

METAL CUTTING BANDSAW BLADES - ISO : 4875 Part - 2



CARBON STEEL BANDSAWS : Range

Metric : Length 30.5 Mtrs.
 Width 6.5, 10, 13, 16, 19, 25mm
 Thickness 0.6 mm

Inches : Length 100 ft.
 Width 1/4, 3/8, 1/2, 5/8, 3/4, 1"

Choice of T.P.I. : 4, 6, 8, 10, 14, 18, 24
 Grade : Carbon Steel



MIRANDA brand Metal Cutting Bandsaw Blades from **MIRANDA TOOLS** are available in following tooth shapes and settings.

TOOTH SHAPE



Regular Teeth

(a) **Regular or Conventional Tooth** : Zero rake angle is widely used for general sawing and for friction sawing.



Skip teeth

(a) **Skip Tooth or Buttress Tooth** : Zero rake angle is used for cutting free machining non-ferrous alloys, wood and plastic.



Raker Set

(c) **Raker Set** : This design has one tooth bent to the left, and another to the right, followed by one un-set tooth. This is repeated throughout the band.



Wavy Set

(d) **Wavy Set** : This design has the setting of the teeth in groups to the left and to the alternatively throughout the band.

Range of **MIRANDA** brand Metal Cutting Bandsaw Blades manufactured by **MIRANDA TOOLS**

NOMINAL SIZE		TEETH PER INCH (TPI)	
Inches	Milimeters	Raker Set	Wavy Set
1/4 x 0.025 (23 G)	6.35 x 0.63	10, 14	18, 24
3/8 x 0.025 (23 G)	9.53 x 0.63	6, 8, 10, 14	18, 24
1/2 x 0.025 (23 G)	12.70 x 0.63	6, 8, 10, 14	18, 24
1/2 x 0.025 (23 G) (Skip)	12.70 x 0.63	6	
5/8 x 0.032 (21 G)	15.88 x 0.80	6, 8, 10, 14	18, 24
3/4 x 0.032 (21 G)	19.05 x 0.80	4, 6, 8, 10, 14	18, 24
3/4 x 0.032 (21 G) (Skip)	19.05 x 0.80	6	
1 x 0.035 (20 G)	25.40 x 0.90	4, 6, 8, 10, 14	18, 24

Metal Cutting Bandsaw Welded Coils

NOMINAL SIZE		TEETH PER INCH (TPI)	
Inches	Milimeters	Raker Set	Wavy Set
3/4 x 0.032 (21 G) x 8' 3"	19.05 x 0.80 x 2515	4, 6, 8, 10, 14	18, 24
3/4 x 0.032 (21 G) x 9' 10"	19.05 x 0.80 x 2997	4, 6, 8, 10, 14	18, 24
3/4 x 0.032 (21 G) x 117' 1/2"	19.05 x 0.80 x 3544	4, 6, 8, 10, 14	18, 24

* Welded Coils (Loops) can be supplied in any size against confirmed orders.

General Recommendations :

Work Thickness in inches	1/8"	1/4"	1"	2"	1/8"	1/4"	1"	2" & Over
Material to be cut	Pitch T.P.I.				Cutting Speed Feet/Minute			
Free machining steel	18	14	10	6	250	200	175	150
Mild Steel	24	14	10	6	250	200	175	150
Carbon Steel	24	14	10	6	250	200	175	150
Annealed Tool & Alloy Steel	24	18	10	6	100	80	60	40
Alloy Construction Steel	24	14	10	8	175	150	125	100
High Speed Steel	24	14	10	8	150	100	75	50
Stainless Steel	24	14	10	8	100	75	50	50
Tubing	24	14	-	-	175	150	-	-
Grey Cast Iron	18	14	10	6	200	150	100	75
Malleable Cast Iron	18	14	8	6	200	175	150	125
Meehanite	18	10	8	6	150	100	75	50
Copper	-	10	8	6	-	1500	1500	1500
Aluminum	18	10	6	6	1800	1400	800	600
Phosphor Bronze	18	14	10	6	1200	900	700	700
Plastic	18	10	8	6	1500	2000	1500	1500
Asbestos	18	10	8	6	4000	3500	3000	3000
Phenolic	18	10	8	6	4500	4000	3500	3000
Paper	18	10	8	6	1500	1500	1500	1500
Rubber (Hard)	18	10	8	6	4000	3800	3000	3000

Feed Rate Chart :

Feed Rate : Linear inch per minute						
Work Thickness	1/4"	1/2"	1"	1-1/2"	3"	6"
Carbon Steel	4.50	2.12	1.00	0.62	0.31	0.12
Cold Rolled Mild Steel	9.00	4.00	1.75	1.12	0.50	0.25
Cast Iron	16.00	7.50	3.25	2.12	1.00	0.43
High Carbon, High-Chrome Steel	2.25	1.00	0.50	0.25	0.12	0.03

Trouble Shooting :

Problem	Cause	Remedy
1. Teeth Ripping	<ul style="list-style-type: none"> Teeth too coarse Excessive Feed / Load Gullets filling up Vibrating Work Piece 	<ul style="list-style-type: none"> Check if higher TPI saw is required Decrease to recommended pressure/load Check spring tension of blade On vertical machines, the work is hand-fed, Feeding pressure should be moderate and steady. Use thicker cutting oil Clamp and level securely A slight movement of the piece causes the teeth to rip out On vertical machines, as the work is hand-fed, adequate experience and care is required to feed the work with steady pressure, at the same time without causing vibration. Advice screw feed wherever possible.
2. Excessive blade breakage	<ul style="list-style-type: none"> Teeth too coarse Excessive tension Very heavy feed Misaligned guides Very high speed Lack of coolant Weld not annealed 	<ul style="list-style-type: none"> Check if higher TPI saw is recommended. Reduce tension Decrease to recommended pressure/load (15 kg. on horizontal M/c.) Adjust guides. Decrease to recommended speed. Always use cutting coolant Annual the weld satisfactorily.
3. Early teeth wear	<ul style="list-style-type: none"> Teeth too coarse Very high speed Too light a feed Lack of coolant 	<ul style="list-style-type: none"> Use a finer tooth blade. Decrease to recommended speed Increase to recommended pressure/load Always use cutting oil/coolant
4. Blade twisting	<ul style="list-style-type: none"> Cut is binding the blade Excessive blade tension Guides too close to work 	<ul style="list-style-type: none"> Decrease pressure/load Decrease the tension Widen gap between guides.