
LANGSHYTTAN COILS	34	SUPPORT & TECHNICAL	82
PRODUCT MATRIX	35	INFORMATION	
		CIRCULAR SAW BLADES	84
PLANING TOOLS	36	PLANING TOOLS	90
DIMENSIONING	38		
TONGUE, GROOVE & PANELS	46		



WHEN PERFORM COUNTS

COUNT ON US

Micor Tooling offers a complete portfolio of saw blades, band saw blades, planing tools, moulders and PCD tools. At our three manufacturing sites in Sweden, and Finland we produce our world leading brands; Micor, Langshyttan, BBM and LTT which are sold to over 40 countries worldwide. Building on our more than 150 years of combined know-how, we know what is required. Given that Micor Tooling has multiple production sites we can maintain short lead times and flexibility when service counts.

Micor Tooling's aim is to develop highly efficient tools, create innovative ideas and to set sustainable trends. These innovations not only make production processes faster, more flexible, and more cost-effective, but also combine ecology and economy with the best machining quality.

At Micor Tooling, craftsmanship and personal commitment, combined with ongoing efforts to improve and develop ourselves, provides us with a consistent high level of quality. Micor Tooling use renewable energy and is ISO 9001/14001-certified.

PERFORMANCE

OUR PRODUCTION SITES DELIVERS THE SOLUTIONS OF TOMORROW

Our modernly equipt production sites are driven by developing and producing the world's most effective and innovative cutting tools within our different segments. We are proud to deliver the products and solutions of tomorrow.

LÅNGSHYTTAN, SWEDEN

For almost 150 years our site in Långshyttan has offered a grinding service and manufactured band saw blades for the sawmill industry. The knowledge of the plant cant be seen anywhere else in the world. The plant is situated in the deep forest of Dalarna in Sweden.

LAHOLM, SWEDEN

The production plant in Laholm focus on the production and development of our segments circular saw blades and planing tools. With modern equipment in newly renovated facilities, we daily develop solutions on tomorrows products and needs. You access the site easy in Laholm, we are situated close to E6 and south of Halmstad in Sweden.

LAHTI, FINLAND

Driven by the mission of developing and producing the world's best planing tools in moulding and PVC. Over 60 years have made LTT a leading profiled tool manufacturer in Finland. Lahden Teräteos Oy is located in Lahti, southern Finland, only 100 km from Helsinki.





micor
CIRCULAR SAW BLADES

The Micor circular saw blades has been around since the mid-50's and was one of the pioneers in the industry and in developing the technology to furnish saw blades with hard metal inserts. Today, Micor manufactures saw blades for industrial use, where high demands are placed on precision, performance, and endurance. The Micor saw blades are commonly encountered and supplied to different industries, such as: Wood, Metal, Plastic and Food processing industries. The circular saw blades are manufactured in the south of Sweden.



LANGSHYTTAN
BAND SAW BLADES

The Langshyttan band saw blades has been synonymous with high Swedish quality for more than 50 years and is recognised worldwide as a professional partner with outstanding products and service. Over the years, Langshyttan has constantly developed its product offer and today it manufactures a wide variety of band saw blades for all different kind of need at the highest quality. Given the location and expertise, Langshyttan drives the band saw blade innovation for the most challenging cutting conditions.



BBM
PLANING TOOLS

The BBM opened its doors 1987 and are one of the very few players in that market that still exist today and is considered to manufacture very high-quality product that are sold around the world and are constant commitment to offer premium products that gives longer running times and swift deliveries. What makes the BBM products so admired. The Swedish craftsmanship has proven a great success over the years, as quality assurance is in the DNA, and this is synonymous to the BBM brand.



LTT LAHDEN TERÄTEOS
MOULDER & PCD TOOLS

In Finland, Lahden Teräteos is a manufacturing pioneer of, among others, diamond blades, developed for woodworking applications and requiring demanding specially qualified know-how since 1960. Continuous further development of products and services, together with highly trained and motivated personnel has made LTT as a leading profiled tool manufacturer in Finland. LTT are able to offer the highest grinding quality for PCD diamond tools and offering the best sharpening service.

WHEN PERFORMANCE COUNTS. YOU CAN COUNT ON OUR PRODUCTS.

We develop world leading products that meet the highest customer demands, building on our more than 150 years of combined know-how. We know what is required when performance counts and you will find our cutting tools all over the world.

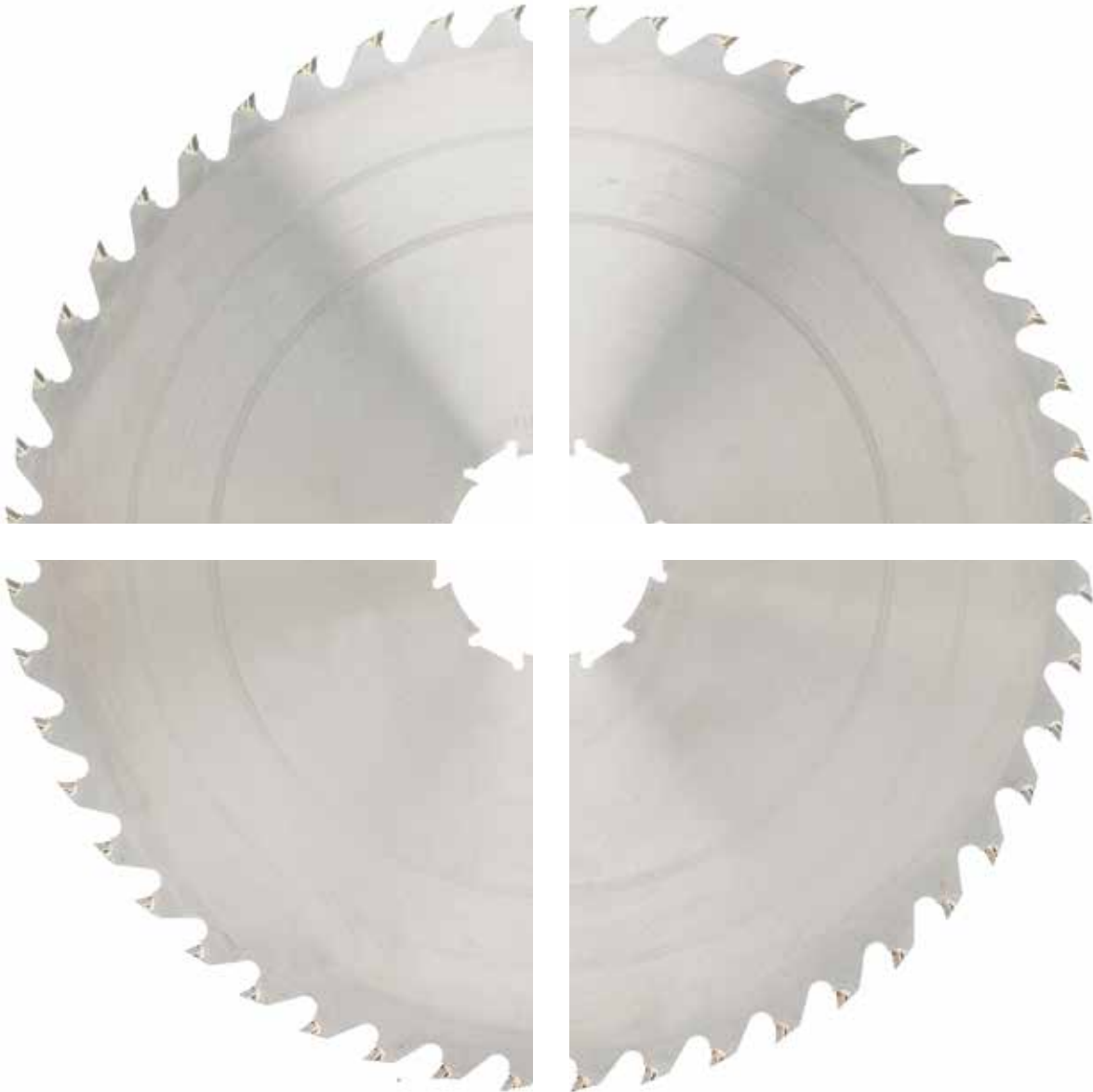




SUSTAINABILITY MATTERS TO US

All of our production plants use 100% renewable energy because sustainability matters to us. Sustainability is central and reflected in our company's core values, which are fundamentally about caring for people and the environment: Long-term, Businesslike, Trust & Responsibility and Development.

CIRCULAR SAW BLADES





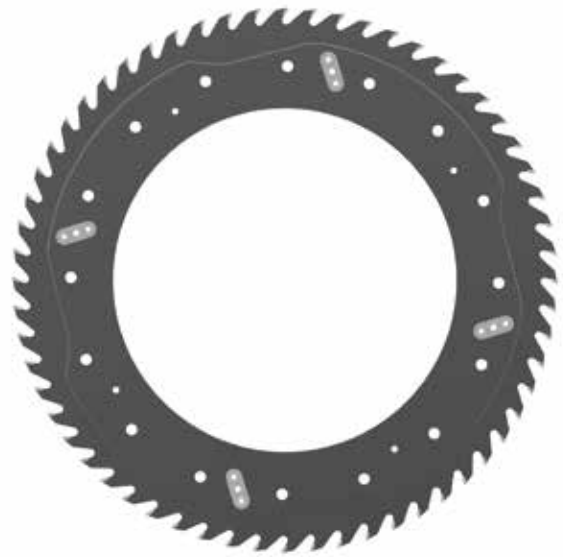
CIRCULAR SAW BLADES

SAWMILL
PANEL SIZING
CUT & RIPPING
FLOOR & MULTI
OTHERS



REDUCER BLADES

- With chamfered gullets for optimal chipflow.



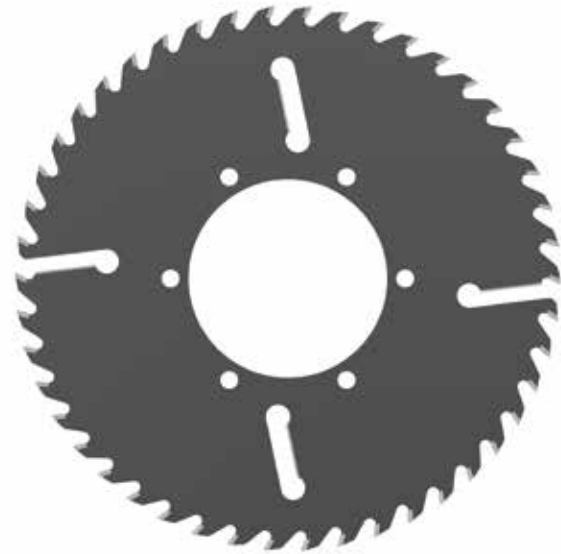
TECHNICAL DATA

DIAMETER	KERF	THICKNESS I	THICKNESS II	BORE	TEETH
PRE-CUTTING					
345	3,9	2,9	10,7	144	36
345	5,2	3,8	10,7	144	36
346	4,4	3,1	10,7	144	36
346,5	4,1	2,9	10,7	144	38
430	4,5	3,3	8,7	190	42
460	4,3	3,3	8,7	240	42
610	4,0	3,2	6,0	440	48
650	4,0	3,2	6,0	480	48
660	3,6	2,5	7,0	460	78
660	4,2	3,0	7,0	460	60
660	5,2	4,2	7,0	460	60
705	4,7	3,6	6,0	560	72
710	5,6	3,6	6,0	560	64
710	4,4	3,6	6,0	560	64
720	4,8	3,4	7,0	560	72
735	4,6	3,5	7,0	460	72
876	3,9	2,8	8,0	620	72
876	4,7	3,6	8,0	620	72
INTERMEDIATE-CUTTING					
585	3,9	3,2	6,0	440	48
625	4,0	3,2	6,0	480	48
POST-CUTTING					
540	7,0	6,0	-	320	44
540	7,4	6,0	-	320	44
588	8,4	7,0	-	460	48
630	8,4	7,0	-	460	60
660	8,5	7,0	-	560	60



EDGER BLADES

Manufactured in special steel and equipped with extra durable tips for maximum wear resistance at high feed rates and strain, even in winter.



TECHNICAL DATA

DIAMETER	KERF	THICKNESS	BORE	TEETH
350	4,7	3,5	150	32
350	5,0	3,5	150	36
350	5,0	3,8	146	46
400	4,8	3,6	146	44
400	5,0	3,6	146	40
400	5,0	3,5	146	46
400	5,2	3,8	72	40
400	5,2	3,8	146	40
400	5,2	3,8	146	46
400	5,2	3,8	146	48
400	5,2	3,8	146	54
444	4,8	4,0/8,0	240	44
450	4,7	3,5	146	48
450	5,0	3,8	146	46
450	5,0	3,8	146	48
450	5,4	3,8	146	48
450	5,4	3,8	146	54
450	5,4	4,0	146	40
500	4,9	3,5	CD1	48
500	4,9	3,5	SPL2	48
500	5,0	3,5	113	60
500	5,0	3,5	SPL2	48
500	5,0	3,5	SPL2	60
500	5,2	3,8	80	40
500	5,2	3,8	80	40



DOUBLE ARBOR BLADES



- Our products aim to optimize yield, reduce downtime and maximum speed.
- Durability permeates everything we do.

TECHNICAL DATA

DIAMETER	KERF	THICKNESS	BORE	TEETH
350	3,0	2,0	100	28
351	3,6	2,4	70	24
351	3,8	2,6	70	28
351	4,0	2,8	70	24
351	4,0	2,4	70	24
351	4,0	2,8	106,2	36
351	4,1	2,8	70	30
352	2,8	1,7	99	36
352	3,4	2,2	99	33
352	3,8	2,6	99	30
401	4,7	3,4	70	30
450	3,0	1,8	99	30
450	3,2	2,0	99	30
451	4,2	2,8	115,2	33
451	4,7	3,2	115,2	24
451	7,6	6,0	99	30
452	4,2	2,6	99	30
452	4,6	3,0	99	30
460	3,6	2,4	150	30
477	5,4	3,6	120	30
485	5,2	3,6	120	28
500	4,0	2,7	120	33
500	4,0	2,7	124	30
500	4,4	3,0	124	30
500	4,4	3,0	120	33
500	4,6	3,2	120	30
500	4,8	3,4	124	24
520	4,2	2,9	160	36
540	3,8	2,6	300	30

540	4,4	3,0	120	30
540	4,4	3,2	200	24
540	5,3	3,8	120	30
540	5,3	3,8	120	24
540	5,3	3,8/6,8	20	36
540	5,5	3,8	120	21
543	4,2	2,8	160	30
556	3,8	2,6	160	42
556	4,0	2,8	160	42
556	4,6	3,2	160	30
558	4,6	3,2	160	42
570	4,2	2,8	220	30
620	4,4	3,0	160	40
620	5,0	3,6	160	36
620	5,3	3,9	160	30

IF YOU CAN'T FIND WHAT YOU'RE LOOKING FOR PLEASE CONTACT: SUPPORT@MICORTOOLING.COM



PROFILING BLADES

- With chamfered gullets for optimal chipflow.



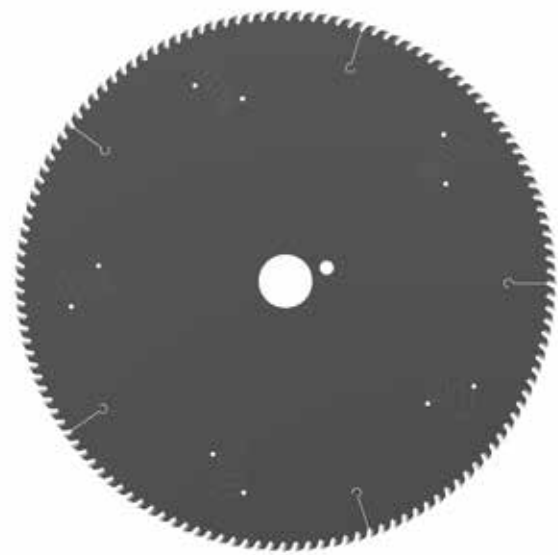
TECHNICAL DATA

DIAMETER	KERF	THICKNESS	BORE	TEETH
200	5,1	3,5	75	48
200	7,0	5,0	50	24
204	4,7	3,5	60	60
252	4,0	3,5/6,9	70	24
252	4,2	3,5/6,9	70	24
253,5	4,3	3,5/6,9	70	24
270	5,2	4,0	125	27
280	6,3	5,1	60	80
316	4,2	3,5/6,9	70	32 - 4
400	4,9	3,5	190	28
400	4,9	3,0	190	28
400	5,4	4,0	191	40
403	3,5	2,5/5,0	305	8
411	4,0	3,0/5,0	317	7
430	5,4	4,0	191	40
499	3,5	2,5/7,0	231	?
566	5,0	4,0	160	36



CUT AND TRIMMER BLADES

- Manufactured with the highest precision for optimum cut quality and performance at high speeds.



TECHNICAL DATA

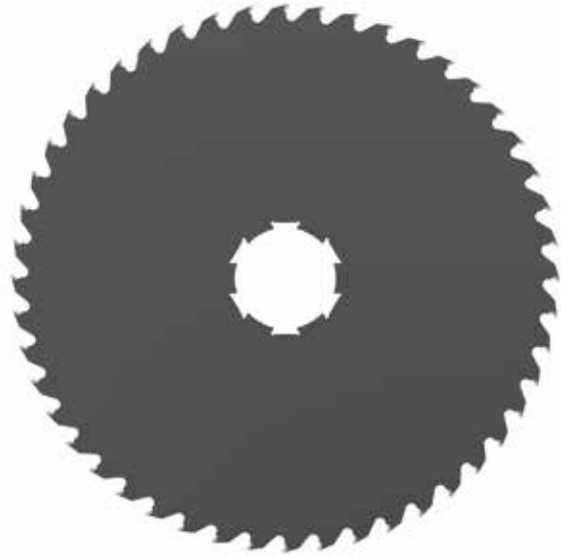
DIAMETER	KERF	THICKNESS	BORE	TEETH
400	3,5	2,5	30	120
400	3,5	2,5	30	96
400	3,2	2,2	30	80
400	3,5	2,5	40	80
400	4,0	2,8	30	96
400	4,6	3,6	135	64
400	3,5	2,5	35	80
400	3,5	2,5	30	64
400	4,0	2,8	30	60
450	4,0	2,8	30	108
450	4,0	2,8	50	72
450	4,0	2,8	40	108
450	4,0	2,8	40	90
450	4,4	3,2	30	144
450	4,6	3,5	30	72
500	3,6	2,8	35	95
500	4,0	2,8	60	80
500	4,0	2,8	30	100
500	4,0	2,8	30	120
500	4,0	3,0	50	100
500	4,2	2,8	50	120
500	4,2	3,0	40,2	80
500	4,2	3,2	50	120
500	4,2	3,2	30	132
500	4,5	3,5	90	120
500	4,8	2,8	35	100
550	4,4	3,0	35	168
570	5,0	4,0	160	36
610	4,4	3,0	30	96

IF YOU CAN'T FIND WHAT YOU'RE LOOKING FOR PLEASE CONTACT: SUPPORT@MICORTOOLING.COM



SPLITTING BLADES

- Maximum feed rate. Stable dimension, less frictions, longer running times.
- Simplified winter sawing with innovative tooth shape.
- Manufactures with fixed or loose hub.



TECHNICAL DATA

DIAMETER	KERF	THICKNESS	BORE	TEETH
510	3,4	2,2	CD2	40
550	4,0	2,8	SPL2	40
600	4,1	2,8	CD2	40
600	4,2	2,8	CD2	44
600	4,4	3,0	SPL2	48
700	4,0	2,6	CD2	40
700	4,0	2,8	SPL2	48
700	4,2	2,8	CD2	48
700	4,4	3,0	SPL2	48
700	5,0	3,6	SPL2	48
710	4,2	2,8	CD2	40
710	4,2	2,8	CD2	48
710	4,5	3,0	CD2	48
820	4,0	2,6	139,6	56
830	4,3	2,8	140,4	50
830	4,5	3,0	140,4	50
830	4,7	3,2	140,4	50

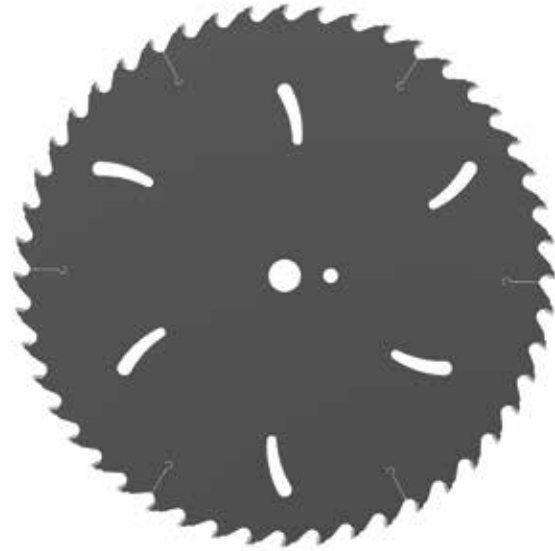


900	4,7	3,2	113	60
900	4,9	3,6	113	60
900	5,0	3,6	113	60
1000	4,6	3,2	139,6	60
1000	5,0	3,6	SLP2	60
1000	5,0	3,6	139,6	70
1100	4,7	3,4	SPL3	64
1100	5,0	3,6	139,6	60
1100	5,0	3,6	113	60
1100	5,0	3,6	139,6	70
1100	5,1	3,6	113	60
1100	5,4	4,0	113	60
1200	5,0	3,6	113	70
1200	5,1	3,6	139,6	70
1200	5,2	3,6	139,6	70
1200	5,8	3,8	113	70



FORMEX 3000

- Small pitch panel sizing blades for horizontal or vertical saws.
- Delivered as standard with a new kind of hardmetal tips, with high degree of wear resistance for high cut quality and extended running time between resharpening, also when cutting harder board like HDF.



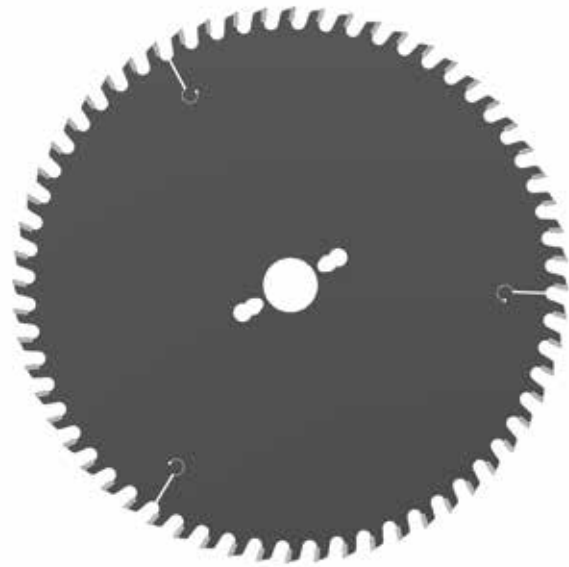
TECHNICAL DATA

DIAMETER	KERF	THICKNESS	TEETH
300	4,4	3,2	60
300	4,4	3,2	48
303	3,2	2,2	60
305	3,2	2,2	60
305	4,0	2,8	60
305	4,4	3,2	60
350	4,4	3,2	72
350	4,4	3,5	72
350	4,4	3,2	54
350	4,4	3,2	42
355	4,2	3,2	72
365	4,4	3,2	60
370	4,4	3,2	72
380	4,8	3,5	72
400	4,4	3,2	72
400	4,4	3,2	60
420	4,8	3,5	84
420	4,8	3,5	72
430	4,4	3,2	72
450	4,4	3,2	96
450	4,8	3,5	84
450	4,4	3,2	72
450	4,8	3,5	72
460	4,4	3,2	72
470	4,4	3,2	96
480	4,4	3,2	80
500	4,8	3,5	72
500	4,4	3,2	72
500	4,4	3,2	60
500	4,8	3,5	60
520	4,8	3,5	60
550	5,0	3,5	72
550	5,2	3,5	72
550	5,0	3,5	60
565	5,0	3,5	72
570	4,8	3,5	60
600	5,8	4,0	72
600	5,8	4,0	60
670	6,5	5,0	60
670	7,0	4,9	60



FORMEX 3000+S

- With in-house developed variant of hollow grinding (EAXH) with minimal chipping of the edges when cutting coated or laminated board.



TECHNICAL DATA

DIAMETER	KERF	THICKNESS	TEETH
220	3,2	2,2	42
250	3,2	2,2	50
303	3,2	2,2	60
350	3,2	2,2	70
400	3,5	2,5	80
450	3,9	2,8	90
500	3,9	2,8	100



SCORING BLADES

FOR SCORING WITH FEED

MACHINE:

- Panel sizing saws with scoring unit and pressure beam.

WORKPIECE MATERIAL:

- Chipboard and fibre materials paper and plastic coated, veneered, laminated veneer lumber (e.g. plywood, multiplex plywood).

TECHNICAL INFORMATION:

- Scoring depth 1.50 - 2.00 mm.
For universal use in any surface coating. The suitable scoring circular sawblade must be selected depending on the cutting width of the main saw.



TECHNICAL DATA

DIAMETER	KERF	THICKNESS I	THICKNESS II	BORE	TEETH
105	3,2	4,2	2,2	20	20
120	2,8	3,6	2,2	20	20
120	3,2	4,2	2,2	20	24
125	3,2	4,2	2,2	20	24
125	3,8	4,8	2,8	45	24
125	4,2	5,2	3,2	45	20
125	4,4	5,4	3,2	20	24
125	4,4	5,4	3,5	45	24
125	4,4	5,4	3,5	45	20
125	4,4	5,4	3,2	45	20
150	4,4	5,4	3,2	30	28
150	4,4	5,4	3,2	40	24
160	4,4	5,4	3,5	55	36
160	4,4	5,4	3,2	45	28
180	3,8	4,8	3,5	20	28
180	4,2	5,2	3,2	30	30

180	4,4	5,4	3,5	45	36
180	4,4	5,4	3,2	30	28
180	4,4	5,4	3,5	20	30
180	4,8	5,8	3,5	45	36
180	4,8	5,8	3,5	45	28
200	3,2	4,2	3,2	30	34
200	3,2	4,2	3,2	30	60
200	3,5	4,5	2,5	80	34
200	4,2	5,2	3,2	45	32
200	4,4	5,4	3,2	45	36
200	4,4	5,4	3,2	20	34
200	4,4	5,4	3,5	65	36
200	4,8	5,8	3,5	45	36
200	4,8	5,8	3,5	45	34
200	5,8	6,8	3,5	45	36

IF YOU CAN'T FIND WHAT YOU'RE LOOKING FOR PLEASE CONTACT: SUPPORT@MICORTOOLING.COM

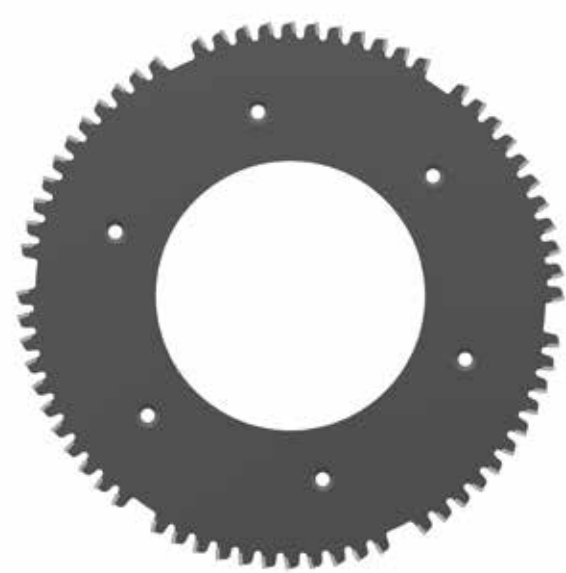


HOGGER BLADES

- Spare circular sawblade for segment hoggers.

TECHNICAL DATA

DIAMETER	THICKNESS I	THICKNESS II	BORE	TEETH
180	3,2	2,2	65	42
180	3,2	2,2	65	42
250	6,4	5	80	76
250	6,4	5	80	76



SPLIT SCORING BLADES

FOR EDGEBANDINGS MACHINE

APPLICATION:

- Scoring saw blade for scoring groove on coated wood based material. For finish cut on bottom of board.

MACHINE:

- For double end tenoner machines with scoring spindle, edge banding machines, etc.



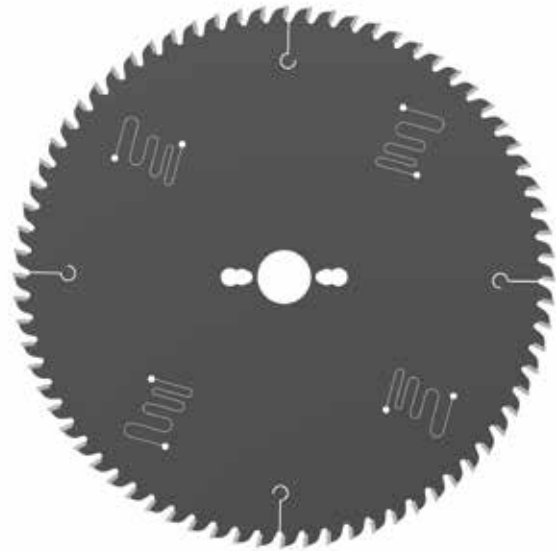
TECHNICAL DATA

DIAMETER	THICKNESS I	THICKNESS II	BORE	TEETH
100	2,8	3,6	20	2 X 12
105	2,8	3,6	20	2 X 12
120	2,8	3,6	20	2 X 12
120	1,9	2,2	50	2 X 12
125	2,8	3,6	20	2 X 12



CROSS-CUTTING

- Saw blades for crosscutting wood.



TECHNICAL DATA

DIAMETER	KERF	THICKNESS	BORE	TEETH
200	2,8	2,0	30	48
200	2,8	2,0	30	64
216	2,8	1,9	30	64
225	3,2	2,2	30	72
250	3,2	2,2	30	50
250	3,2	2,2	30	40
250	3,2	2,2	30	60
250	3,2	2,2	30	80
300	3,2	2,2	30	48
300	3,2	2,2	30	60
300	3,2	2,2	30	72
300	3,2	2,2	30	96
315	3,2	2,2	30	60
330	3,5	2,5	30	112
350	3,5	2,5	30	56

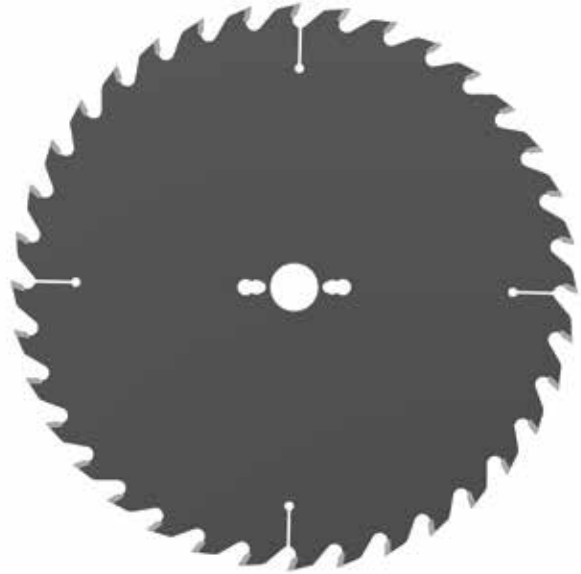


350	3,5	2,5	30	72
350	3,5	2,5	30	84
350	3,5	2,5	30	108
400	3,5	2,5	30	64
400	3,5	2,5	30	80
400	3,5	2,5	30	96
400	3,5	2,5	30	120
450	4	2,8	30	72
450	4	2,8	30	90
450	4	2,8	30	108
500	4	2,8	30	80
500	4	2,8	30	100
500	4	2,8	30	120
560	4,4	3,0	30	88
610	4,4	3,0	30	96



RIPPING BLADES

- Saw blades for all types splitting wood.



TECHNICAL DATA

DIAMETER	KERF	THICKNESS	BORE	TEETH
200	2,0	1,4	30	32
250	2,4	1,6	30	24
250	2,8	2	30	40
250	3,2	2,2	30	20
250	3,2	2,2	30	40
300	2,4	1,6	30	30
300	2,4	1,6	30	48
300	3,2	2,2	30	24
300	3,2	2,2	30	30
300	3,2	2,2	30	48
350	3,2	2,2	30	56
350	3,5	2,5	30	28
350	3,5	2,5	30	36
400	3,5	2,5	30	32
400	3,5	2,5	30	40
400	3,5	2,5	30	64
450	4,0	2,8	30	36
500	4,0	2,8	30	40
610	4,4	3	30	48



CONSTRUCTION BLADES

- Saw blades for construction and handheld saws for easier applications.



TECHNICAL DATA

DIAMETER	KERF	THICKNESS	BORE	TEETH
250	2,8	2,0	30	24
300	2,8	2,0	20	36
300	3,2	2,2	30	30
315	3,0	2,0	30	48
315	3,2	2,2	30	30
350	3,2	2,2	30	42
350	3,5	2,2	30	36
400	3,2	2,2	30	48
400	3,5	2,2	30	40
400	3,5	2,5	30	48
450	4,0	2,8	30	44
152	2,5	1,5	20	16
160	2,5	1,5	20	16
190	2,5	1,5	30	24
210	2,8	1,8	30	24
210	2,8	1,8	30	32
216	2,8	1,8	30	24
216	2,8	2,0	30	48
216	2,8	2,0	30	64
235	2,8	1,8	30	28
235	2,8	1,8	30	36



MULTI-RIP BLADES

WOOD FLOOR

- With a specially treated sawbody to ensure stability and cut quality also at high strain.
- Superthin splitting blades for mounting on hydro sleeves.



TECHNICAL DATA

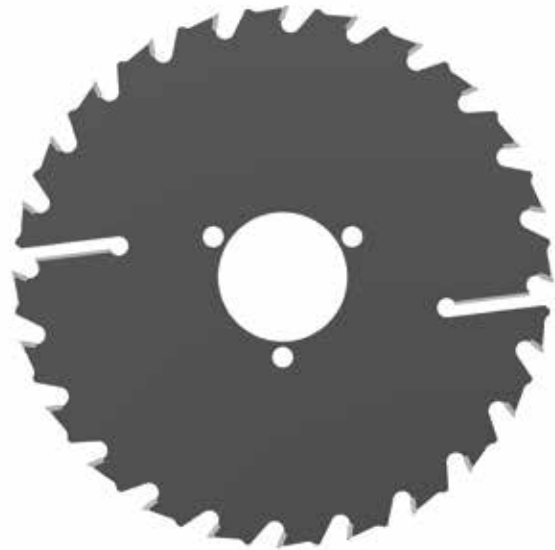
DIAMETER	THICKNESS I	THICKNESS II	BORE	TEETH
180	1,0	0,7	65	21
200	1,3	0,8	70	18
200	1,2	0,9	60	19
200	1,2	0,9	60	22
200	1,4	0,9	70	18
220	1,2	0,9	65	24
220	1,4	1,0	65	24
225	1,4	1,0	70	22



MULTI-RIP BLADES

MOULDERS

- With a specially treated sawbody to ensure stability and cut quality also at high strain.
- Splitting blades with wiper slots and guard teeth.



TECHNICAL DATA

DIAMETER	THICKNESS I	THICKNESS II	BORE	TEETH
180	1,6	1,1	60	18
180	2,0	1,4	60	12
180	2,5	1,8	60	18
200	2,0	1,4	60	14
200	2,5	1,6	50	20
200	2,5	1,8	40	16
225	2,4	1,6	60	16
225	2,5	1,8	60	16
225	2,5	1,8	60	18
225	2,8	2,0	60	16
250	2,0	1,4	60	24
250	2,4	1,6	60	16
250	2,8	2,0	60	16
280	2,4	1,6	60	18
300	2,4	1,6	60	20
300	3,2	2,2	60	20
315	2,4	1,6	60	20
350	2,8	2,0	60	24
400	2,8	2,0	60	28



EDGER BLADES

- For mounting together multi rip blades.

TECHNICAL DATA

DIAMETER	THICKNESS I	THICKNESS II	BORE	TEETH
180	5,0	4,0	60	21
200	5,0	4,0	60	21
225	5,0	4,0	60	24
250	5,0	4,0	60	26

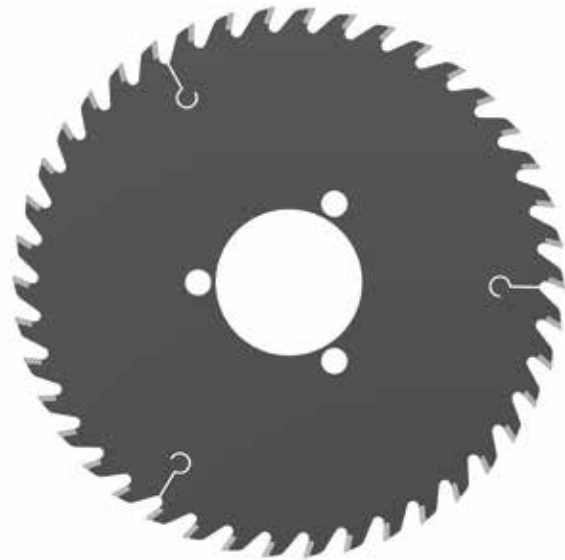




SPLITTING BLADES

X-ACT

- For high speed splitting when you need an excellent finish.
- With special tip geometry and coating for minimal friction and high resistance at high work loads.
- Mainly used for high speed splitting with high demands on surface finish.



TECHNICAL DATA

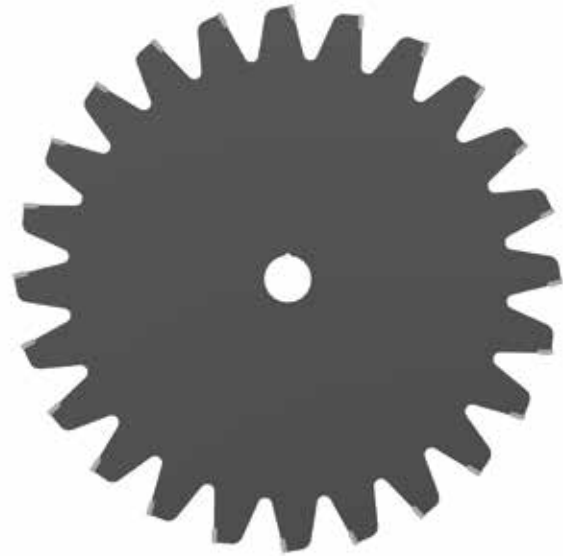
DIAMETER	THICKNESS I	THICKNESS II	BORE	TEETH
180	1,6	1,1	60	18
180	2,0	1,4	60	12
180	2,5	1,8	60	18
200	2,0	1,4	60	14
200	2,5	1,6	50	20
200	2,5	1,8	40	16
225	2,4	1,6	60	16
225	2,5	1,8	60	16
225	2,5	1,8	60	18
225	2,8	2,0	60	16
250	2,0	1,4	60	24
250	2,4	1,6	60	16
250	2,8	2,0	60	16
280	2,4	1,6	60	18
300	2,4	1,6	60	20
300	3,2	2,2	60	20
315	2,4	1,6	60	20
350	2,8	2,0	60	24
400	2,8	2,0	60	28

micor
CIRCULAR SAW BLADES

RESCUES BLADES

DISPOSABLE BLADES FOR
CUTTING MATERIALS AT
VARIOUS RESCUE OCCASIONS

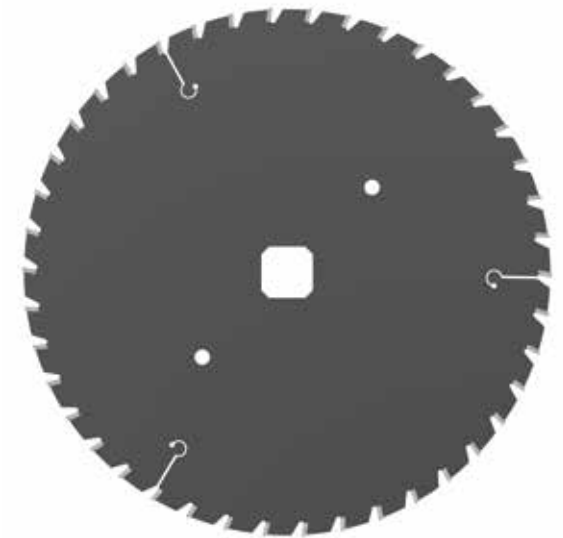
- Tinplate
- Wood
- Tar cardboard
- Minerite disc

**micor**
CIRCULAR SAW BLADES

FOOD

SAW BLADES SPECIALLY
DESIGNATED FOR FOOD
INDUSTRIES

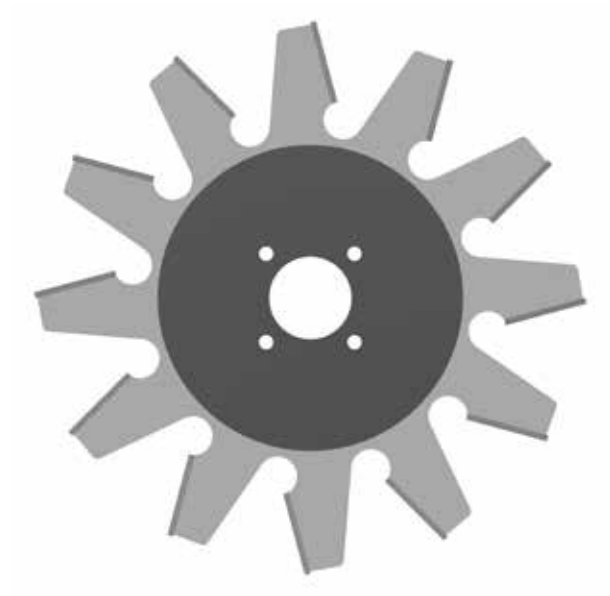
- Fish
- Poultry
- Meat
- Vegetables





PLASTIC & DIVINYCELL

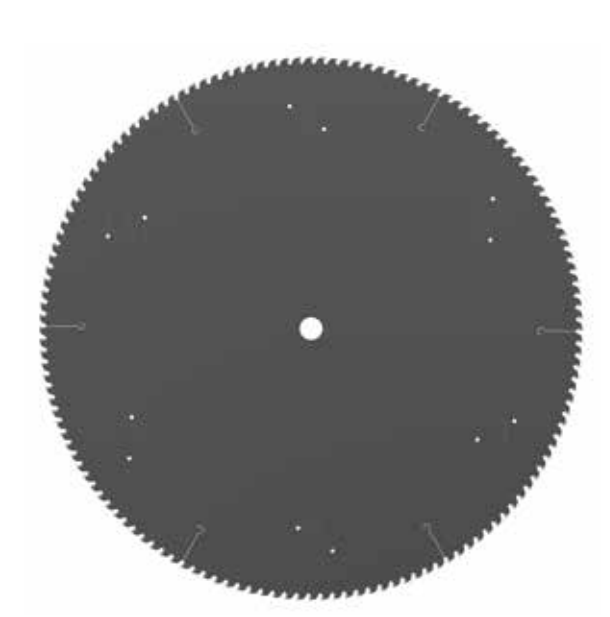
- Saw blades for PVC foam core material applications.
- Saw blades for varoius plastic applications.



METAL CUTTING

SAW BLADES FOR CUTTING HARDENED STEEL, STAINLESS STEEL OR ALUMINUM.

- For cutting non-ferrous steel.
- For cutting of non-hardened steel.
- For cutting of stainless steel.





BAND SAW BLADES



BAND SAW BLADES

LANGSHYTTAN
BAND SAW BLADES

BAND SAW BLADES

SWAGE
STELLITE
KAJAANI
YIELDMAX
LANGSHYTTAN COILS

BAND SAW BLADES



BAND SAW BLADES

SWAGE

- A robust band saw blades combining quality and independency.
- Developed for European and North American conditions.



STELLITE

- Robust band saw blades with balanced running time and feed speed.
- Developed for European conditions.



KAJAANI

- Band saw blades adapted for frozen logs and tough winter conditions.
- Developed to endure extreme Nordic winter environment.



YIELDMAX

- Band saw blade for thinner cuts and increased yield.
- New technology includes reduced cracks and longer running times.
- Available also with Kajaani tooth.



LANGSHYTTAN COILS

- Available in raw or toothed steel coils.
- Customer specific lengths and dimensions.





MATRIX BAND SAW BLADES

MM	INCH	MM GAUGE	0,45 26	0,5 25	0,6 23	0,65 23	0,7 22	0,8 21	0,9 20	1,0 19	1,1 19	1,15 19	1,2 18	1,25 18	1,3 18	1,38 17	1,47 17	1,65 16	1,83 15	2,11 14	2,26 14	2,41 13
10	0.39		•	•	•	•	•															
12	0.47		•	•	•	•	•															
16	5/8		•	•	•	•	•															
19	3/4		•	•	•	•	•	•														
25	1		•	•	•	•	•	•														
30	1 3/16		•	•	•	•	•	•														
32	1 17/64								•	•	•	•										
35	1 3/8				•		•	•	•	•	•											
38	1 1/2								•	•	•	•		•		•						
40	1 37/64			•	•		•	•	•	•	•											
45	1 49/64						•	•	•	•	•											
50	2						•	•	•	•	•	•										
60	2 3/8						•	•	•	•	•			•								
70	2 3/4						•	•	•	•	•			•								
80	2 1/8							•	•	•	•	•	•	•								
90	3 1/2							•	•	•	•	•	•	•			•					
100	4							•	•	•	•	•	•	•			•					
110	4 3/8								•	•	•	•	•	•								
114	4 3/8									•	•	•	•	•								
120	4 3/4									•	•	•	•	•								
130	5 3/8								•	•	•	•	•	•								
140	5 1/2										•	•	•		•							
150	6										•	•	•		•							
156	6 3/8											•	•	•		•						
160	6 1/4											•	•	•								
181	7 3/8											•	•	•	•	•	•					
206	8 3/8												•		•	•	•					
232	9 3/8														•	•	•	•	•			
250	9 7/8															•	•	•				
260	10 1/4															•	•	•				
286	11 1/4															•	•	•				
311	12 1/4																•	•	•	•		
336	13 1/4																	•	•	•	•	
362	14 1/4																		•	•	•	•

BAND SAW BLADES

PLANING TOOLS



BBM
PLANING TOOLS

PLANING TOOLS

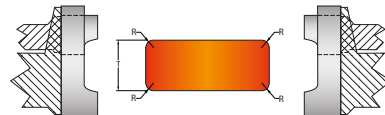
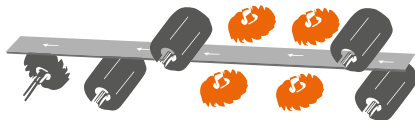
**DIMENSIONING
TONGUE, GROOVE & PANELS
PLANING
SPLITTING
PLANER KNIVES
ACCESSORIES**



ADJUSTABLE RADIUS CUTTER



Flexible tool suitable for small batch production and varying dimensions. T is adjusted with spacer rings. Setting rings and external rings are additional.



TECHNICAL DATA

D	Z	BORE	ART.NO. RH	ART.NR. LH
180	6	**	E01.*****	E01.*****
200	8	**	E01.*****	E01.*****
220	10	**	E01.*****	E01.*****
250	12	**	E01.*****	E01.*****
280	16	**	E01.*****	E01.*****

DIMENSION TABLE

T mm	R mm	PROFILE NO. LH	PROFILE NO. RH
19-48	4	23982	23981

OPTIONS

ACCESSORIES	ART.NO.
Hydro sleeve	B45/60-115
Hydro sleeve	B50/60-115
Hydro sleeve	B60/70-140

ACCESSORIES

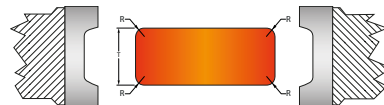
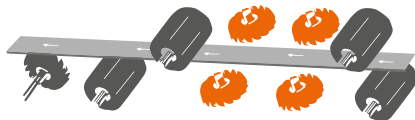
ACCESSORIES	ART.NO.
Spacer ring set	RP9060-29



DOUBLE RADIUS CUTTER



Double radius cutter for volume production.
Also available with multiple profiles for short set up times when changing profile.



TECHNICAL DATA

D	Z	BORE	ART.NO. RH/LH
180	6	**	E02.*****
200	8	**	E02.*****
220	10	**	E02.*****
250	12	**	E02.*****
250	16	**	E02.*****
280	16	**	E02.*****

DIMENSION TABLE

T mm	R mm	PROFILE NO. LH	PROFILE NO. RH
22	4	20090	20090
28	4	20091	20091
38	4	20092	20092
45	4	20093	20093
70	4	20095	20095

OPTIONS

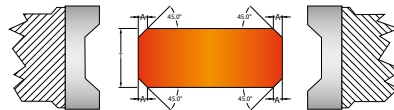
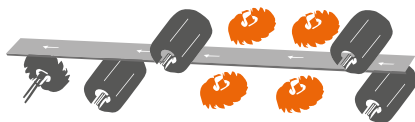
ACCESSORIES	ART.NO.
Hydro sleeve	A45/60-55
Hydro sleeve	A50/60-55
Hydro sleeve	A45/60-75
Hydro sleeve	A50/60-75



DOUBLE CHAMFER CUTTER



Double chamfer cutter for volume production. Also available with multiple profiles for short set up times when changing profile.



TECHNICAL DATA

D	Z	BORE	ART.NO. RH/LH
180	6	**	E03.*****
200	8	**	E03.*****
220	10	**	E03.*****
250	12	**	E03.*****
250	16	**	E03.*****
280	16	**	E03.*****

DIMENSION TABLE

T mm	R mm	PROFILE NO. LH	PROFILE NO. RH
22	4	20080	20080
28	4	20081	20081
38	4	20082	20082
45	4	20083	20083
70	4	20084	20084

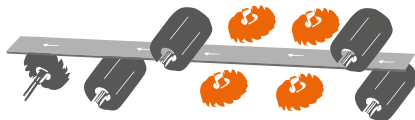
OPTIONS

ACCESSORIES	ART.NO.
Hydro sleeve	A45/60-55
Hydro sleeve	A50/60-55
Hydro sleeve	A45/60-75
Hydro sleeve	A50/60-75



RADIUS CUTTER

Radius cutter for volume production. Suitable for machines with multiple side spindle pairs for fast adjustment of product dimension.



TECHNICAL DATA

D	Z	BORE	ART.NO. RH	ART.NR. LH
180	6	**	E04.*****	E04.*****
200	8	**	E04.*****	E04.*****
220	10	**	E04.*****	E04.*****
250	12	**	E04.*****	E04.*****
250	16	**	E04.*****	E04.*****
280	16	**	E04.*****	E04.*****

DIMENSION TABLE

T mm	R mm	PROFILE NO. LH	PROFILE NO. RH
45	4	22363	22364

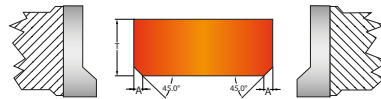
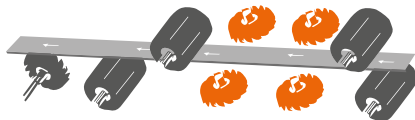
OPTIONS

ACCESSORIES	ART.NO.
Hydro sleeve	A45/60-55
Hydro sleeve	A50/60-55



CHAMFER CUTTER

Chamfer cutter for volume production. Suitable for machines with multiple side spindle pairs for fast adjustment of product dimension.



TECHNICAL DATA

D	Z	BORE	ART.NO. RH	ART.NR. LH
180	6	**	E05.*****	E05.*****
200	8	**	E05.*****	E05.*****
220	10	**	E05.*****	E05.*****
250	12	**	E05.*****	E05.*****
250	16	**	E05.*****	E05.*****
280	16	**	E05.*****	E05.*****

DIMENSION TABLE

T mm	A mm	PROFILE NO. LH	PROFILE NO. RH
45	Max 5	20076	20075

OPTIONS

ACCESSORIES	ART.NO.
Hydro sleeve	A45/60-55
Hydro sleeve	A50/60-55



ADJUSTABLE CHAMFER CUTTER



Flexible tool suitable for small batch production and varying dimensions. T is adjusted with spacer rings. Setting rings and external rings are additional.



TECHNICAL DATA

D	Z	BORE	ART.NO. RH	ART.NR.LH
180	6	**	E06.*****	E06.*****
200	8	**	E06.*****	E06.*****
220	10	**	E06.*****	E06.*****
250	12	**	E06.*****	E06.*****
280	16	**	E06.*****	E06.*****

DIMENSION TABLE

T mm	R mm
9-48	Max 5

OPTIONS

ACCESSORIES	ART.NO.
Hydro sleeve	B45/60-115
Hydro sleeve	B50/60-115
Hydro sleeve	B60/70-140

ACCESSORIES

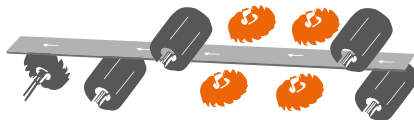
ACCESSORIES	ART.NO.
Spacer ring set	RP9060-29
Spacer ring set	RP10470-29



STRAIGHT EDGE CUTTER



Straight tool for volume production.



TECHNICAL DATA

D	Z	BORE	ART.NO. RH/LH
180	6	**	E07.*****
200	8	**	E07.*****
220	10	**	E07.*****
250	12	**	E07.*****
250	16	**	E07.*****
280	16	**	E07.*****

DIMENSION TABLE

T mm	PROFILE NO. LH	PROFILE NO. RH
45	23	23
70	26	26

OPTIONS

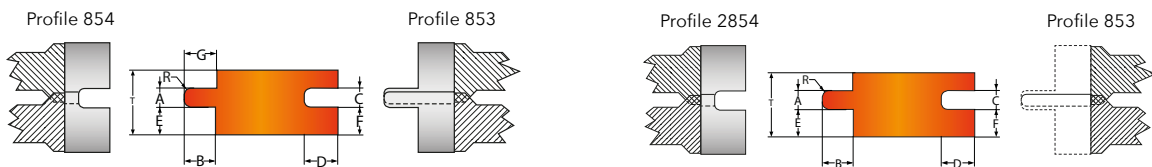
ACCESSORIES	ART.NO.
Hydro sleeve	A45/60-55
Hydro sleeve	A50/60-55
Hydro sleeve	A45/60-75
Hydro sleeve	A50/60-75



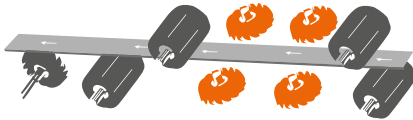


TONGUE, GROOVE AND PANELS

Tools for panel production. Also produced for specific measurements and custom profiles. External rings are additional.



TONGUE AND GROOVE



TECHNICAL DATA

D	Z	BORE	ART.NO. TONGUE (OPEN)	ART.NO. GROOVE	ART.NO. TONGUE (CLOSED)
180	6	**	E10.*****	E10.*****	E10.*****
200	8	**	E10.*****	E10.*****	E10.*****
220	10	**	E10.*****	E10.*****	E10.*****
250	12	**	E10.*****	E10.*****	E10.*****
250	16	**	E10.*****	E10.*****	E10.*****
280	16	**	E10.*****	E10.*****	E10.*****

DIMENSION TABLE

T MM	A MM	B MM	C MM	D MM	E MM	F MM	G MM	R MM	PROFILE NO. TONGUE (OPEN)	PROFILE NO. GROOVE	PROFILE NO. TONGUE (CLOSED)
13-16-22	4,5-6	10	4,9-6,4	11	4,5-7,9	4,3-6,8-8,8	11	1,5	854	853	-
28-34	8	10	8,4	11	11-14	10,8-13,8	11	1,5	858	857	-
13-16-22	4,5-6	10	4,9-6,4	11	4,5-7,9	4,3-6,8-8,8	-	1,5	-	-	2854
28-34	8	10	8,4	11	11-14	10,8-13,8	-	1,5	-	-	2858

OPTIONS

ACCESSORIES	ART.NO.
Hydro sleeve	B45/60-75
Hydro sleeve	B50/60-75
Hydro sleeve	B60/70-75
Hydro sleeve	BL45/100-75
Hydro sleeve	BL50/100-75

CONICAL TONGUE AND GROOVE WITH FREE CUT



TECHNICAL DATA

D	Z	BORE	ART.NO. RH	ART.NR. LH
180	6	**	E11.*****	E11.*****
200	8	**	E11.*****	E11.*****
220	10	**	E11.*****	E11.*****
250	12	**	E11.*****	E11.*****
250	16	**	E11.*****	E11.*****
280	16	**	E11.*****	E11.*****

DIMENSION TABLE

T MM	A MM	B MM	G MM	C MM	D MM	PROFILE NO. LH	PROFILE NO. RH
16-19-22	5,4-6,9	7	8	5,8-7,3	8	134	33
28	8,6	8	9	9,3	9	138	37

OPTIONS

ACCESSORIES	ART.NO.
Hydro sleeve	B45/60-75
Hydro sleeve	B50/60-75
Hydro sleeve	B60/70-75
Hydro sleeve	BL45/100-75
Hydro sleeve	BL50/100-75

TONGUE AND GROOVE WITH DOUBLE CHAMFER



TECHNICAL DATA

D	Z	BORE	ART.NO. RH	ART.NR. LH
180	6	**	E12.*****	E12.*****
200	8	**	E12.*****	E12.*****
220	10	**	E12.*****	E12.*****
250	12	**	E12.*****	E12.*****
250	16	**	E12.*****	E12.*****
280	16	**	E12.*****	E12.*****

DIMENSION TABLE

T MM	A MM	B MM	C MM	D MM	E MM	F MM	R MM	PROFILE NO. LH	PROFILE NO. RH
19	4,8	7	4,9	8	4	3,95	1,5	386	385
22	6,3	7	6,4	8	4,5	4,45	1,5	388	387

OPTIONS

ACCESSORIES	ART.NO.
Hydro sleeve	B45/60-75
Hydro sleeve	B50/60-75
Hydro sleeve	B60/70-75
Hydro sleeve	BL45/100-75
Hydro sleeve	BL50/100-75

TONGUE AND GROOVE WITH CHAMFER



TECHNICAL DATA

D	Z	BORE	ART.NO. RH	ART.NR. LH
180	6	**	E13.*****	E13.*****
200	8	**	E13.*****	E13.*****
220	10	**	E13.*****	E13.*****
250	12	**	E13.*****	E13.*****
250	16	**	E13.*****	E13.*****
280	16	**	E13.*****	E13.*****

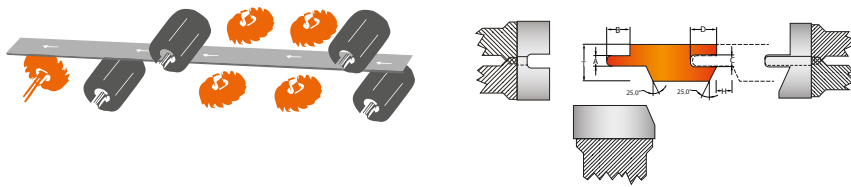
DIMENSION TABLE

T MM	A MM	B MM	C MM	D MM	E MM	F MM	G MM	R MM	PROFILE NO. GROOVE	PROFILE NO. TONGUE CLOSED
13	4	6,5	4,4	7,5	2	1,8	7,5	1,5	100	99
16	4,5	10	4,9	11	2,5	2,3	11	1,5	23214	23213
19	4,5	7	4,9	8	4	3,8	8	1,5	104	103

OPTIONS

ACCESSORIES	ART.NO.
Hydro sleeve	B45/60-75
Hydro sleeve	B50/60-75
Hydro sleeve	B60/70-75
Hydro sleeve	BL45/100-75
Hydro sleeve	BL50/100-75

PANEL WITH 25° CHAMFER



TECHNICAL DATA

D	Z	BORE	ART.NO. LH	ART.NO. RH	ART.NO. BS
180	6	**	E10.*****	E14.*****	E14.*****
200	8	**	E10.*****	E14.*****	E14.*****
220	10	**	E10.*****	E14.*****	E14.*****
250	12	**	E10.*****	E14.*****	E14.*****
250	16	**	E10.*****	E14.*****	E14.*****
280	16	**	E10.*****	E14.*****	E14.*****

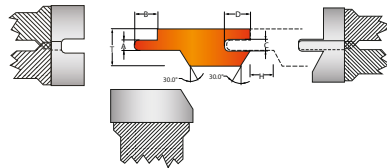
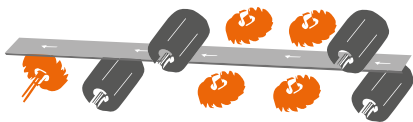
DIMENSION TABLE

T MM	A MM	B MM	C MM	D MM	H MM	PROFILE NO. LH	PROFILE NO. RH	PROFILE NO. BS
16-16-22	4,5-6	10	4,9-6,4	11	Adjustable	2854	20863	21396

OPTIONS

ACCESSORIES	ART.NO.
Hydro sleeve	A45/60-55
Hydro sleeve	A50/60-55
Hydro sleeve	B45/60-75
Hydro sleeve	B50/60-75
Hydro sleeve	B60/70-75
Hydro sleeve	BL45/100-75
Hydro sleeve	BL50/100-75

PANEL WITH 30° CHAMFER



TECHNICAL DATA

D	Z	BORE	ART.NO. LH	ART.NO. RH	ART.NO. BS
180	6	**	E10.*****	E15.*****	E15.*****
200	8	**	E10.*****	E15.*****	E15.*****
220	10	**	E10.*****	E15.*****	E15.*****
250	12	**	E10.*****	E15.*****	E15.*****
250	16	**	E10.*****	E15.*****	E15.*****
280	16	**	E10.*****	E15.*****	E15.*****

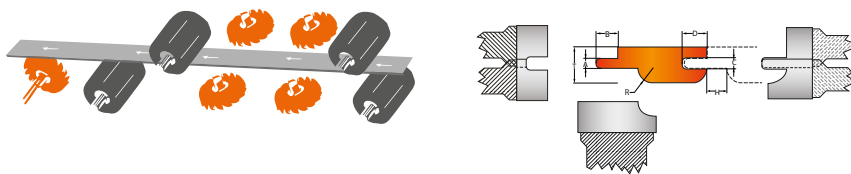
DIMENSION TABLE

T MM	A MM	B MM	C MM	D MM	H MM	PROFILE NO. LH	PROFILE NO. RH	PROFILE NO. BS
12,5-14-19,5-22,5	4-6	10	4,4-6,5	11	Adjustable	2854	23301	23121

OPTIONS

ACCESSORIES	ART.NO.
Hydro sleeve	A45/60-55
Hydro sleeve	A50/60-55
Hydro sleeve	B45/60-75
Hydro sleeve	B50/60-75
Hydro sleeve	B60/70-75
Hydro sleeve	BL45/100-75
Hydro sleeve	BL50/100-75

PANEL WITH RADIUS CORNER



TECHNICAL DATA

D	Z	BORE	ART.NO. LH	ART.NO. RH	ART.NO. BS
180	6	**	E10.*****	E16.*****	E16.*****
200	8	**	E10.*****	E16.*****	E16.*****
220	10	**	E10.*****	E16.*****	E16.*****
250	12	**	E10.*****	E16.*****	E16.*****
250	16	**	E10.*****	E16.*****	E16.*****
280	16	**	E10.*****	E16.*****	E16.*****

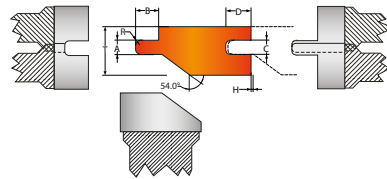
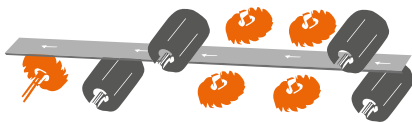
DIMENSION TABLE

T MM	A MM	B MM	C MM	D MM	R MM	H MM	PROFILE NO. LH	PROFILE NO- RH	PROFILE NO. BS
16	4,5	10	4,9	11	6,5	Adjustable	2854	25481	22527

OPTIONS

ACCESSORIES	ART.NO.
Hydro sleeve	A45/60-55
Hydro sleeve	A50/60-55
Hydro sleeve	B45/60-75
Hydro sleeve	B50/60-75
Hydro sleeve	B60/70-75
Hydro sleeve	BL45/100-75
Hydro sleeve	BL50/100-75

PANEL WITH SINGLE CHAMFER



TECHNICAL DATA

D	Z	BORE	ART.NO. LH	ART.NO. RH	ART.NO. BS
180	6	**	E10.*****	E10.*****	E17.*****
200	8	**	E10.*****	E10.*****	E17.*****
220	10	**	E10.*****	E10.*****	E17.*****
250	12	**	E10.*****	E10.*****	E17.*****
250	16	**	E10.*****	E10.*****	E17.*****
280	16	**	E10.*****	E10.*****	E17.*****

DIMENSION TABLE

T MM	A MM	B MM	C MM	D MM	R MM	H MM	PROFILE NO. LH	PROFILE NO. RH	PROFILE NO. BS
16-22	4,5-6	10	4,9-6,4	11	1,5	Adjustable	2854	853	34433

OPTIONS

ACCESSORIES	ART.NO.
Hydro sleeve	A45/60-55
Hydro sleeve	A50/60-55
Hydro sleeve	B45/60-75
Hydro sleeve	B50/60-75
Hydro sleeve	B60/70-75
Hydro sleeve	BL45/100-75
Hydro sleeve	BL50/100-75

WEATHERBOARDING



TECHNICAL DATA

D	Z	BORE	ART.NO. LH/RH
180	6	**	E18.*****
200	8	**	E18.*****
220	10	**	E18.*****
250	12	**	E18.*****
250	16	**	E18.*****
280	16	**	E18.*****

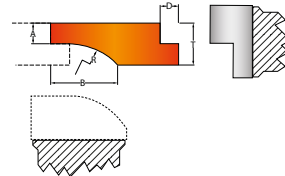
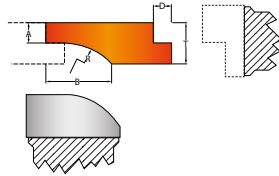
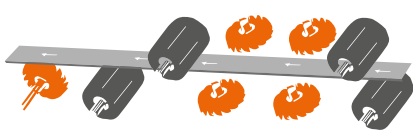
DIMENSION TABLE

T MM	A MM	C MM	D MM	PROFILE NO. LH	PROFILE NO. RH
22	9	10	16	20687	20687
34	14	17	15,5	21365	21365

OPTIONS

ACCESSORIES	ART.NO.
Hydro sleeve	A45/60-55
Hydro sleeve	A50/60-55

SHIPLAP



TECHNICAL DATA

D	Z	BORE	ART.NO. BS	ART.NR. RH
180	6	**	E19 *****	E19.*****
200	8	**	E19 *****	E19.*****
220	10	**	E19 *****	E19.*****
250	12	**	E19 *****	E19.*****
250	16	**	E19 *****	E19.*****
280	16	**	E19 *****	E19.*****

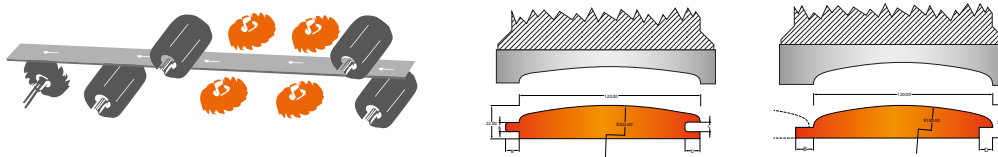
DIMENSION TABLE

T MM	A MM	B MM	D MM	H MM	R MM	PROFILE NO. BS	PROFILE NO. RH
22	11	35	10	10	35	12275	23789

OPTIONS

ACCESSORIES	ART.NO.
Hydro sleeve	A45/60-55
Hydro sleeve	A50/60-55

TG WOOD CABIN PANELS



TECHNICAL DATA

D	Z	BORE	ART.NO. TS
180	6	**	E20.*****
200	8	**	E20.*****
220	10	**	E20.*****
250	12	**	E20.*****
250	16	**	E20.*****
280	16	**	E20.*****

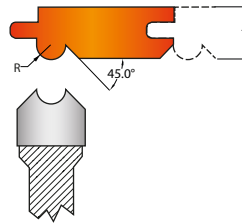
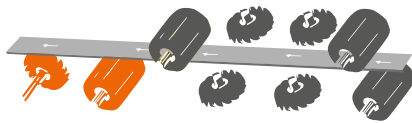
DIMENSION TABLE

A MM	B MM	C MM	D MM	PROFILE NO. TS TONGUE & GROOVE
6	10	6,4	11	20007

DIMENSION TABLE

B MM	D MM	PROFILE NO. TS
12	10	21508

PROFILED CLADDING



TECHNICAL DATA

D	Z	BORE	ART.NO. TS
180	6	**	E21.*****
200	8	**	E21.*****
220	10	**	E21.*****
250	12	**	E21.*****
250	16	**	E21.*****
280	16	**	E21.*****

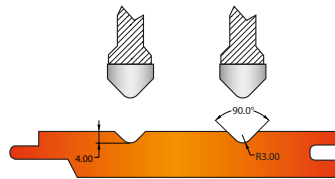
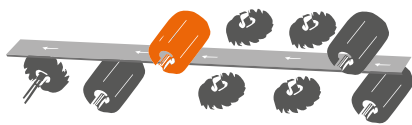
DIMENSION TABLE

T MM	R MM	PROFILE NO.
13	4	24004
16	4	24004

OPTIONS

ACCESSORIES	ART.NO.
Hydro sleeve	A45/60-55
Hydro sleeve	A50/60-55

PANEL, BACK SIDE GROOVES



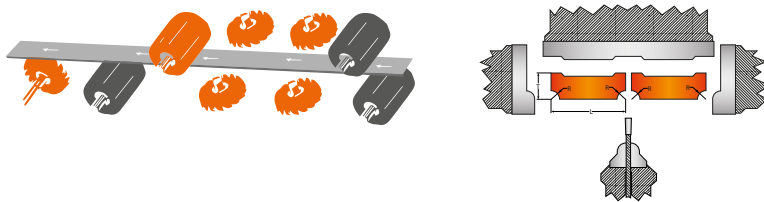
TECHNICAL DATA

D	Z	BORE	ART.NO. TS
180	6	**	E22.*****
200	8	**	E22.*****
220	10	**	E22.*****
250	12	**	E22.*****
250	16	**	E22.*****
280	16	**	E22.*****

OPTIONS

ACCESSORIES	ART.NO.
Hydro sleeve	B45/60-140
Hydro sleeve	B50/60-140
Hydro sleeve	B45/60-190
Hydro sleeve	B50/60-190
Hydro sleeve	B60/70-190

LID LATHS



TECHNICAL DATA

D	Z	BORE	ART.NO. BS	ART.NO. TS	ART.NO. LH	ART.NO. RH
180	6	**		E23.*****	E23.*****	E23.*****
200	8	**		E23.*****	E23.*****	E23.*****
220	10	**		E23.*****	E23.*****	E23.*****
250	12	**		E23.*****	E23.*****	E23.*****
250	16	**		E23.*****	E23.*****	E23.*****
280	16	**		E23.*****	E23.*****	E23.*****
225	6	**	E23.*****			
250	8	**	E23.*****			
250	10	**	E23.*****			
300	12	**	E23.*****			

DIMENSION TABLE

T MM	R MM	L MM	PROFILE NO. LH	PROFILE NO. RH	PROFILE NO. TS	PROFILE NO. BS
16	5	45	28071	28072	12484	30010

OPTIONS

ACCESSORIES	ART.NO.
Hydro sleeve	A45/60-55
Hydro sleeve	A50/60-55
Hydro sleeve	B45/60-75
Hydro sleeve	B45/60-140
Hydro sleeve	B50/60-75
Hydro sleeve	B50/60-140
Hydro sleeve	B60/70-75

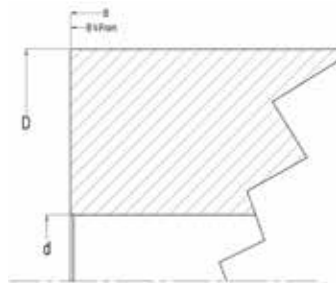
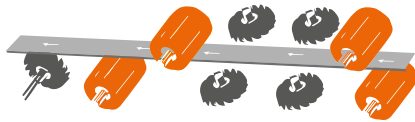




HYDRO PLANER CUTTER



Cutter for planing i high feeds and demanding applications. Use with thin planer knives, page 69-70 and safety ring, page 73.



TECHNICAL DATA

D	D2	B	Z	BORE	RPM	ART.NO.
180	172	235	6	**	6000	E24.*****
180	172	235	8	**	6000	E24.*****
203	172	235	8	**	6000	E24.*****
203	195	235	10	**	6000	E24.*****
203	195	235	12	**	6000	E24.*****
203	195	260	10	**	6000	E24.*****
203	195	260	12	**	6000	E24.*****
203	195	260	16	**	6000	E24.*****
250	242	310	16	**	6000	E24.*****
250	242	310	20	**	6000	E24.*****

TORQUE WRENCH FOR PLANER CUTTERS	ART.NO.
Wrench 19-110Nm L385	V745600
M10 bits 3/8 hex	V745610
M12 bits 3/8 hex	V745611

ACCESSORIES	ART.NO.
Posting tool	Y527-Trapp2/3
M12x20 Screw	K32087
Safety ring Ø45 spindle	K32091
Safety ring Ø50 spindle	K32092
Safety ring Ø60 spindle	K32093

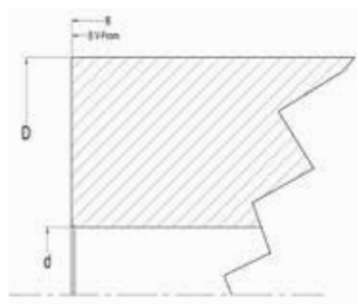
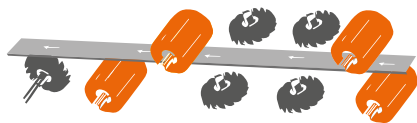
IF YOU CAN'T FIND WHAT YOU'RE LOOKING FOR PLEASE CONTACT: SUPPORT@MICORTOOLING.COM



LIGHT HYDRO PLANER CUTTER



Light weight cutter for planing i high feeds and demanding applications. Use with serrated planer knives, page 69-70 and safety ring, page 73.



TECHNICAL DATA

D	D2	B	Z	BORE	RPM	ART.NO.
180	172	235	6	**	6000	E25.*****
180	172	235	8	**	6000	E25.*****
203	172	235	8	**	6000	E25.*****
203	195	235	10	**	6000	E25.*****
203	195	235	12	**	6000	E25.*****
203	195	260	10	**	6000	E25.*****
203	195	260	12	**	6000	E25.*****
203	195	260	16	**	6000	E25.*****
250	242	310	16	**	6000	E25.*****
250	242	310	20	**	6000	E25.*****

TORQUE WRENCH FOR PLANER CUTTERS	ART.NO.
Wrench 19-110Nm L385	V745600
M10 bits 3/8 hex	V745610
M12 bits 3/8 hex	V745611

ACCESSORIES	ART.NO.
M12x20 Screw	K32087
Safety ring Ø45 spindle	K32091
Safety ring Ø50 spindle	K32092
Safety ring Ø60 spindle	K32093

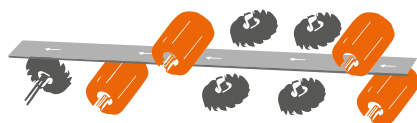
IF YOU CAN'T FIND WHAT YOU'RE LOOKING FOR PLEASE CONTACT: SUPPORT@MICORTOOLING.COM



HYDRO HELIX CUTTER



Pre cutting spiral tool with recessed indexable knives. Also available in light weight model. Can be ordered in different types with directed chip removal. Use with safety ring, page 73



TECHNICAL DATA

D	B	Z	BORE	RPM	ART.NO. SINGLE HELIX	ART.NO. PLOW HELIX
180	235	4+4	**	6000	E26.*****	E26.*****
180	235	5+5	**	6000	E26.*****	E26.*****
180	235	6+6	**	6000	E26.*****	E26.*****
200	235	5+5	**	6000	E26.*****	E26.*****
200	235	6+6	**	6000	E26.*****	E26.*****
200	260	7+7	**	6000	E26.*****	E26.*****
200	260	5+5	**	6000	E26.*****	E26.*****
200	260	6+6	**	6000	E26.*****	E26.*****
200	260	7+7	**	6000	E26.*****	E26.*****
250	310	7+7	**	6000	E26.*****	E26.*****
250	310	8+8	**	6000	E26.*****	E26.*****

TORQUE WRENCH FOR HELIX	ART.NO.
Wrench 5-14 Nm	V745500
Bit holder 1/4 S6mm L=105	V745540
Bit Torx 20 L = 50	V745547

ACCESSORIES	ART.NO.
Helix insert knife R115 15x15x2,5	15152,5-R115C
Helix screw	Helix screw R20
Safety ring Ø45 spindle	K32091
Safety ring Ø50 spindle	K32092
Safety ring Ø60 spindle	K32093

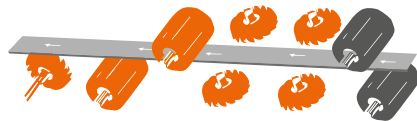
IF YOU CAN'T FIND WHAT YOU'RE LOOKING FOR PLEASE CONTACT: SUPPORT@MICORTOOLING.COM



HYDRO PROFILE CUTTER



Cutter for profiled blanks. Used with profiled blanks (below) and safety ring, page 73.



TECHNICAL DATA

D	B	Z	BORE	RPM	ART.NO.
150	60	6	**	6000	E27,*****
150	160	4	**	6000	E27,*****
150	160	6	**	6000	E27,*****
163	60	8	**	6000	E27,*****

PROFILE BLANKS HSS

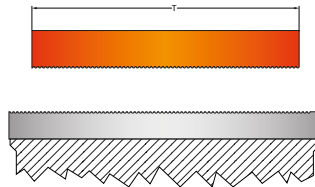
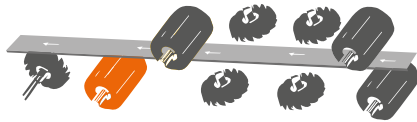
B mm	ART.NO. H=50 PROFILE DEPTH 13	ART.NO. H=60 PROFILE DEPTH 23	ART.NO. H=70 PROFILE DEPTH 32
40	K224050HSSR	K224060HSSR	K224070HSSR
60	K226050HSSR	K226060HSSR	K226070HSSR
80	K228050HSSR	K228060HSSR	K228070HSSR
100	K2210050HSSR	K2210060HSSR	K2210070HSSR
110	K2211050HSSR	K2211060HSSR	K2211070HSSR
130	K2213050HSSR	K2213060HSSR	K2213070HSSR
150	K2215050HSSR	K2215060HSSR	K2215070HSSR
160	K2216050HSSR	K2216060HSSR	K2216070HSSR
180	K2218050HSSR	K2218060HSSR	K2218070HSSR
230	K2223050HSSR	K2223060HSSR	K2223070HSSR





PAIN CUTTER

BBM invented straight edged tool with serration which provides a surface similar to fine sawn.



TECHNICAL DATA

D	Z	BORE	ART.NO.
200	4	**	E28.*****
200	8	45	E28.*****
200	12	45	E28.*****
280	16	60	E28.*****

DIMENSION TABLE OPTIONS

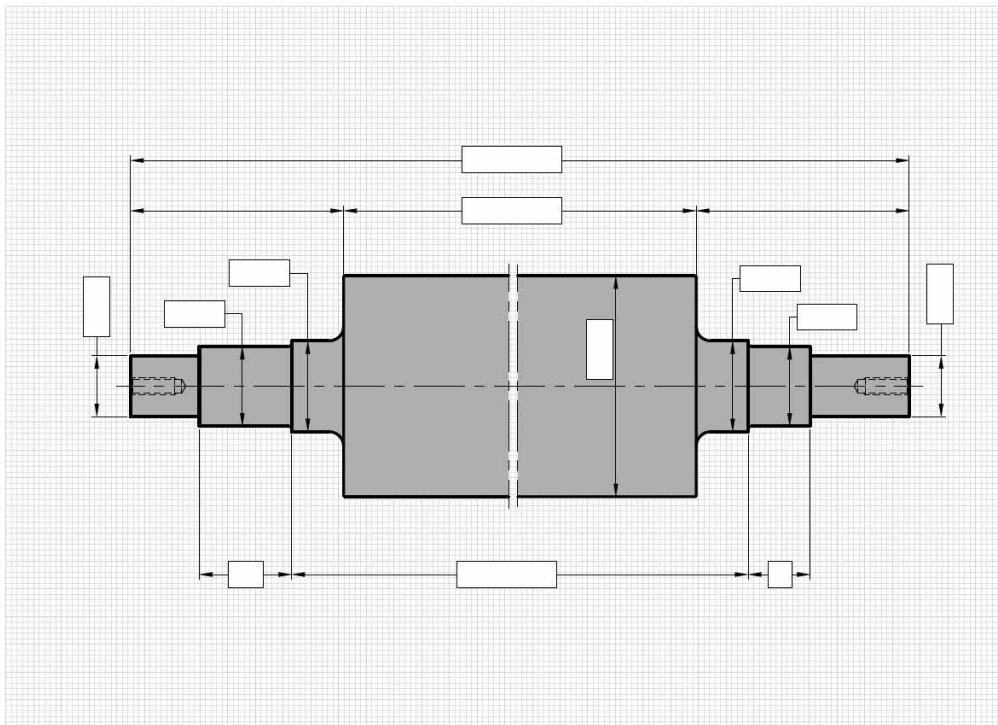
T mm	PROFILE NO.	ACCESSORIES	ART.NO.
145	10020	Hydro sleeve	B45/60-75
190	10021	Hydro sleeve	B50/60-75
		Hydro sleeve	B60/70-75
		Hydro sleeve	BL45/100-75
		Hydro sleeve	BL50/100-75



PLANER CUTTER WITH INTEGRATED SPINDLE



Special cutter with integrated spindle.
Measurements and dimension varies
depending on machine and should be
specified when ordering.

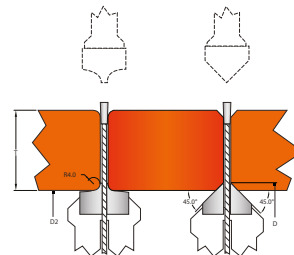
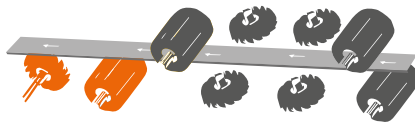




SPLITTING SET



Splitting sets can be ordered with side tools for radius, chamfer or stabilizers for straight cuts. Combine splitting blade Galax TRZ with side tools and dividing cutter in Hardyx to get a high performance cutting unit suitable for demanding applications.



TECHNICAL DATA

D	D2	Z	BORE	ART.NO. R4	ART.NO. 45°
135	127	6	**	E08.*****	E08.*****
135	127	8	**	E08.*****	E08.*****
162	154	6	**	E08.*****	E08.*****
162	154	8	**	E08.*****	E08.*****
162	154	10	**	E08.*****	E08.*****
206	198	10	**	E08.*****	E08.*****
206	198	12	**	E08.*****	E08.*****

DIMENSION TABLE

T mm	D mm	ART.NO. BLADE	D mm	PROFILE NO. R4	PROFILE NO. 45°	STABILIZER DIAMETER	STABILIZER ART. NO.
25	200	A70760	60	30030	40030	115	11560016,0-3
45	225	A70761	60	30030	40030	115	11560016,0-3
25	225	A70761	60	30032	40032	140	14060016,0-3
45	250	A70762	60	30032	40032	140	14060016,0-3
70	300	A70764	60	30032	40032	140	14060016,0-3
25	250	A70773	70	30034	40034	180	18070016,0-3
45	300	A70772	70	30034	40034	180	18070016,0-3
70	350	A70769	70	30034	40034	180	18070016,0-3

OPTIONS

ACCESSORIES	ART.NO.
Hydro sleeve	B45/60-75
Hydro sleeve	B45/60-190
Hydro sleeve	C50/60-55
Hydro sleeve	B50/60-75
Hydro sleeve	B50/60-190
Hydro sleeve	B60/70-75
Hydro sleeve	B60/70-190

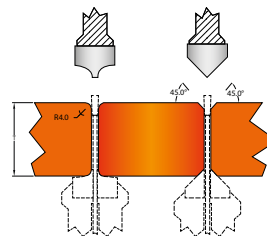
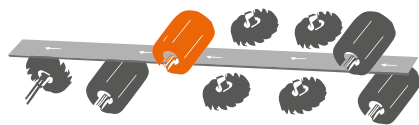
IF YOU CAN'T FIND WHAT YOU'RE LOOKING FOR PLEASE CONTACT: SUPPORT@MICORTOOLING.COM



DIVIDING CUTTER



Dividing cutter for top spindle, used in combination with splitting set. Available with radius or chamfer. Choose Hardyx and Solid hydro for shorter set up, high precision and long running time.



TECHNICAL DATA

D	Z	BORE	ART.NO. R4	ART.NO. 45°
180	6	**	E09.*****	E09.*****
200	8	**	E09.*****	E09.*****
200	10	**	E09.*****	E09.*****
220	12	**	E09.*****	E09.*****
250	12	**	E09.*****	E09.*****
280	16	**	E09.*****	E09.*****

DIMENSION TABLE

PROFILE NO. R4	PROFILE NO. 45°
30867	40867

OPTIONS

ACCESSORIES	ART.NO.
Hydro sleeve	A45/60-55
Hydro sleeve	A50/60-55
Hydro sleeve	A60/70-55

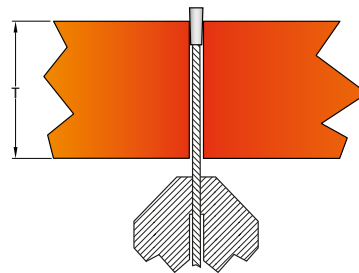
IF YOU CAN'T FIND WHAT YOU'RE LOOKING FOR PLEASE CONTACT: SUPPORT@MICORTOOLING.COM



SPLITTING BLADE GALAX TRZ



High performance splitting blade for planers. Innovative design and technical characteristics enables extreme running time and a cut surface comparable to planed surface. The Galax TRZ is also outstanding at very high feeding speeds. Suitable for both vertical and horizontal splits.



TECHNICAL DATA

D mm	B mm	b mm	Z	d mm
200	3,0	2,0	28	60
225	3,2	2,2	42	60
250	3,4	2,4	46	60
300	3,5	2,5	52	60
250	3,4	2,4	46	70
300	3,5	2,5	52	70
350	3,5	2,5	60	70

SPLITTING BLADE GALAX TRZ FOR LOW FEED

Feed up to 100 m/m

D mm	B mm	b mm	Z	d mm
225	3,2	2,2	32	60
250	3,4	2,4	36	60

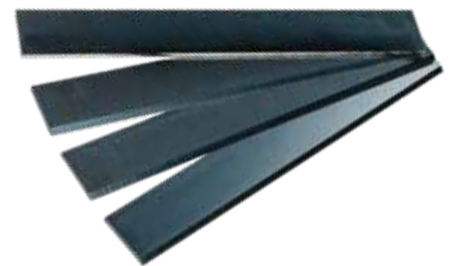


PLANER KNIVES

GALAX PRO

A high performance planer knife that vastly improves running times compared to HSS. GalaxPro also allows a higher feeding speed and provides better surface finish. The material is not brittle which makes it durable to foreign objects such as clips and rocks.

DIMENSIONS THIN	DIMENSIONS THIN	DIMENSIONS BLACK SERRATED	ART.NO.	ART. NO.	ART.NO.
180x30x3			K308609		
230x30x3			K308613		
235x30x3			K308614		
260x30x3			K308616		
310x30x3			K308618		
	180x35x3			K308709	
	230x35x3			K308713	
	235x35x3			K308714	
	260x35x3			K308716	
	310x35x3			K308718	
		180x30x4			K308815
		230x30x4			K308818
		235x30x4			K308819
		260x30x4			K308822
		310x30x4			K308827

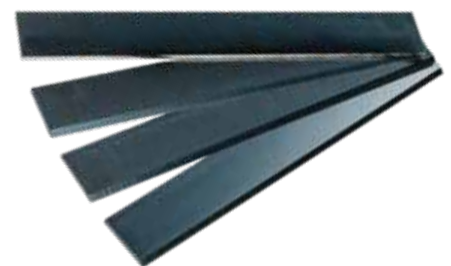


PLANING TOOLS

GALAX PRO+

A high performance planer knife that vastly improves running times compared to HSS. GalaxPro+ also allows a higher feeding speed and provides better surface finish. The material is not brittle which makes it durable to foreign objects such as clips and rocks. GalaxPro+ is extra suitable for materials rich with knots.

DIMENSIONS THIN	DIMENSIONS THIN	DIMENSIONS BLACK SERRATED	ART.NO.	ART. NO.	ART.NO.
180x30x3			K309209		
230x30x3			K309213		
235x30x3			K309214		
260x30x3			K309216		
310x30x3			K309218		
	180x35x3			K309109	
	230x35x3			K309113	
	235x35x3			K309114	
	260x35x3			K309116	
	310x35x3			K309118	
	180x30x4			K309315	
		230x30x4			K309317
		235x30x4			K309318
		260x30x4			K309321
		310x30x4			K309324





PLANER KNIVES

HSS

BBM:s HSS is optimized for good heat resistancy and long running time. It is suitable for soft materials and stays sharp for a long time.

DIMENSIONS THIN	DIMENSIONS THIN	DIMENSIONS BLACK SERRATED	ART.NO.	ART. NO.	ART.NO.
180x30x3			K308209		
230x30x3			K308213		
235x30x3			K308214		
260x30x3			K308216		
310x30x3			K308218		
180x35x3			K308309		
	230x35x3			K308313	
	235x35x3			K308314	
	260x35x3			K308316	
	310x35x3			K308318	
	180x30x4			K308815	
	230x30x4			K308818	
	235x30x4			K308819	
		260x30x4			K308822
		310x30x4			K308827

HSS



PROLITE

BBM ProLite is our cost efficient planer knife optimized for softwood. It's versatile and suitable also for material with a higher percentage of moisture.

DIMENSIONS THIN	DIMENSIONS THIN	DIMENSIONS BLACK SERRATED	ART.NO.	ART. NO.	ART.NO.
180x30x3			K308009		
230x30x3			K308013		
235x30x3			K308014		
260x30x3			K308016		
310x30x3			K308018		
	180x35x3			K308109	
	230x35x3			K308113	
	235x35x3			K308114	
	260x35x3			K308116	
	310x35x3			K308118	
	180x30x4			K308515	
		230x30x4			K308518
		235x30x4			K308522
		260x30x4			K308522
		310x30x4			K308527

PL



IF YOU CAN'T FIND WHAT YOU'RE LOOKING FOR PLEASE CONTACT: SUPPORT@MICORTOOLING.COM



ACCESSORIES

HYDRO SLEEVES

D mm	d mm	FASTENING LENGHT	ART.NO. SLEEVE
60	45	40	B45/60-75
60	45	60	B45/60-95
60	45	105	B45/60-140
60	45	155	B45/60-190
60	50	40	B50/60-75
60	50	60	B50/60-95
60	50	105	B50/60-140
60	50	155	B50/60-190
70	60	40	B60/70-75
70	60	105	B60/70-140
70	60	155	B60/70-190



JOINTING STONES

ROUND JOINT		GRAIN					ART.NO.
Weinig	12x32	280	Coarse	Grey	HSS	Smaller moulders	V14401
Weinig	12x33				HW	Jointing carbide	V14402
Jonsered	15,5x100	120	Coarse	Grey	HSS	Standard Jonsered	V14403
Waco	16x100	120	Coarse	White	HSS	Coarse jointing Waco	V14404
Waco	16x125	240	Medium		HSS	Fine jointing works well on coated knives	V14405
SQUARE SHAPED							ART.NO.
Weinig	60x20x15	280	Coarse	Grey	HSS	Coarse jointing	V14406
Weinig	60x20x15	500	Fine		HSS	Fine jointing works well on coated knives	V14407

IF YOU CAN'T FIND WHAT YOU'RE LOOKING FOR PLEASE CONTACT: SUPPORT@MICORTOOLING.COM

ACCESSORIES



HYDRO GREASE

GREASE FOR PRESSURIZING OF TOOLS	ART.NO.
Grease cartridge 400g	K33090
M-08 Grease pump	V09201
Chuck for M-08 grease pump	K49828

NIPPLES	
Pressurizing nipple	32088
Release nipple	32089

GRINDING WHEELS FOR SCHNEEBERGER

Grinding wheels for front/breast in Schneberger grinding machines

WHEEL TYPE	DIMENSION	ART.NO.
Borazon 15V9, B126W75RCN	D=175x6x2x23, d=20	V772275
Diamond 15V9/45, D76W75RPN	D=175x10x2x23, d=20	V771075

Grinding wheels for back grinding of straight planer cutter heads

WHEEL TYPE	DIMENSION	ART.NO.
Borazon 6A9, B126C75	D=100x3x6, d=20	V772276



GRINDING WHEELS FOR WEINIG

Grinding wheels for back grinding of straight planer cutter heads
Weinig Rondamat 912 och 909

WHEEL TYPE	DIMENSION	ART.NO.
Borazon B126-C74-W	125x3x4x20	V772282

Front/breast grinding in Weinig Rondamat 912

WHEEL TYPE	DIMENSION	ART.NO.
Diamond, D76-C75-W	150x2x3,3x20	V771093
Borazon, B126-C75-W	150x2x3,3x20	V772289



DRESSING STONES FOR GRINDING WHEELS

DIMENSION	ART.NO.
100x25x13	V14341

SAFETY RINGS

D mm	d mm	T mm	ART.NO. SAFETY RING
98	40	20	K32090
98	45	20	K32091
98	45	20	K32092
105	60	20	K32093
140	70	20	K32063



SPACER RINGS

T mm	ART.NO. D65/d40	ART.NO. D70/d45	ART.NO. D75/d50	ART.NO. D90/d60	ART.NO. D104/d70	ART.NO. D130/d100
0,1	6540-000,1	7045-000,1	7550-000,1	9060000,1-1	10470000,1-2	130100000,1-1
0,2	6540-000,2	7045-000,2	7550-000,2	9060000,2-1	10470000,2-2	130100000,2-1
0,5	6540-000,5	7045-000,5	7550-000,5	9060000,5-1	10470000,5-1	130100000,5-1
1,0	6540-001,0	7045-001,0	7550-001,0	9060001,0-1	10470001,0-2	130100001,0-1
2,0	6540-002,0	7045-002,0	7550-002,0	9060002,0-1	10470002,0-2	130100002,0-1
3,0	6540-003,0	7045-003,0	7550-003,0	9060003,0-1	10470003,0-2	130100003,0-1
5,0	6540-005,0	7045-005,0	7550-005,0	9060005,0-1	10470005,0-1	130100005,0-1
10,0	6540-010,0	7045-010,0	7550-010,0	9060010,0-1	10470010,0-1	130100010,0-1
20,0	6540-020,0	7045-020,0	7550-020,0	9060020,0-1	10470020,0-1	

SPACER RING SETS

T mm	ART.NO. D65/d40	ART.NO. D70/d45	ART.NO. D75/d50	ART.NO. D90/d60	ART.NO. D104/d70	ART.NO. D130/d100
1	RP6540-1	RP7045-1	RP7550-1	RP906-1	RP10470-1	RP130100-1
2	RP6540-2	RP7045-2	RP7550-2	RP9060-2	RP10470-2	RP130100-2
3	RP6540-3	RP7045-3	RP7550-3	RP9060-3	RP10470-3	RP130100-3
4	RP6540-4	RP7045-4	RP7550-4	RP9060-4	RP10470-4	RP130100-4
5	RP6540-5	RP7045-5	RP7550-5	RP9060-5	RP10470-5	RP130100-5
6	RP6540-6	RP7045-6	RP7550-6	RP9060-6	RP10470-6	RP130100-6
7	RP6540-7	RP7045-7	RP7550-7	RP9060-7	RP10470-7	RP130100-7

IF YOU CAN'T FIND WHAT YOU'RE LOOKING FOR PLEASE CONTACT: SUPPORT@MICORTOOLING.COM

MOULDER & PCD TOOLS





LAHDEN
TERÄTEOS
MOULDER & PCD TOOLS

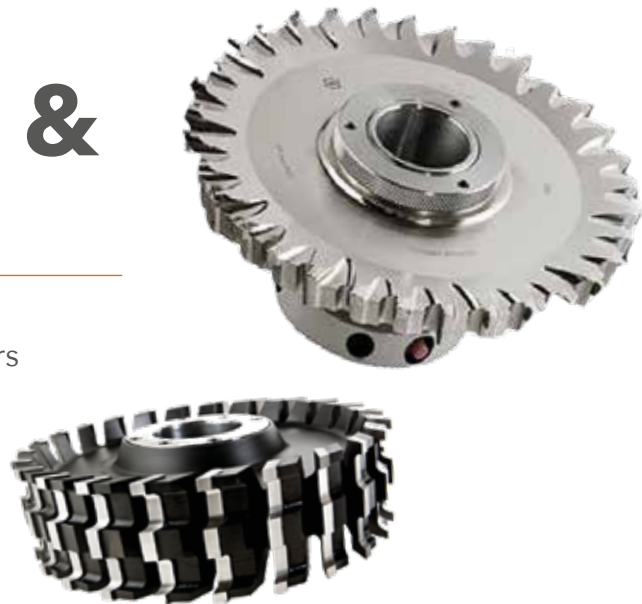
MOULDER & PCD TOOLS

DIAMOND TOOLS
CNC-TOOLS SHANK CUTTER HW
CUTTER WITH PROFILE AND REVERSIBLE KNIVES
PLANING CUTTER HEAD
PANELLING AND FLOORING
CUTTER SET HS
STRAIGHT CUTTERS HW HS
PROFILE CUTTERS FOR LOGHOUSE



MOULDERS & PCD TOOLS

The quality of woodworking tools is tested every day among our customers and when cutting wood grown in extreme conditions, only the best tools keep running. Our brand LTT offers diamond-, carbide- and HS tools.



DIAMOND TOOLS

- Straight shank-type Cutters DP (PCD)
- Profiled shank-type Cutter DP (PCD)
- Saw blade DP (PCD)
- Joint cutters DP (PCD)



CNC-TOOLS SHANK CUTTER HW

- CNC-Tools
- Drill Bits



CUTTER WITH REVERSIBLE AND PROFILE HW KNIVES

- Profile Knives
- Reversible Knives



PLANING CUTTER HEAD

- Planing Cutter Head
- Cutter Head with hydraulic clamping
- Knives for Cutter Head
- Serrated Cutter Head for profiles
- Serrated Cutter Head for profiles with hydraulic clamping
- Serrated Knives for Cutter Head
- Helical planer Heads for good finishes



PANELLING AND FLOORING CUTTER SET HS

- Profile STS, STV cutterset
- Profile STP HS cutterset
- Profile HLL, HPL, RPL cutterset
- Corner bevelling profile cutterset
- Profile UTS, UTV cutterset
- Profile UYS, LJYV cutterset
- Log panel profile cutterset STH, SYH
- Profile HL cutterset



IF YOU CAN'T FIND WHAT YOU'RE LOOKING FOR PLEASE CONTACT: SUPPORT@MICORTOOLING.COM

STRAIGHT CUTTER HS HW

- Straight cutter HS HW
- Adjustable crooving cutter with spurs HS HW
- Crooving cutter with spurs HS HW
- Adjustable crooving cutter HS HW
- Spiral cutter HW



PROFILE CUTTERS HW HS

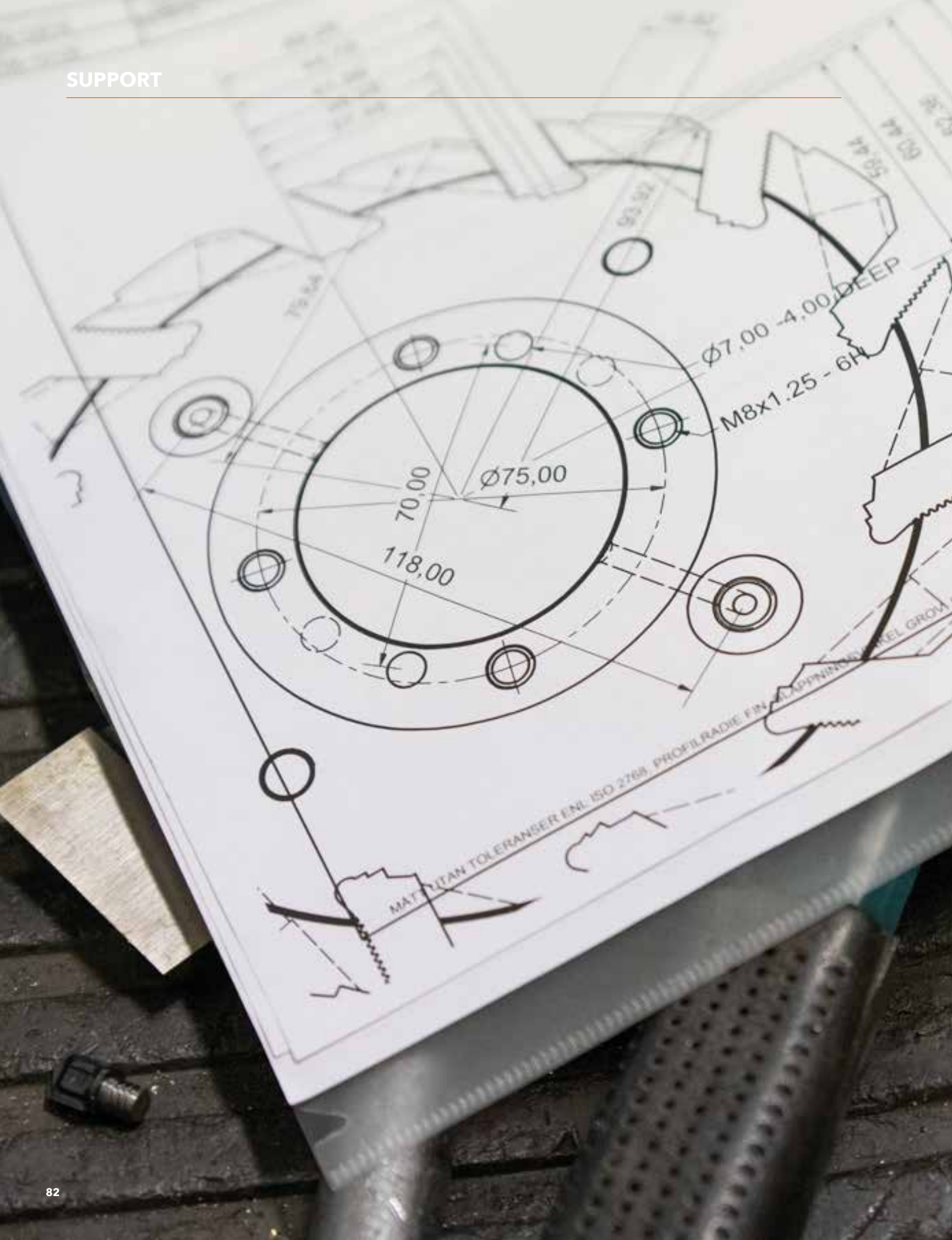
- Cutters for Customer profile HS HW
- Adjustable Cutters for corner rounding and bevelling HS HW
- Cutters for windows
- Cutter for door profile / counterprofile HS HW
- Finger joint cutter
- Clue joint Cutter
- Dowell Cutter
- Covering trips Cutter
- Floor trips Cutter
- Corner trips Cutter
- Glass-securing trips Cutter
- Window beading Cutter



PROFILE CUTTERS FOR LOGHOUSE

- Planer cutter set for Log
- Planer cutter set for Squarlog
- Profile cutter for Squarlog corner saddle
- Special cutter for log saddle
- Boring bits for log





TECHNICAL SUPPORT

CIRCULAR SAW BLADES
PLANING TOOLS

SUPPORT CIRCULAR SAW BLADES

10 BA 19 L - 500 - 4,2 / 3,2 - 50 Z 120

RAKE ANGLE	TIP TYPE	PITCH	DESIGN	DIAMETER	KERF	PLATE	CENTER HOLE	NO OF TEETH
------------	----------	-------	--------	----------	------	-------	-------------	-------------

CODESYSTEM

Rake angle: In this case 10 degrees. Negative angle is indicated by N prior to the angle. Example N05.

Tip Type: Defines the Tip Shape on the blade, denied by 1-3 letters. In this case a blade with alternating bevel tips.

Pitch: Is the distance between the front face of the tips.

Design: The letter indicates various features. In this case L=laser slots in the sawbody. Read more about this further down on this page.

Diameter: In mm

Kerf: Is the width of the sawtip

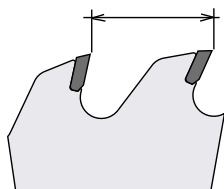
Plate: Is the thickness of the sawbody

Center Hole: In diameter of the bore/center hole

No of teeth: The number of tips indicated by Z

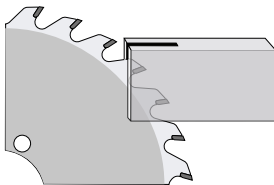
Example: 300mm saw blade for wood cutting, Z=48, kerf=3,2,centrehole=30mm

10BA19-300-3,2/2,2-30, Z=48



TOOTH PITCH

The tooth pitch is an important factor when choosing blades for different applications. The pitch ins the distance between the front faces of adjacent tips.

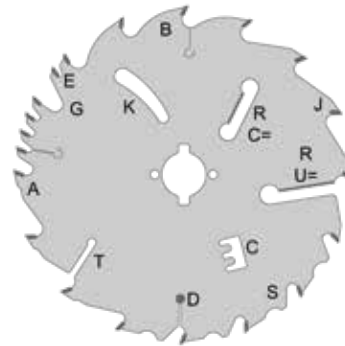


NUMBER OF SAW TIPS

The tooth pitch is determined by the thickness of the material to be cut. Generally, the thinner the material the smaller the pitch, and the thicker the material the larger tooth pitch. At least two and no more then four teeth must be engaged at all times when cutting solid wood. For other materials two or six teeth.

SUFFIX - DESIGN

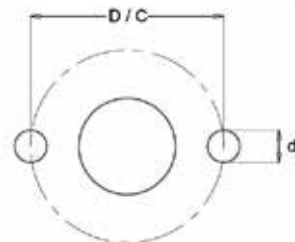
Special designs of the blade are available for different cutting applications. This is indicated by the suffixes below, which appears after the tooth pitch in the code.



- A = Tooth back with step
- B = Curved back
- C = E-cooling hole
- D = Copper rivet
- E = Smaller gullets for lower sound
- F = Adjustable 2 piece scribing blades
- G = Grouped teeth blade
- H = Stellite tips
- I = Differential pitch
- J = Insert tooth
- K = Cooling hole
- L = Laser slots
- M = Metal cutting blade
- N = Blanks
- O = Conical plate
- P = Electrical hand saw blade
- Q = Minibel, sandwichtype
- R = Blade with wiper slot
- S = Blade with guard teeth
- T = Special slot
- U = Panel saw blades
- V = Teeth with chip-breaker
- W = Double-side hub
- X = Blade wiyh hub
- Y = Simplified design

BLADES WITH PIN HOLES/KEYWAYS

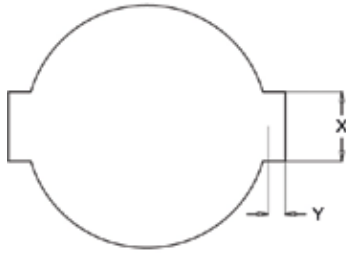
When ordering please indicate the following:



Pin holes:

1. Number of pin holes (P)
2. Diamater (d1)
3. Pitch circle (D/C)

Eg P=2/10/60



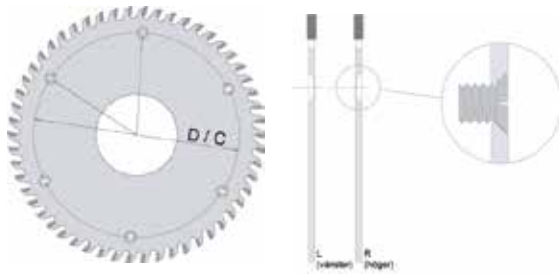
Keyways

1. Number of keyways (K)
2. Width (X)
3. Depth (Y)

Eg. K=2/20/5

BLADES WITH SCREW HOLES:

A drawing should always be enclosed when ordering these blades. If not available, please provide the following information:

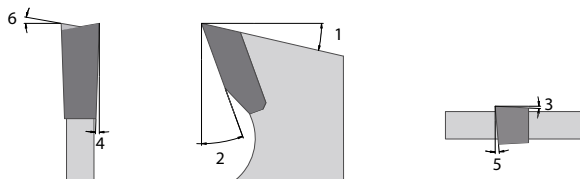


1. Type of hogging unit etc.
2. Number of screw holes (S).
3. Pitch circle of screw holes (D/C).
4. Screwhole countersunk, right (R) or left (L), with the blade held so that the teeth on the top edge point towards you.
5. Screw size (eg M6, M8)

Eg. S=4/7/140/12/45/L

ANGLE DESIGNATIONS

- 1 = Clearance angle
- 2 = Rake angle
- 3 = Tangential clearance angle
- 4 = Radial clearance angle
- 5 = Front bevel angle
- 6 = Back bevel angle



CUTTING SPEED M/S

As a rule you should choose a blade with the smallest diameter possible, to maximize stability and minimize the kerf, but at the same time the diameter must be matched to the speed of the machine so that the blade runs at the most suitable cutting speed. Carbide tipped blades require relatively high cutting speeds. The recommended speed for working in wood-based materials is 70 m/sec, and for non-ferrous materials 50-95 m/sec.

CALCULATION OF CUTTING DATA

- S = feed speed in m/min
- Sz = feed/tooth in mm
- z = number of teeth
- D = diameter of blade in mm
- n = blade speed in rpm
- V = cutting speed in m/s

FEED PER TOOTH Sz mm

To achieve long life and good cutting performance it is important to use a correct feed per tooth. Too slow feed speed causes rapid wear to the cutting edge, while too fast feed speed may mean that chips do not clear the gullet and this could cause teeth to break.

$$\frac{S * 1000}{n * z}$$

The table shows the recommended feed per tooth (Sz in mm) for different materials.

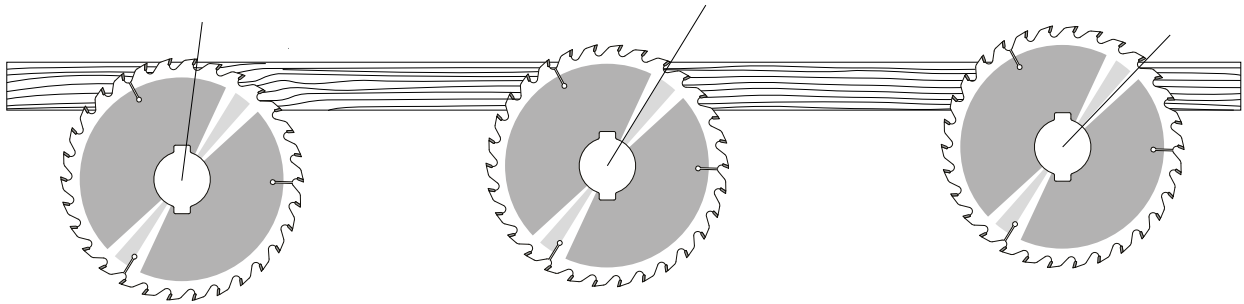
MATERIAL	FEED PER TOOTH (MM)
CROSSCUTTING	0,10-0,35
RIPPING, DRY	0,30-0,50
RIPPING, GREEN	0,40-1,50
PLASTICS	0,05-0,15
PURE ALUMINIUM	0,03-0,10
Al ALLOY	0,03-0,10
MG ALLOY	0,03-0,10
CHIPBOARD	0,08-0,25
PLYWOOD	0,08-0,25
MDF/HDF	0,08-0,25
VENEERED BOARD	0,08-0,25
LAMINATED BOARD	0,08-0,25

FEED SPEED m/min

The feed speed (S) is determined by the speed of the blade (n), the number of teeth (z) and the feed per tooth (Sz). To calculate these figures we can use the formula below.

$$\frac{S_z * z * n}{1000}$$

SUPPORT - CIRCULAR SAW BLADES



HEIGHT OF BLADE ABOVE WORK PIECE

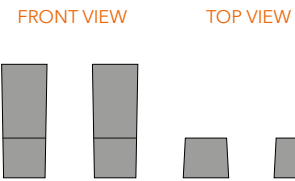
Tool and machine manufacturers recommend a certain rake angle for the material to be cut. Blades are usually designed for a standard working height of 10-25 mm above the material to be cut. The sketches show that the rake angle varies with the cutting set-up. If the working height is increased significantly the rake angle must be modified.



TIP TYPES

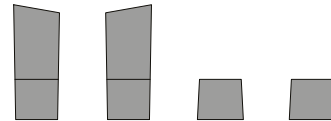
AA - STRAIGHT TEETH

For ripping wood, including multirip sawing. Can be used with high feed speeds where an average surface finish is required. Especially suited multi-rip sawing and edging.



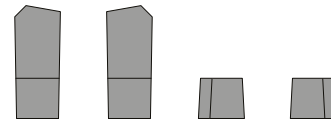
BA - TEETH WITH ALTERNATING BEVELS

For ripping and crosscutting wood, board and plastics.



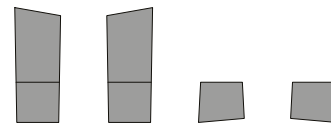
BAE - TEETH WITH ALTERNATING BEVELS AND CHAMFER

For thin, hard plastics.



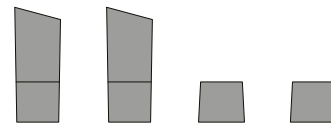
BB - TEETH WITH ALTERNATING BEVELS AND ALTERNATING FACE

Specially suitable for plywood and bobbins.



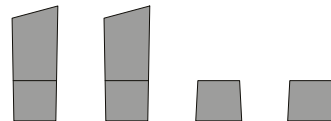
CA - TEETH WITH RIGHT-HAND BEVELS

All teeth are bevelled in right direction. Used for scribing, tenoning, edge band cutting and panel sizing of board in combination with hogging unit.



DA - TEETH WITH LEFT-HAND BEVELS

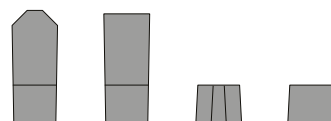
All teeth are bevelled in left direction. Used for scribing, tenoning, edge band cutting and panel sizing of board in combination with hogging unit.



EA/EAM - TRAPEZOIDAL TEETH

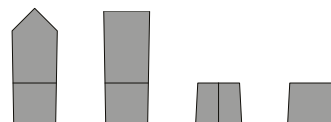
Roughing and finishing teeth. Teeth are cut alternately trapezoidal and straight to break chips into three pieces.

- EA - For cutting laminated and non-laminated chipboard, fibreboard and MDF. Also suitable for plastic and laminates.
- EAM - For cutting non-ferrous metals.



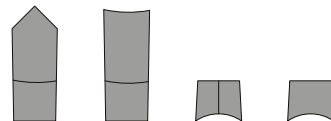
EAX - ALTERNATE FLAT AND INVERTED V TOOTH

For cutting laminated board.



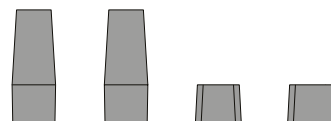
EAXH - ALTERNATE FLAT AND INVERTED V TOOTH, WITH HOLLOW GROUND FACE.

For cutting painted and laminated board.



RA - FLAT TEETH WITH TAPERED SIDES

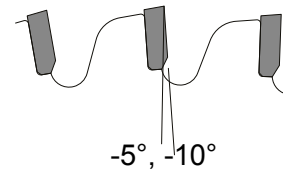
For scribing prior to panel sizing.



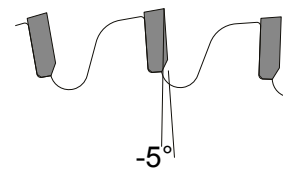
RAKE ANGLE

The rake angle depends on the material, type of cut, and in some cases the type of machine being used. The following are recommended rake angles for various materials and applications.

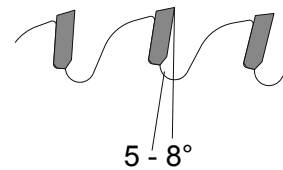
Crosscutting of wood in pendulum, chop saws, parallel cutting and edge band cutting.



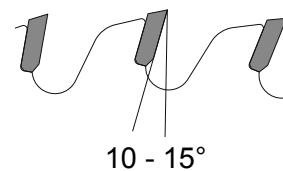
Cutting of non-ferrous metals, plastic and laminates with manual feed.



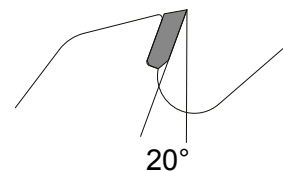
Cutting of hard plastics, veneered and laminated boards, mitrecutting of wood and non-ferrous metals.



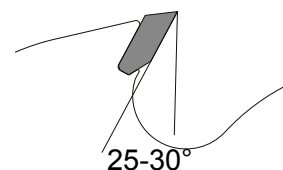
Crosscutting of wood and panel sizing of fibre-board, plasterboard, chipboard, veneered board and plywood.



Ripping of dry or green wood.



Ripping and edging of green wood.



TROUBLE SHOOTING

TYPE OF PROBLEM	CAUSE
Blade vibrating - poor cut.	Blade incorrectly tensioned. Faulty spindle bearings. Warped flanges or spacers. Centre hole out of centre. Unbalanced blade.
Burn marks on blade: - Single spot - Circle of spots	Flanges warped. Spindle off centre. Blade not flat. Blade incorrectly tensioned. Feed not parallel. Faulty riving knife.
Blade cuts well initially but veers in one direction after a few seconds.	Blade incorrectly tensioned. Feed not parallel.
Cracks in gullet or slots.	Blade is blunt. Gullets too small. Too many teeth. Incorrect feed per tooth.
Blade gives a straight cut but cut surface is rough.	Too few teeth. Feed rate too high. Blade is blunt.
Blade leaves stripes on work piece.	One or more teeth have larger kerf than others. Blade incorrectly tensioned.
Blade cuts slowly.	Too many teeth. Cutting speed too slow. Blade is blunt. Incorrect rake angle.
Blade pulls itself into work piece.	Incorrect rake angle.
Coating of resin, etc. on blade.	Too many teeth. Feed not parallel.

SUPPORT - PLANING TOOLS

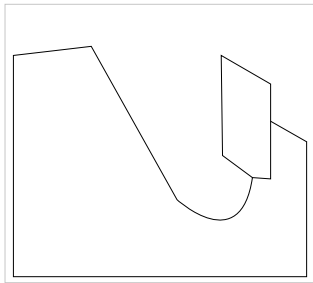
BBM produces tools according to EN847-1. We would recommend all users such as operators, service and maintenance personal, technicians etc that are in contact with the tools to thoroughly review these standards. Below is a short compilation of different tool types, appellations, techniques and basic information about working with wood and choosing the right tool.

BASIC CONCEPTS AND APPELLATIONS

1. BRAZED TOOLS

The tool consists of a tool body made of untempered steel. The cutting edges are brazed to the tool body and can be ordered with different types of cutting material.

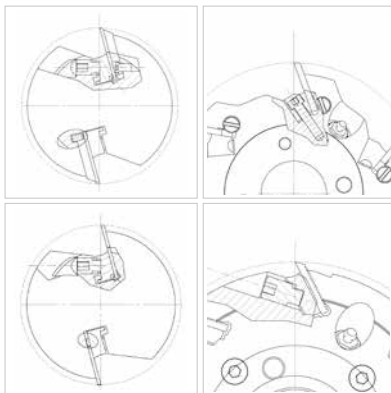
Example of tools: Cutters, drills, saw blades



2. ASSEMBLED TOOLS

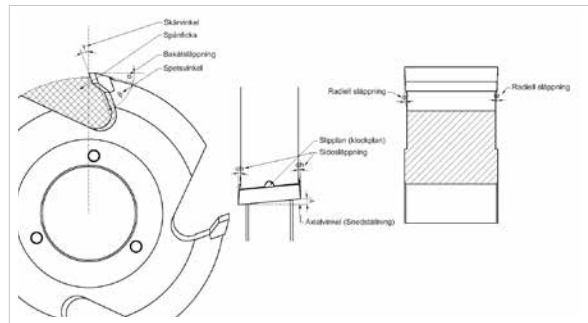
Assembled tools consist of a variety of parts mounted together. The knives are fastened by either a wedge or a directly with a screw. There are different solutions for back support, a profiled back support plate for maximum flexibility or a profiled tool body. Knives are exchangeable and available in a selection of materials.

Example of tools: Planer heads, Profile heads, indexable knife tools, BBM SpeedFlex, BBM Supreme



ANGLES AND GEOMETRIES

When ordering and corresponding regarding tools it is of great importance that supplier and customer use the same language and terms. Below is a short description of the technical terminology we use.



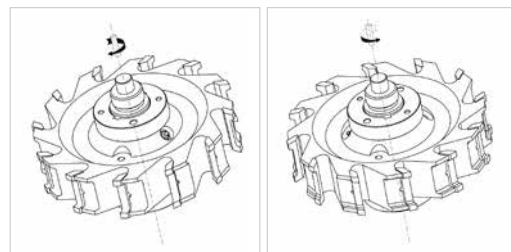
FUNDAMENTAL TERMINOLOGY, ROTATION AND PLACING

Following is terms of trade for where and how a tool is placed in your application. Normally a planer/moulder has four sides for processing. Top, bottom, right and left.

- Top = Top part of the machine
- Bottom = Bottom part of the machine
- Right = Right side looking from the in feed
- Left = Left side looking from the in feed

ROTATION

BBM always reference from the in feed side, feeding towards rotation of the tool. The vast majority of planers on the market are feeding from the right side but please advise because left side feeding does occur. See picture.



MACHINING

1. FEEDING TOWARDS ROTATION (CONVENTIONAL MILLING)

The direction of material feed and rotation of tool is the opposite. This is the most common way for machining wood. The tool does not begin its cut directly upon contact (A) but slightly after(B). In this point the tool begins to cut a long chip that thickens until the cutting edge leaves the material(C). Feeding towards rotation allows longer running times by favorable angles and lower cutting force. Adverse fibre direction can effect cutting and result in chipping. Feeding towards rotation is the only course of action recommended for manual feed.

2. FEEDING WITH THE ROTATION (CLIMB MILLING) (HIGHLY UNCOMMON FOR PLANING/MOULDING)

The direction of material feed and tool rotation is the same. The tool immediately begins to cut upon contact and in this point starts to cut a short chip that will get thinner until the cutting edge leaves the material. Feeding like this allows good surface finish and requires lower feeding force. When feeding with rotation, running times will be effected negatively due to unfavorable angles and lack of cleavage. LSAB recommends this for mecanical feed only.

CUTTING DIRECTIONS

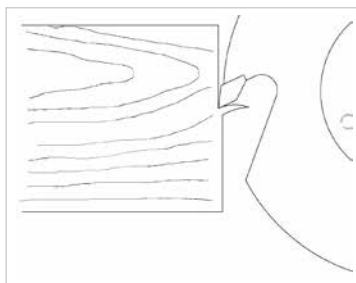
1. CUTTING ALONG THE FIBRES

Favorable cutting conditions which in most cases provide a good surface finish. Be advised that when cutting finger jointed materials the fibre direction can vary. Cleavage will then differ and can effect the surface finish.



2. END GRAIN CUTTING

The angle between the tool direction and the fibres is 90°. Tough machining that can result in a slightly rough finish. Cutting can be eased by applying axial angle to the cutting edge.



SURFACE FINISH

To maintain a high quality production it is of great importance that tools as well as machine is in good condition. By highly developed technology, competence and meticulous supervision at BBM, run out as well as profile accuracy is kept within the tightest tolerances. The surface finish when milling and sawing is determined mainly by feed per tooth, mm(mill marks), cutting diameter, amount of teeth, depth of mill marks. The ratio for these parameters is described in the following examples.

$$Sz = \frac{Vf * 1000}{N * Z} mm$$

Sz = Feed per tooth, mill marks (mm)
 Vf = Feed (m/min)
 N = Revolutions per minute (rpm)
 Z = Amount of teeth

Depth of mill marks can be calculated as example below

$$t = \frac{Sz^2}{4 * D}$$

t = Depth of mill marks
 D = Cutting diameter

Cutting speed(periferal velocity) is decided by the tool diameter and revolutions per minute, calculated as below.

$$Vc = \frac{D * \pi * N}{1000 * 60} m$$

D = Cutting diameter
 N = Revolutions per minute
 π = 3,14

When milling, shorter mill marks provide better surface finish.

Sz = 0,3-0,8mm eg furniture/carpentry
 Sz = 0,8-2,5mm eg paneling
 Sz = 2,5-5,0mm eg construction wood

For tools without hydro, earlier advised formula can only be calculated with Z1. To achieve a proper finish from all Z in a tool, hydro clamping is necessary.

JOINTING

When jointing a whetstone is run across the rotating tool, it is done to improve the run out. This method is mainly used on planer cutters but can also be applied for profiling. The repetition between the grinding machine and the planer can differ slightly, this will effect the run out negatively. Jointing will eliminate this deviation and provide a better surface finish. Another benefit from jointing is that it strengthens the edge of the knife, the disadvantage is that the knife loses some of its sharpness because the edge is rounded off.

SAFETY

In the process of sawing and milling wood, operators are exposed to great hazard. The tools used are heavy, very sharp and rotates at high velocity, therefore its extremely important to take part of the manuals and safety regulations provided by BBM.

BBM produces tools according to EN847-1 which is the european safety standard for milling tools and saw blades. Example of demands in EN847-1 is the grade of accuracy used for balancing the tools and also the marking of tools. Given demands for marking of for example a brazed tool is that the following parameters are permanently marked in the tool.

- The name or trade mark of the manufacturer or supplier
- The maximum rotation speed (eg max 6000rpm)
- The tool dimensions (Cutting diameter, cutting width, bore diameter)
- Cutting material group
- Integrated or manual feed (eg MEC for integrated feed)

GENERAL INSTRUCTIONS

Always follow the instructions given on a tool or drawing regarding maximum revolutions per minute. This is what the tools are designed for and exceeding it will place personnel, machine and peripherals at great risk. Most machines has an integrated solution for securing the rotation of tools and if this

solution is used the provided instructions for it applies. BBM also has a solution for securing rotation that can be applied for all types of machines. Following example show how to apply it to the spindle.



Be sure to always take part of and follow instructions and safety regulations supplied from both machine and tool manufacturers.

When cleaning tools equipped with hydro clamping be sure to always leave the pressurizing open to prevent the tool from being deformed from high temperatures in the tool washing machine. To maintain function and safety of a tool be sure to always use original BBM spare parts for all types of service and repair. Below is a selection of the most common spare parts from BBM.

TOOL TYPE	SPARE PART	ARTICLE	AREA OF USE
BBM Helix	Screw for insert knives	Helixskruv R20	Fastening insert knives
BBM Helix	Standard Helix insert knife	15152,5-R115C	Insert knife
BBM Cutter heads, Profile heads	Screw M12	32087	Fastening wedges and knives
BBM Supreme	Screw M5	TOR1924	Screw for side fixation
BBM Supreme	Screw M6x20	95217-0	Fastening wedges and knives
BBM Supreme	Screw M6x25	95218-0	Fastening wedges and knives
Hydro tools	Pressurizing nipple	32088	Pressurizing hydro tools
Hydro tools	Release nipple	32089	Releasing pressure
Hydro tools	LSAB Hydro grease cartridge	K33090	Grease for hydro tools
Miscellaneous	Adjustable torque wrench 5-14Nm	V745500	Safe fastening of knives
Miscellaneous	Bit holder for torque wrench	V745540	Safe fastening of knives

Tools produced for integrated feed must NEVER be used for manual feed.

THE IMPORTANCE OF TORQUE

For tools where the cutting edge is fixed with screws or friction it is very important to follow the instructions about torque provided. Torque is calculated to keep the cutting edge in the right place. Not applying the correct torque can cause the cutting edge to move out of position or leave the tool body. To ensure that you apply the correct torque use a torque wrench. The accuracy of the torque wrench should be controlled frequently. BBM recommends every 6 months.

Following is a table of which torque to be used for BBM tools. Always follow instructions and safety regulations provided by machine and tool manufacturers to keep free from incidents and uphold a safe and productive work place. Always use the packaging supplied from BBM for service and if possible storage. If a tool has or is suspected to have been exposed to undue influence, shows signs of or has visible damages always contact BBM for consulting before continued use.

TOOL TYPE	SCREW	TORQUE
BBM Helix	HelixskruvR20 M6	7Nm
BBM Cutter head, flat knives	32087 M12	45Nm
BBM Cutter head Light	32087 M12	18Nm
BBM Cutter head, serrated knives	32087 M12	18Nm
BBM Profil cutter head	32087 M12	18Nm
BBM Supreme	95217(18)-0 M6	12Nm
Hydro tools	Pressure nipples 32088, 32089	14Nm
Cutter heads flat knives, external supplier	M10	32Nm
Cutter heads flat knives, external supplier	M12	45Nm

MATERIAL SPECIFICATION



HSS

BBM's High Speed Steel is optimized for heat resistancy and excellent running times. It is suitable for soft materials and stays sharp over time.

Hardyx

BBM developed cutting material, made by Micor Toling in Sweden. Hardyx enables substantially longer running times compared to HSS, allows a higher feeding speed through the planer and provides a higher finish on the processed material. Hardyx is suitable for requiring applications with high demands on liability.

Hardyx is specially suitable for machining materials with hard knots. Its high resistancy to cracks keeps it more stable when cutting through the strains that occur in the transition between soft and hard materials. This also applies for foreign objects that may enter the planer such as rocks, clips etc. We often recommend Hardyx when working with tool optimizing projects.

HW

















BBM has a special grade tungsten carbide called OptiPine. Its a tough and less brittle grade which makes it more resistant to cracks and damage when

working materials with hard knots. Its characteristics provides a very high resistancy and very long running times.

PCD












PCD (Polycrystalline diamond) In applications that demands extremely hard cutting materials we can use PCD. Its characteristics makes it very resistant for wear and provides a long tool life time. PCD is fused under high pressure and very high temperature.

SYMBOLS

 HSS	 GalaxPro	 Soft wood	 Hydro bushing	 Anti vibration
 Hardyx	 Galaxpro+	 Hard wood	 Hydro sleeve	 MEC Integrated feeding
 Carbide	 ProLite	 Hydraulic fastening	 Solid hydro	 Assembled tools
				 Brazed tools

LET US HELP YOU CHOOSE

In the table below we have made it easy for you to find the right type of cutting material for your needs.

		
HSS		
HX		
HW		
GXP		
GXP+		

The above is general recommendations.
Always contact us before starting production.



WHEN PERFORMANCE COUNTS

Micor Tooling offers a complete portfolio of saw blades, band saw blades and planing tools. At our three manufacturing sites in Sweden, and Finland we produce our world leading brands; Micor, Langshyttan, BBM and LTT which are sold to over 40 countries worldwide. Building on our more than 150 years of combined know-how, we know what is required.

www.micortooling.com

MICOR
TOOLING