

2.1 CARBIDE TIPPED CIRCULAR SAW BLADES

1. Markings of hard metal grades used by Gopol :

Marking	Grade	Application chart
SXXI	special super hard	Working of chipboards, MDF - boards, exotic hardwood and very hard laminates
S	super hard	Working of laminates, veneers and MDF
N	normal	Ripping and edging of solid wood

2. Tolerance by production of HM - tipped circular saw blades :

Parameters	Tolerance	
	from	till
Full diameter (D till 400 mm)	0,0 mm	+ 1,0 mm
Full diameter (D > 400 mm)	0,0 mm	+2,0 mm
Width of edge	-0,2 mm	+0,08 mm
Hook angle γ	- 2°	+ 2°
Radial run - out	-	0,08 mm
Axial run - out	-	0,08 mm

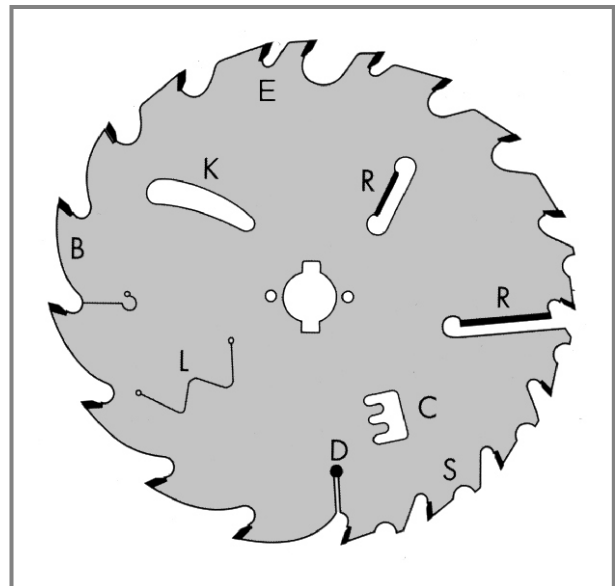
3. Marking of additionally made elements

According to drawing :

- R - wiper slots
- B - hollow tooth
- S - safety tooth
Attention : circular saw blades with safety teeth should be used by hand feed.
- E - reduced saw gullet for noise abatement
- C - cooling hole on circular saw blade with "E" form
- D - slot filled with copper rivet
- K - cooling hole on circular saw blade
- L - noise reducing laser slots

Markings, which aren't on the drawing :

- G - circular saw blades with group teeth
- F - two - partial adjustable scoring saw blades (scoring saw blades PPD - 05)
- M - circular saw blades for metal cutting
- Q - sound - damped circular saw blades with "sandwich" ("minibel") construction
- X - circular saw blades with hub (one - sided and two - sided)



4. Circular saw blades with additional pinholes or keyways

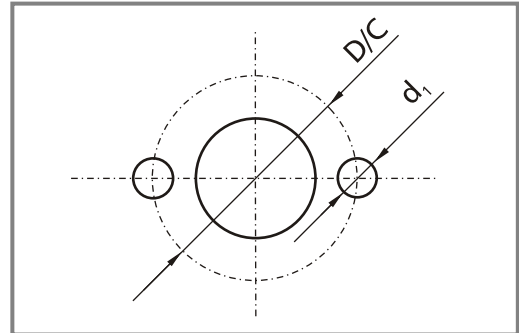
Pinholes (for driver pins)

- p - No. of pinholes
- d_1 - Diameter of pinholes
- D/C - Distance between pinholes, pitch diameter

Exemplary marking :

Four pinholes with diameter about 6 mm are placed on circular saw blade on pitch diameter about 120 mm.

Marking : 4×6 D/C 120



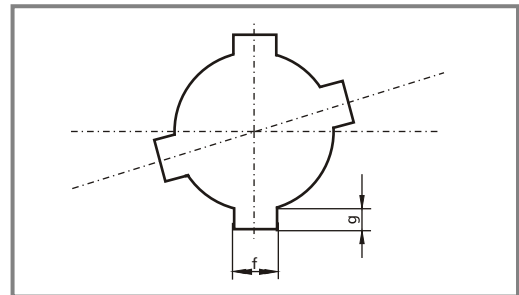
Keyways

- k - No. of keyways
- f - Width of keyways
- g - Depth of keyways

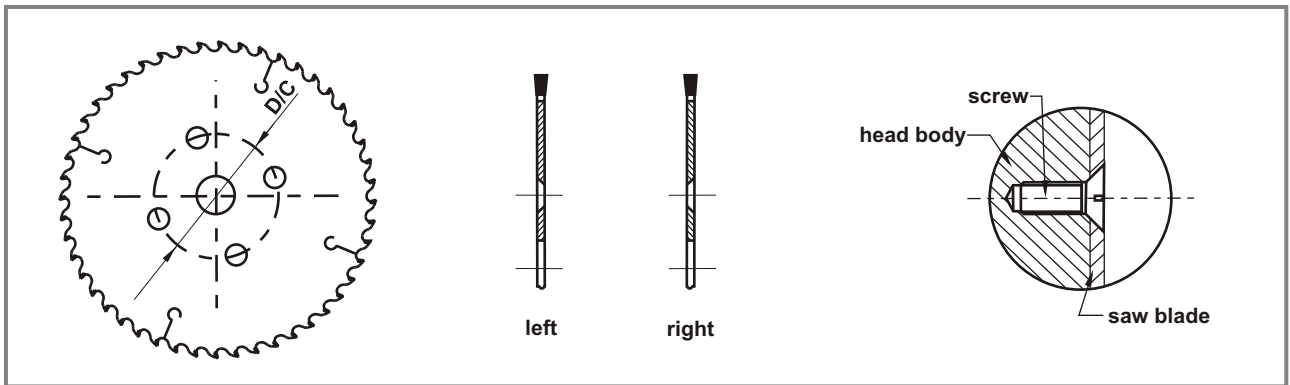
Exemplary marking :

Four keyways deep about 7 mm and wide about 20 mm are placed on circular saw blade.

Marking : $4 \times 20 \times 7$



5. Circular saw blades with screw holes



- s - No. of screw holes
- D/C - Pitch circle of screw holes
- countersink for screw head on **left** or **right** side. Circular saw blade should be so held, that hook face is placed in direction of keeping person.
- d_2 - Diameter of screw holes
- λ - Angle of countersink for screw head - or type of screw head if different than 90°

Exemplary marking :

On circular saw blades are placed two holes with diameter about 8,2 mm on pitch circle about 100 mm with countersink 90° on right side.

Marking : $2 \times 8,2 \times$ D/C 100 $\times 90^\circ$ RIGHT

6. Markings by HM - tipped circular saw blades

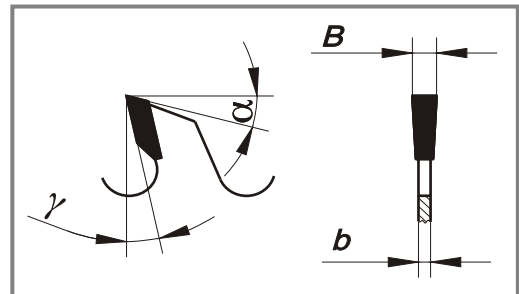
Marking	Definition	Unit
D	Full diameter	[mm]
B	Width of carbide cutting edge	[mm]
b	Thickness of circular saw blade	[mm]
d	Inside diameter	[mm]
D/C	Pitch circle for pinholes and for screw holes	[mm]
h	Depth of cutting	[mm]
d ₁	Diameter of pinholes	[mm]
d ₂	Diameter of screw holes	[mm]
λ	Angle of coutersink for screw head	[°]
f × g	Width and depth of keyways	[mm]
z	No. of HM - teeth	[pc]
n	No. of rotations	[n/min]
p	No. of pinholes	[pc]
k	No. of keyways	[pc]
s	No. of screw holes	[pc]

7. Grades of teeth

AA

7.1. AA (GM) - straight tooth

For ripping and edging on multi-ripping machines.
By normal requirements regarding face of cut can be applied with high feed speeds. It's suitable for multi-ripping and edging.

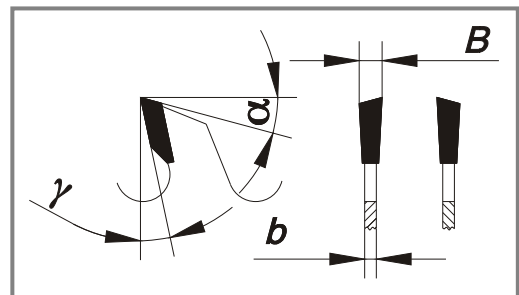


AA (GM)* - straight cutting edge

BA

7.2. BA (GS) - alternately diagonal tooth

For ripping and cross-cutting of wood, plastics, plywood, paper, veneers (in packets), gypsum cardboards, MDF/HDF, OSB-boards and non-laminated chipboards.

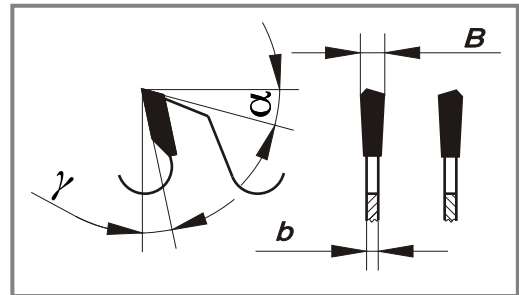


BA (GS) - alternately diagonal cutting edge

BAE

7.3. BAE - tooth with alternating bevel and chamfer

For cutting of thin, hard plastics and for cutting of glued materials, e.g. : plastics + aluminium (steel).

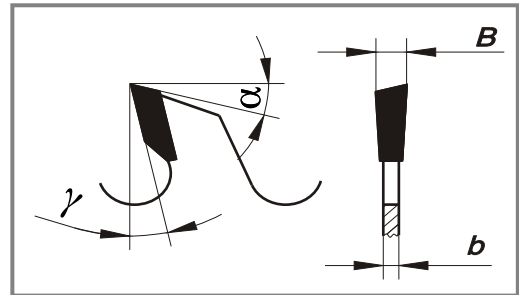


BAE - alternately diagonal cutting edge with chamfer

DA

7.4. DA (GT) - tooth with one - sided skew cut at the right

All teeth ground with an edge at the right and are suitable for scoring, cutting out of tenons, panel sizing and are used in combination with hogging saws.

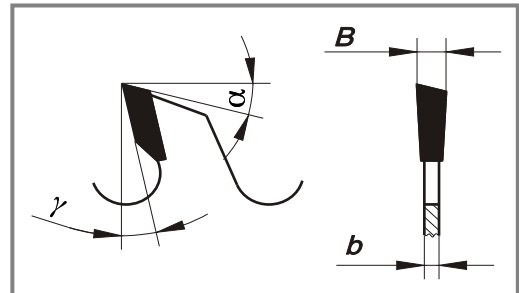


DA (GT) - all teeth with skew cut with an edge at the right

CA

7.5. CA (GW) - tooth with one -sided skew cut on the left

All teeth ground with an edge at the left and are suitable for scoring, cutting out of tenons, panel sizing and are used in combination with hogging saws.

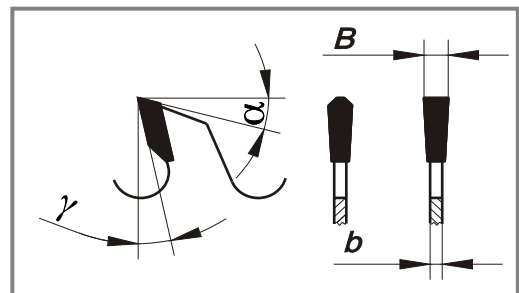


CA (GW) - all teeth with skew cut with an edge at the left

EA

7.6. EA (GA) EAM - trapezoidal tooth and straight tooth

Undercutting and planishing HM - tipped teeth. There are form-trapezoidal teeth alternating with straight teeth, this means that the sawdust is divided up into three portions during cutting. This EA (GA) type of teeth are suitable for cutting of chipboards, differently covered or non-covered milliboards and for MDF-boards. Used also for cutting of plastics and laminates. (EAM) - teeth are suitable for non-ferrous metals.

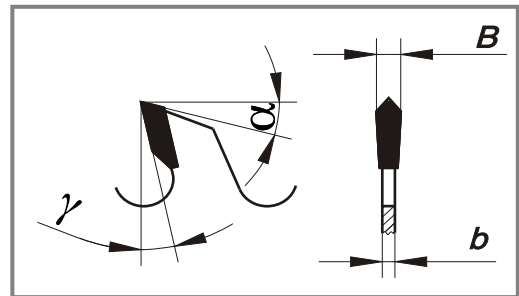


EA (GA) - straight and trapezoidal cutting edge

EAX

7.7. EAX - straight tooth with two-sided skew cut ("roof formed tooth"), which can occur also alternately together with diagonal tooth in circular saw blade

For cutting differently covered boards.

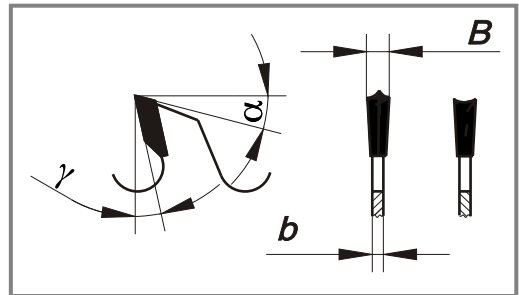


EAX - two-sided skew cutting edge

EAXH

7.8. EAXH (Gł) - tooth with two-sided skew cut and with hollow hook face (type "Pirania")

For cutting of laminates on panel sizing machine without undercut.

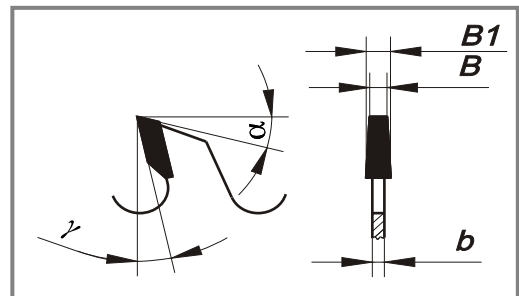


EAXH (Gł) - hollow cutting edge

RA

7.9. RA (GR) - straight tooth convergent up (inversed trapezium)

For panel sizing of veneered chipboards, used by scoring saw blades.

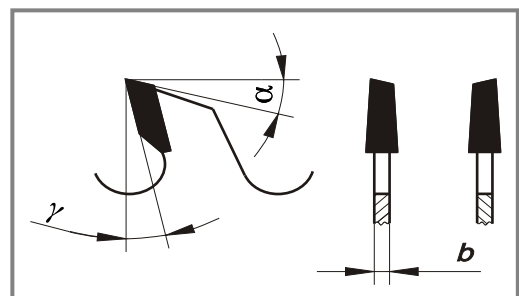


RA (GR) - inversed trapezoidal tooth with straight cutting edge

RA/BA

7.10. RA/BA - straight tooth convergent up with alternate cutting edge

For panel sizing do.

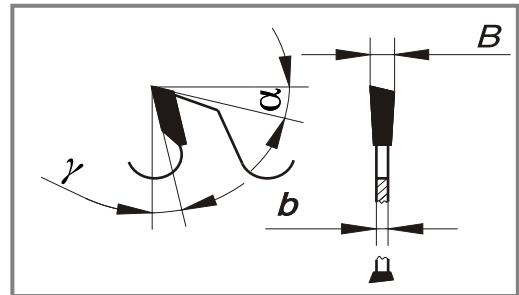


RA/BA - inversed trapezoidal tooth with alternately diagonal cutting edge

BC

7.11. BC (GN) - alternately diagonal tooth with variable hook face at the left

Particulary suitable for cutting of plywood and wood spools and for panel sizing of chipboards.

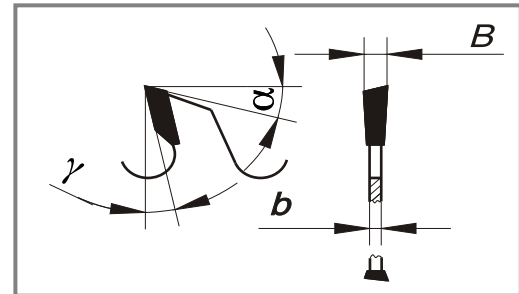


BC - alternately diagonal tooth with hook face at the left

BD

7.12. BD (GN) - alternately diagonal tooth with straight chamfer

Circular saw blades for cutting of steel and other hard materials.

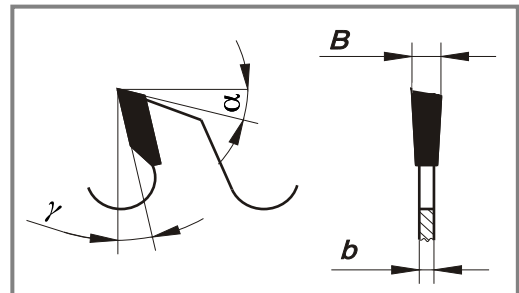


BD - alternately diagonal tooth with hook face at the right

BAM

7.13. BAM - alternately diagonal tooth with straight chamfer

Circular saw blades for cutting of steel and other hard materials.

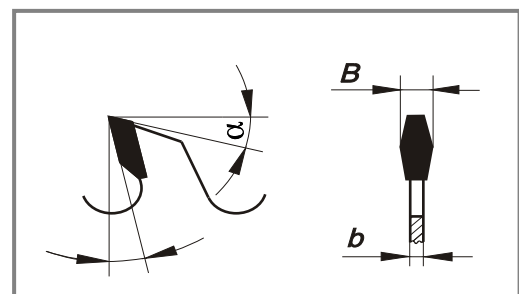


BAM - alternately diagonal cutting edge with straight chamfer

AAE

7.14. AAE - barrel - shaped tooth

For cutting of hard plastics (polycarbonat, polyacryl), for cutting of wood. Everywhere, where is required very high quality of cutting face (small roughness).



AAE - barrel-shaped tooth with straight cutting edge

Symbols in parentheses concern another polish marking.

We make also other cut of tooth for special application charts upon request.