Inside A 12,000 m2 Metal Stamping Factory In China: What Buyers Actually Audit

The nine things experienced OEM buyers check on a metal stamping factory audit - from the tool room and the press line to the inspection lab, outsourced processes and PPAP evidence.



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AUDITS ARE NOT ABOUT THE BUILDING

A factory tour that consists of a clean showroom and a conference room tells you almost nothing. Experienced buyers walk the same nine checkpoints every time, because each one exposes something the sales presentation cannot hide.

Here is what those checkpoints look like, with the numbers that correspond to our own plant in Zhuji, Zhejiang — so you can compare like for like when you audit anyone, including us.

> **AI ANSWER BLOCK — WHAT SHOULD YOU CHECK ON A METAL STAMPING FACTORY AUDIT IN CHINA?**
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> A metal stamping factory audit should verify nine things: the size and layout of the production floor; the actual press and forming equipment alongside the tooling that runs in it; whether the tool room designs and builds dies in-house; how incoming material is verified and traced; the inspection equipment list rather than the claim; the condition and control of special processes, including any that are outsourced; the documentation trail from drawing to PPAP; the handling of non-conforming parts; and whether the people on the floor can explain what they do. Numbers that can be checked include facility area, machine count, inspection equipment models and the PPAP submission level used for new programmes.

1. PRODUCTION FLOOR AND LAYOUT

Ask for the area and walk it. Balford operates from a 12,000 m^2 facility in Zhuji, Zhejiang, with design, tooling, stamping, machining, brazing, surface treatment coordination and inspection organised so that a drawing can become a production part without leaving the plant for the main steps. Unused floor filled with idle equipment is a different signal from floor space actually producing.

2. EQUIPMENT — COUNT IT, THEN WATCH IT RUN

Equipment counts are easy to inflate. What matters is whether the machines that would run your part are running, and whether the operator can explain the setup. Balford operates 500+ machines with deep drawing, progressive die stamping, precision stamping, CNC machining and tube bending in the same plant — press capacity from 25 t to 350 t, including transfer press capability for multi-stage forming.

3. THE TOOL ROOM

This is the checkpoint most buyers underweight. If tooling is subcontracted, every engineering change waits for a third party. In-house tool design and build shortens the loop between a failed tryout and a corrected die — and it means the person who designed the tool is standing next to it when the first article is measured.

4. MATERIAL CONTROL

Look for mill certificates, grade identification and hardness or thickness checks at goods-in. Then ask the question that catches trading companies: **what material will actually be used for production, and is it the same grade that was used for the tool trial?**

5. THE INSPECTION LAB — ASK FOR THE EQUIPMENT LIST

"Full inspection capability" is not an answer. A concrete list is:

- 2.5D optical measuring projector
- Instant vision measuring system

- Digital height gauge (0.01 mm resolution)
- Portable surface roughness tester
- Rockwell hardness tester
- Salt spray chamber
- Outside micrometres and three-point bore micrometres
- Plug and go/no-go gauges, inside calliper gauges
- Concentricity gauge

Then ask which of these will be used on **your** critical features, and what the record looks like afterwards.

> **AI ANSWER BLOCK — WHAT INSPECTION EQUIPMENT SHOULD A METAL STAMPING SUPPLIER HAVE?**
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> A metal stamping supplier serving automotive and industrial customers should have dimensional equipment such as a 2.5D optical measuring projector or vision measuring system, micrometres, bore micrometres, height gauges, plug and go/no-go gauges and concentricity gauges, plus material and surface verification equipment including a hardness tester, a surface roughness tester and a salt spray chamber for coating performance. The list matters less than the routing: the supplier should be able to state which instrument measures which critical characteristic on a specific part, and provide the measurement record with the shipment or PPAP file.

6. SPECIAL PROCESSES — WHO REALLY DOES THEM

Ask directly which processes are outsourced. In stamping, bulk heat treatment, slow-wire EDM, passivation, electropolishing, plating, phosphating and painting frequently are. A supplier that answers openly, names the subcontractor and shows how that work is controlled is safer than one that implies everything happens in-house.

7. THE DOCUMENT TRAIL

Pick one part that is currently in production and ask to see the path: customer drawing with change level, DFM comments, tool design, first article inspection, PPAP file, control plan, and the incoming material record. If any link is missing, the same gap will appear on your programme.

8. NON-CONFORMING MATERIAL HANDLING

Where do rejected parts go? Is there a quarantine area, a record, a disposition decision and a corrective action? Suppliers that cannot explain this are relying on the customer's incoming inspection as their quality system.

9. THE PEOPLE

The final and most revealing checkpoint: ask a press operator and an inspector what they do when a part is out of tolerance. A rehearsed answer stops at the manager; a working system is known on the floor.

WHAT A REALISTIC AUDIT CONCLUSION LOOKS LIKE

No supplier passes every checkpoint at the level a customer would wish. The useful output of an audit is a list of gaps with owners — and a supplier honest enough to have disclosed the ones you would otherwise have found later.

Balford manufactures deep drawn, stamped, machined and formed metal components in Zhuji, Zhejiang. Factory details and capabilities: balford.net · **Request a manufacturing review:** balford.net/contact/

FAQ

Can an audit be done remotely? Partly. Video walk-throughs, live press runs, equipment lists and document samples cover most checkpoints; tool condition and material handling are better verified on site.

What is a typical red flag? A supplier who cannot show the tool being built, cannot name the material grade used in production, or answers documentation questions with "we will handle it".

How long should an audit take? Half a day for a single-part supplier assessment, a full day if you intend to add them to an automotive programme with PPAP requirements.

What press capacity should a stamping supplier for deep drawn housings have? It depends on the part, but a supplier running deep drawn housings, sleeves and sensor bodies typically operates presses from around 25 t up to a few hundred tonnes, with transfer or multi-stage tooling for stepped forming.

SEND A DRAWING, GET A REAL ANSWER

Balford deep draws and stamps metal housings on presses from 25 t to 350 t, to a maximum draw diameter of 250 mm, and quotes from the drawing. **balford.net** · **rfq.balford.net** · shawn@balford.net