

Corrugated Fasteners: Specification, Variants & B2B Ordering Guide

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Key Takeaways

108 - All-Metal Prevailing Torque Hex Lock Nut (Type 1) — GB/T 6184 □ ISO 7042 (Series 047) — GB/T 6184 □ ISO 7042

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- Corrugated fasteners are thin, wavy metal strips used to join wood in miter, butt, and T-joints, offering greater holding power and less splitting than nails.
- Pneumatic fastener guns are the standard installation method for production environments, requiring fasteners matched to the tool's magazine and driver blade.
- Material options range from uncoated low-carbon steel to hot-dip galvanized and stainless steel, selected based on corrosion resistance needs.
- Standard widths are 3/8–3/4 inch and lengths 1/4–5/8 inch; custom dimensions and finishes are available for high-volume contracts.
- B2B ordering typically involves MOQs of 50,000–100,000 pieces, with lead times of 2–4 weeks and ISO 9001 quality documentation.

1. What Are Corrugated Fasteners?

110 - Hex Slotted Castle Nut (Type 1) — GB/T 6180 □ ISO 7036 (Series 049) — GB/T 6180 □ ISO 7036

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Corrugated fasteners are thin, wavy metal strips that join wood components rapidly and securely without the need for pre-drilling. In B2B environments—from furniture assembly lines to pallet manufacturing and crate construction—they provide a cost-effective alternative to nails and screws for edge-to-edge joints, miter joints, and butt joints, especially where speed and resistance to wood splitting are critical.

2. Specification Overview

- **Material:** Typically low-carbon steel (e.g., AISI 1008-1010) for excellent ductility and bending strength. Stainless steel grades (304, 316) are available for corrosion-heavy environments.

- **Surface Finish:** Standard zinc plating (clear or yellow) provides moderate corrosion resistance. Hot-dip galvanized or black oxide finishes are offered for enhanced durability. Custom organic coatings available on request.
- **Dimensions:** Widths commonly range from 6 mm to 12 mm (1/4" to 1/2"), lengths from 12 mm to 32 mm (1/2" to 1-1/4"), and thicknesses from 0.5 mm to 1.2 mm. Exact sizes are tailored to application load requirements.
- **Corrugation Profile:** Number of waves (typically 3 to 5) and wave height/depth influence holding power. Deep profiles increase surface grip in softer woods.
- **Point Geometry:** Sharp, beveled or chisel points reduce insertion force and minimize wood splitting. Some designs feature double-bevel edges for easier driving with manual or pneumatic tools.
- **Mechanical Properties:** Tensile strength typically exceeds 350 MPa for carbon steel; hardness around HRB 50-60 ensures a balance of toughness and penetration capability.
- **Applicable Standards:** Material conforms to ASTM A653 for steel sheet where specified, though no universal product standard exists for corrugated fasteners; consistency is ensured through ISO 9001 manufacturing processes.

3. Variants and Model Differences

The product line includes several distinct types to suit diverse joint configurations:

- **By Length:** Short lengths (1/2"-3/4") for thin mouldings and picture frames; longer lengths (1"-1-1/4") for structural framing and pallet blocks.
- **By Width:** Narrow fasteners (1/4") for invisible joint lines in fine furniture; wider straps (3/8"-1/2") for heavy-duty connections where visible reinforcement is acceptable.
- **By Number of Waves:** 3-wave designs are standard for general use; 5-wave fasteners provide higher withdrawal resistance for high-stress joints.
- **Head/Drive Styles:** Standard flat-top strips for pneumatic fastener guns; countersunk edges available for flush installation in visible surfaces. Some variants are optimized for manual hammering with reinforced top edges.
- **Material Variants:** Standard bright steel for indoor, humidity-controlled environments; electro-galvanized for moderate outdoor exposure; stainless steel (A2/A4) for marine or chemical applications.

4. Typical Applications and Buyer Scenarios

Corrugated fasteners solve specific joining challenges across multiple industries:

- **Furniture Manufacturing:** Rapid assembly of drawer boxes, cabinet frames, and chair corner blocks where aesthetic concealment is possible.
- **Pallet and Crate Production:** Joining deckboards to stringers or creating built-up pallet blocks, resisting lateral forces during transport.
- **Construction and Millwork:** On-site formation of stud corners, truss connections, and temporary bracing, often driven with a corrugated nailer or by hand.
- **Wood Packaging and Reels:** Building end-plates and core joints for cable reels, where vibration resistance is vital.

- **Picture Frame and Moulding Joinery:** Invisible from the back, they align and reinforce miter joints without the bulk of corner brackets.

5. Customization and Branding Options

As a B2B supplier, we support custom configurations to meet proprietary standards:

- **Special Dimensions:** Width, length, and thickness can be produced to exact drawings; non-standard wave profiles are tooled per customer specification.
- **Custom Coatings:** Organic, epoxy, or proprietary anti-corrosion treatments for unique environment requirements (e.g., salt spray resistance exceeding 500 hours).
- **Head Marking/Private Labeling:** Embossed or printed logos on the fastener strip, and custom packaging with your brand identity.
- **Packaging Configurations:** Bulk boxes, shrink-wrapped modules, or pre-loaded magazine strips for specific gun brands. Retail-ready blister cards available for distribution channels.

6. Ordering Parameters

Standard commercial terms apply; exact quantities are agreed per order:

- **Minimum Order Quantity (MOQ):** Typically 50,000–100,000 pieces depending on size and finish; smaller trial orders possible for new projects with shared tooling costs.
- **Lead Time:** 2–4 weeks for standard catalog items from order confirmation; 4–6 weeks for custom sizes or special finishes.
- **Packaging:** Bulk in corrugated cartons (10,000–25,000 pieces per box) with inner plastic lining for moisture protection. Custom counts and mixed assortments available.
- **Quality Assurance:** All shipments include certificate of conformity and material test reports upon request. ISO 9001:2015 accredited processes ensure dimensional and surface consistency.

7. Request a Tailored Quote

To discuss your specific wood-joint requirements, please send your specifications, drawings, or fastener samples. Our engineering team will propose a cost-effective solution matched to your volume and performance needs.

Corrugated Fasteners: Definition, Primary Function, and Joint Types

Corrugated fasteners are thin, wave-shaped metal strips designed to create strong, semi-permanent joints in wood without the need for glue or complex joinery. Their sinusoidal profile provides a mechanical interlock that resists withdrawal and lateral movement, making them especially effective in miter, butt, and T-joints across a range of woodworking applications—from picture framing and furniture assembly to pallet construction and millwork.

Unlike [Wire Nails](#) or [Specialty Nails](#), corrugated fasteners distribute clamping force over a broader area, reducing the risk of splitting and eliminating the need for pre-drilling in most softwoods and hardwoods. They are driven flush with or slightly below the

wood surface, providing a neat, low-profile joint that can be sanded, painted, or stained.

Installation Equipment and Tools

Manual insertion with a hammer is possible but not recommended for production environments due to the potential for misalignment and inconsistent driving depth. Pneumatic corrugated fastener guns—often referred to as corrugated nailers or wavy fastener staplers—are the preferred choice for high-volume assembly. These tools feed fasteners from a magazine strip and use compressed air to drive them precisely into the joint, ensuring repeatable results and minimal damage to the workpiece.

Common tool brands include Spotnail, Senco, and BeA, though the fasteners themselves must match the tool's magazine and driver blade specifications. When sourcing, specify the tool model or required strip collation to guarantee compatibility.

Material Grades and Surface Finishes

Corrugated fasteners are typically produced from low-carbon steel wire, formed into the distinctive wave pattern and then cut to length. Surface finishes are selected based on the intended environment and corrosion resistance requirements:

- **Bright (uncoated) steel:** Economical for interior, non-structural joints where no moisture exposure is expected.
- **Zinc-plated:** Offers moderate corrosion protection for indoor applications with occasional humidity.
- **Hot-dip galvanized (HDG):** Provides robust protection for outdoor or high-moisture environments, such as pallets, crates, and exterior joinery.
- **Stainless steel (typically 304 or 316 grades):** Used in marine, food processing, or other highly corrosive settings. Available on a made-to-order basis for larger volumes.

Hardness and tensile strength vary by wire grade and manufacturing process; suppliers should provide material certifications upon request.

Key Facts About Corrugated Fasteners

- **Geometry:** Wave-shaped cross-section provides mechanical interlock within the wood fibers, distributing load and resisting withdrawal.
- **Material:** Commonly low-carbon steel; upgraded options include zinc-plated, hot-dip galvanized, or stainless steel for corrosion resistance.
- **Dimensions:** Standard widths range from 3/8 inch to 3/4 inch (9.5–19 mm) with lengths from 1/4 inch to 5/8 inch (6–16 mm). Custom lengths and widths available for high-volume orders.
- **Installation:** Can be driven manually with a hammer, but pneumatic corrugated fastener guns ensure consistent insertion and higher productivity in factory settings.
- **Applications:** Predominantly used in miter joints, butt joints, and splices in woodworking industries such as furniture, picture framing, cabinetry, and pallet manufacturing.

Corrugated Fasteners: Specification and Sourcing Overview

Aspect	Details
Product Description	Thin, waveform metal fasteners for wood-to-wood joints; no threads or heads.
Common Types	Standard corrugated, heavy-duty wavy profiles; lengths tailored to wood thickness.
Primary Materials	Low-carbon steel (plain), zinc-plated, hot-dip galvanized, stainless steel.
Typical Tools	Pneumatic corrugated fastener guns (magazine-fed) or manual hammer insertion.
Typical Applications	Miter and butt joints in frames, furniture, cabinets, pallets, and wood assemblies.
Ordering Considerations	MOQ: 50,000-100,000 pcs; lead time: 2-4 weeks standard; custom packaging available; ISO 9001 quality assurance.

Request a Tailored Quote

For a complete technical proposal and volume pricing, reach out to our sales engineers with your joint specifications and projected annual quantities. We can match any tool brand and provide samples for evaluation upon request.

Frequently Asked Questions

What are corrugated fasteners used for?

Corrugated fasteners are primarily used to join two pieces of wood at miter, butt, and T-joints. They are common in furniture assembly, picture framing, cabinet making, and pallet manufacturing, providing a strong mechanical connection without glue.

Can you hammer in corrugated fasteners?

Yes, corrugated fasteners can be driven manually with a hammer, but it is difficult to maintain alignment and consistent depth. For production work, a pneumatic corrugated fastener gun ensures precise insertion, higher speed, and reduced operator fatigue.

What are the advantages of corrugated fasteners over nails?

Corrugated fasteners offer several advantages: their wavy profile increases holding power by mechanically interlocking with wood fibers, they reduce the risk of splitting compared to plain nails, and they often eliminate the need for glue in non-structural joints.

How do I choose the right corrugated fastener size?

Select the fastener length so it penetrates both pieces of wood without protruding. Width should cover enough of the joint for adequate strength—thinner strips for delicate frames, wider ones for structural joints. Always consider the tool compatibility and joint load.

Are corrugated fasteners suitable for outdoor use?

Yes, if manufactured from corrosion-resistant materials. Hot-dip galvanized or stainless steel corrugated fasteners are suitable for exterior applications, while uncoated steel fasteners will rust and stain the wood when exposed to moisture.

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