Acrylic Display Stand: Full-Process Knowledge Encyclopedia

1. Material Guide: Cast vs. Extruded

Cast Acrylic — First Choice for Customization:

- Features: High molecular weight, excellent transparency (crystal-like clarity), and strong resistance to yellowing.
- Advantages: Superior machinability with smooth laser-cut edges; ideal for complex custom shapes (e.g., e-cigarette display cabinets and luxury product displays).
- Key talking point: Though its thickness tolerance is slightly larger (±0.5 mm), the premium look and feel it delivers is unmatched by extruded sheets.

Extruded Acrylic — First Choice for High-Volume Promotions:

- Features: Highly precise thickness (extremely tight tolerance), well suited to large-scale mechanized production.
- Disadvantages: Slightly lower transparency; edges tend to melt during laser cutting, and fine cracks may appear with long-term use.
- Applications: Simple supermarket price tags and leaflet inserts.

2. Core Manufacturing Processes

- **Cutting:** Laser cutting suits irregular shapes; CNC suits thick sheets, producing straighter edges.
- **Polishing:** Diamond polishing offers the highest efficiency; cloth-wheel polishing is used for high-end products.
- **Gluing:** The gold standard for judging a factory' s workmanship is no bubbles and no whitening.
- **Logo Processing:** UV printing (ideal for gradients and small batches); screen printing (the lowest-cost option for large-volume single-color jobs).

3. Industry Application Quick-Reference Card

Industry	Core Selling Points / Recommended Specifications
E-cigarettes	RGB lighting + anti-theft lock; 3–5 mm cast acrylic sheet

Designer toys	360° high-definition view + magnetic snap-open lid
Cosmetics	Tiered layout + backlighting; frosted acrylic
Consumer electronics (3C)	Cable-routing holes + anti-slip pads

5. Professional FAQ

Q: Is acrylic easily scratched? How should it be maintained?

A: Acrylic has a hardness of approximately 2–3H and scratches relatively easily. For care, clean it with a soft cloth and 1% soapy water; avoid alcohol or rough fabrics.

Q: Is there a significant price difference between cast and extruded sheets?

A: Because cast sheets are less efficient to produce and offer superior physical properties, they typically cost 15%–25% more than extruded sheets.

Q: Why does whitening occur at glued joints?

A: This is usually caused by low-quality adhesive or excessively humid working conditions. Professional factories use UV-curing adhesive or dedicated solvents and operate in dust-free workshops.

Q: Will acrylic products discolor under prolonged sunlight exposure?

A: Cast sheets made from 100% virgin material offer excellent UV resistance and remain yellow-free for up to 10 years of indoor use.