

GENERAL INFORMATION BANDSAW CUTTING

Work Piece

The work piece to be manufactured needs to be firmly clamped so that it can neither vibrate nor turn. Do not use any damaged, wrapped nor heavily deformed work pieces. The cut will be more exactly the nearer the band saw guidance are fixed to the work piece.



Spacing (toothing)

The toothing determines the number of teeth per one inch (25.4mm).

As a general rule it applies;

The shorter the cutting length (e.g. profiles), the finer is the selected toothing. The larger the material cam (e.g. solid material), the more coarse is the used toothing.

A too large toothing can cause cutting run off, since chips are plugging the chip catch and the bandsaw is forced to deviate from it's cutting line. Too little toothing can result in tooth breaks, since the cutting force on the single tooth is becoming too strong. At least three should cam in to realise a commercial result.

Running in bandsaws

- ! The correct running in guarantees a long service life.
- ! Sharp cutting edges with extremely small edge radii are the condition for high cutting capacities of the bandsaws.
- ! In order to achieve an optimum service life, we recommend you to run in the bandsaws accordingly.
- ! Determine the correct cutting speed (m/min) and the feed (mm/min) depending on the material and the dimension of your cutting material.
- ! It is important that the new bandsaw should be used at approximately 50% of the determined feed. This way, it will avoid damage that occurs due to extremely sharp tooth cutting edges at too large chip thicknesses caused by micro splinters.
- ! New bandsaws can initially be liable to vibration and to vibration noises. If this occurs, reduce the cutting speed a little. For smaller work piece dimensions you should remove approximately 300 ~ 500 cm² of the cutting material in order to run-in the bandsaw.
- ! If you machine larger work piece dimensions, we recommend you to perform the running-in during a period of time of approximately 15 mins. After the running in, slowly decrease the feed to the initially determined target value.

MATERIALS	CUTTING SPEED (M42)
Construction Steel / Machining Steel	80 ~ 90 m/min
Individual Steels / Tempering Steel	45 ~ 75 m/min
Unalloyed Tool Steels / Roller Bearing Steels	40 ~ 60 m/min
Alloyed Tool Steels / High Speed Steels	30 ~ 40 m/min
Stainless Steels	20 ~ 35 m/min
Heat Resistant Steels / High Temperature Alloy	15 ~ 25 m/min

Optimum chip formation

Cutting chips are the best indicator for the correctly adjusted feed and bandsaw speeds. Please have a look at the chips which you have produced and correctly adjust your feed.



Thin chips which look like powder
 • Increase the feed or reduce the bandsaw speed.



Burnt, heavy chips
 • Reduce the feed and/or the bandsaw speed.



Curled, silver and warm chips
 • Optimum feed and bandsaw speed.

Legend

- Solid square
- I Carrier
- Thick walled tube
- Solid round bar steel
- Solid flat bar steel
- Tube
- ⊞ Bunch
- 1 Structural steel
- 2 Deep-drawing steel
- 3 Machining steel
- 4 Structural steel
- 5 Tempering steel
- 6 Case hardened
- 7 Tempering steel
- 8 Ball bearing
- 9 Tool steel
- 10 High speed steel
- 11 Tool steel
- 12 Rust
- 13 Acid resisting steel
- 14 Non-ferrous metals
- 15 Cast iron

MATERIAL

STANDARD TOOTHING		COMBINED TOOTHING	
Profile Cross Section	Number of Teeth Per Inch	Profile Cross Section	Number of Teeth Per Inch
< 12 mm	14 TPI	< 25 mm	10 ~ 14 TPI
12 ~ 30 mm	10 TPI	20 ~ 40 mm	8 ~ 12 TPI
30 ~ 50 mm	8 TPI	25 ~ 70 mm	6 ~ 10 TPI
50 ~ 80 mm	6 TPI	35 ~ 90 mm	5 ~ 8 TPI
80 ~ 100 mm	4 TPI	50 ~ 100 mm	4 ~ 6 TPI
110 ~ 200 mm	3 TPI	80 ~ 150 mm	3 ~ 4 TPI
110 ~ 200 mm	3 TPI	120 ~ 350 mm	2 ~ 3 TPI
200 ~ 400 mm	2 TPI	250 ~ 600 mm	1.33 ~ 2 TPI

Diameter	CUTTING OF TUBES AND PROFILES					
	40	80	100	150	200	300
Wall Thickness	Teeth Per Inch					
3 mm	8~12	8~12	8~12	8~12	6~10	6~10
8 mm	8~12	6~10	6~10	5~8	4~6	4~6
12 mm	6~10	5~8	5~8	4~6	4~6	4~6
15 mm	5~8	4~6	4~6	4~6	3~4	3~4
20 mm	-	4~6	4~6	4~5	4~5	4~5
30 mm	-	3~4	3~4	3~4	2~3	2~3
50 mm	-	-	-	3~4	2~3	2~3
100 mm	-	-	-	-	2~3	1.33~2

3 ph /415 volt machinery do not come fitted with plugs as standard. GST is NOT included in the listed prices

