# M42 / M51 BI-METAL BAND SAW BLADES

Technical brochure for distributors, metal cutting workshops, OEM buyers, and export RFQ preparation.

Blade range | Tooth pitch | Material matching | Break-in | Troubleshooting | RFQ checklist




LIZEN focuses on reliable, cost-effective metal cutting supply from China. Final blade selection should be confirmed according to workpiece material, size, machine condition, cutting fluid, and target output.

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# Product Range

LIZEN bi-metal band saw blades are prepared for daily production cutting, distributor stock programs, and OEM private-label supply. The range covers common welded loop blades and coil supply for steel service centers, workshops, machinery factories, and material distributors.




| Grade | Typical use | Buyer note |
| --- | --- | --- |
| **M42 bi-metal** | General steel, carbon steel, alloy steel, structural steel, tube, profile, and mixed workshop cutting. | Most common choice for distributors and regular replacement orders. |
| **M51 bi-metal** | Harder alloys, stainless steel, tool steel, mold steel, and demanding cutting conditions. | Recommended when buyers need longer life under heavier load or difficult materials. |
| **Variable pitch blades** | Solid bars, bundles, tubes, and sections where vibration control matters. | Useful for smoother cutting and wider material coverage. |
| **Welded loop service** | Custom blade length according to customer machine model. | Send blade width x thickness x length, tooth pitch, material, and quantity. |

# Common Specifications

The sizes below are common market references for quotation and selection. Availability, minimum order quantity, and packaging can be confirmed according to order quantity and destination market.

| Blade size W x T | Common pitch | Typical machine / application |
|---|---|---|
| 13 x 0.65 mm | 10/14, 14 TPI | Small machines, thin wall tube, light profile cutting |
| 19 x 0.90 mm | 6/10, 8/12, 10/14 TPI | Small to medium machines, tubes, profiles, small solids |
| 27 x 0.90 mm | 4/6, 5/7, 6/10 TPI | General workshop cutting, medium solids and sections |
| 34 x 1.10 mm | 3/4, 4/6, 5/7 TPI | Production cutting, solid bars, bundles, structural steel |
| 41 x 1.30 mm | 2/3, 3/4, 4/6 TPI | Larger band saw machines, solid steel and alloy steel |
| 54 x 1.60 mm | 1.4/2, 2/3, 3/4 TPI | Heavy-duty machines, large solid bars and difficult materials |
| 67 x 1.60 mm | 1.4/2, 2/3 TPI | Large double-column machines and steel service centers |
| 80 x 1.60 mm | 1.1/1.6, 1.4/2 TPI | Large section cutting and heavy-duty production lines |

## Tooth Form Reference

- Regular tooth: stable choice for smaller sections, thin wall tube, and general cutting.
- Hook tooth: stronger cutting action for larger solid materials and non-ferrous metals.
- Variable pitch tooth: reduces vibration and noise, useful for tubes, profiles, bundles, and mixed sizes.

# Application Matching

| Workpiece | Suggested blade | Selection note |
|---|---|---|
| Carbon steel / structural steel | M42 variable pitch | Choose pitch by cross-section. Keep at least 3 teeth engaged in the cut. |
| Alloy steel / bearing steel | M42 or M51 | Use suitable speed and coolant. M51 can be considered for longer life. |
| Stainless steel | M51 variable pitch | Lower speed, correct feed, good coolant, and proper break-in are important. |
| Tool steel / mold steel | M51 | Avoid excessive feed. Confirm hardness, size, and machine rigidity before quotation. |
| Tube / profile | M42 variable pitch | Use finer pitch for thin walls and vibration-sensitive profiles. |
| Bundles | M42 variable pitch | Clamp firmly and control vibration. Bundle shape and material mix affect blade life. |

## Quick Pitch Rule

- Thin wall material needs finer pitch to avoid tooth impact.
- Large solid material needs coarser pitch to improve chip space.
- If vibration, noise, or tooth stripping appears, check pitch, feed pressure, blade tension, coolant, and clamping.

# Break-in & Cutting Setup

A new band saw blade has very sharp tooth edges. Proper break-in helps prevent early tooth chipping and supports more stable cutting life.

| Step | Recommended action |
|---|---|
| **1. Install** | Check blade direction, blade tension, guide arm position, brush, coolant, and workpiece clamping. |
| **2. Start gently** | For the first cutting area, use reduced feed pressure and avoid forcing the blade. |
| **3. Increase gradually** | After the blade surface becomes stable, increase feed toward normal production condition. |
| **4. Monitor chips** | Powder chips may mean low feed; blue or heavy chips may mean excessive feed or speed. |
| **5. Record settings** | For repeat orders, record material, size, blade size, pitch, speed, feed, coolant, and life result. |

## Troubleshooting Snapshot

| Problem | Common checks |
|---|---|
| Tooth stripping | Pitch too coarse/fine, feed too high, poor clamping, interrupted cutting, no break-in. |
| Crooked cut | Blade tension, guide wear, feed pressure, dull blade, machine alignment, material clamping. |
| Vibration / noise | Pitch selection, unsupported workpiece, bundle movement, speed/feed mismatch. |
| Short blade life | Wrong grade or pitch, coolant issue, excessive speed, poor break-in, worn machine components. |

# RFQ Checklist

For faster quotation, send the information below by WhatsApp or email. Photos of the machine nameplate and current blade package are very helpful.

| Required information | Example |
|---|---|
| Blade size | 34 x 1.1 x 4115 mm |
| Material and hardness | Carbon steel, stainless steel, tool steel, aluminum, HRC value if available |
| Workpiece shape and size | Solid round bar 150 mm, tube 80 x 5 mm, profile bundle |
| Machine model | Brand/model, wheel diameter, manual/semi-auto/fully auto |
| Current problem or target | Longer life, faster cutting, lower cost, less vibration, distributor stock |
| Quantity and packaging | Welded loops, coil, carton, private label, pallet requirement |
| Destination country | Used for freight, certificates, label, and market packing requirement |

## Contact LIZEN

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Note: This brochure is for product selection and RFQ preparation. Final technical recommendation should be confirmed with LIZEN according to actual machine condition and workpiece details.