

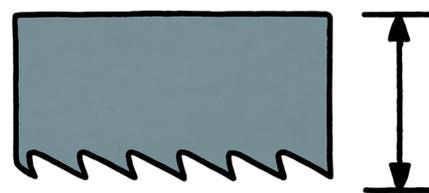
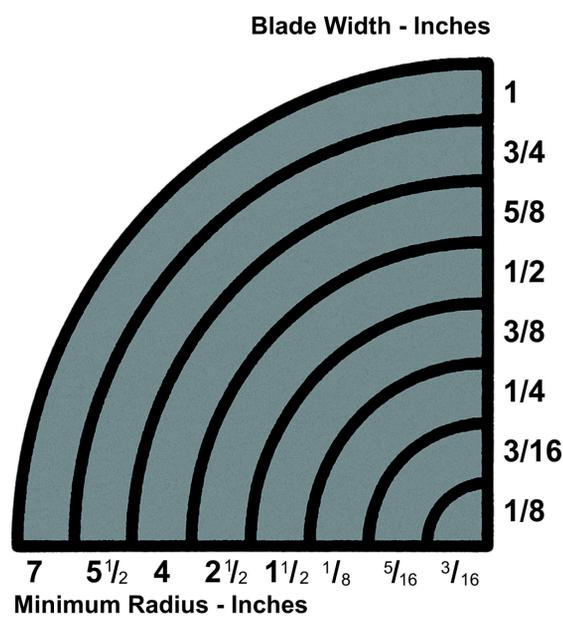
How-To's for all Band Saw Blades

Choose the Correct Blade Width

If no such instructions are provided, blade width should be determined with the following guidelines:
For Cut-Off Sawing the blade should be as wide as the machine will allow. The wider the band is, the straighter the cut will be. Faster feeding can be achieved.

For Contour Sawing the blade should be as wide as the machine allows, but still narrow enough so that it can cut the desired shape (radius). Minimum dimensions for different cutting radii are shown on the chart at right.

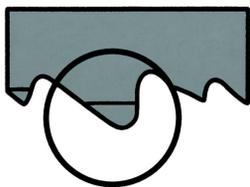
Blade width is measured from the tips of the teeth to the back edge of the blade as shown at right. The instructions for the particular machine being used should be followed when selecting blade width.



Diagnosing Problems

1. Premature and Excessive Tooth Wear

- Feed pressure too light, increase it.
- Lower band velocity.
- Improper tooth selection, use a finer pitch.
- Improper break-in with new band. Velocity and feeding should be reduced the first few cuts.
- Teeth are running the wrong direction. Be sure teeth are pointing in proper direction.
- Incorrect saw guide insert size for the band, allowing them to strike teeth.



2. Blade Vibration

- Increase or decrease band velocity.
- Increase tension of band.
- Teeth too coarse for workpiece.
- Increase feed pressure.
- Material not securely held.

3. Gullets Loading

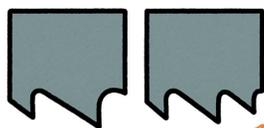
- Teeth too fine for workpiece - use a coarse pitch.
- Decrease band velocity.

4. Band Stalls in Work

- Feed pressure too great - decrease feed.
- Teeth too coarse, use finer tooth blade.

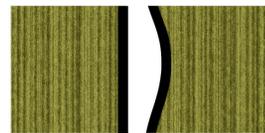
5. Premature Blade Breakage

- Thickness of blade too heavy for diameter of wheels and speed of machine.
- Increase or decrease velocity.
- Check wheels for defects.
- Teeth too coarse for workpiece - use a finer pitch
- Decrease feeding tension.
- Brittle weld - increase annealing period, decreasing heat gradually.
- Check for proper adjustment of band guides, saw guide inserts and back-up bearings.



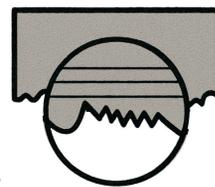
6. Blade Making Belly-Shaped Cuts

- Increase tension.
- Adjust guides closer to workpiece.
- Teeth too fine - use a coarse pitch.
- Decrease feed force.
- Teeth dull.



7. Tooth Strippage

- Teeth too coarse for workpiece
- Material not securely held.
- Too much feed pressure - reduce for good chip curl.
- Band velocity too low - increase speed.



8. Band develops a negative camber

- Band is riding on saw guide backup bearing too heavily. Adjust band for alignment on top and bottom wheels.
- Check band wheel alignment.

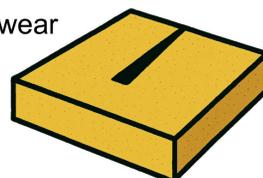


9. Blade Not Running True Against Saw Guide Backup Bearing

- If clicking noise against saw guide backup bearing, remove burr on band.
- Check band wheel alignment.
- Check saw guide backup bearing for wear, replace if necessary.
- Weld not in proper alignment. Reweld blade straight and true.

10. Blade Leading In Cut

- Reduce feed pressure or rate.
- Check adjustments and wear of saw guides or rollers.
- Lack of band tension.
- Tooth set damage.



11. Cutting Rate Too Slow

- Increase band velocity.
- Increase feed pressure.
- Use a coarser pitch.

Choose the Correct Number of Teeth Per Inch (TPI)

The number of teeth per inch (TPI) is important in obtaining the finish desired and the proper feed rate. A coarse tooth blade (2, 3 TPI) should be used for resawing wood and cutting thicker stock up to 8". A fine toothed blade (18 to 32 TPI) should be used for thinner metals and plastics under 1/4". For general cutting of 3/4" wood 4 TPI will provide a fast cut and 14 TPI will cut slow but leave a smoother finish.

TPI	Minimal Material Thickness
32	3/32"
24	1/8"
18	5/32"
14	1/4"
10	5/16"
8	3/8"
6	1/2"
4	3/4"
3	1"
2	1 1/2"

When Selecting TPI remember:

- More TPI give a smoother but slower cut
- Fewer TPI allow a faster cut with a slightly rougher finish
- At least three teeth must be in the workpiece - the chart about will help you decide.

12. Premature Loss of Set

- Improper width selection - check chart for correct width for radius cutting.
- Reduce band velocity.

13. Band Develops Positive Camber

- Decrease force.
- Use a coarser pitch to increase tooth penetration.
- Adjust saw guides closer to work.



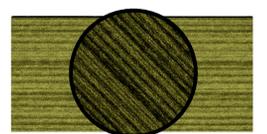
14. Band Develops Twist

- Wrong width for radius being cut - choose a narrower blade.
- Binding in cut - decrease feed pressure.
- Decrease band tension.
- Adjust saw guides further from workpiece.



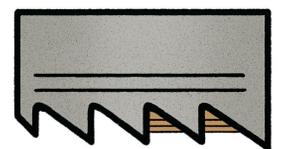
15. Finished Cut Surface Too Rough

- Improper tooth selection - choose a finer pitch.
- Increase band velocity.
- Decrease feed rate.



16. Band Scoring (side wear or grooving)

- Check for wear on saw guide inserts.
- Too much pressure on saw guide inserts.
- Check alignment of saw guides - be sure they are square to front vise. Replace or clean guides.



17. Burring or Mushrooming of Blade Back Edge

- Increase tension and adjust guides.
- Check contact between blade and back edge rollers.
- Reduce feed pressure.
- Use coarser pitch blade.
- Use finishing stone.

