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Rectangular galvanized steel duct panel inspection guide

Rectangular galvanized steel duct panel inspection interactive checklist. Commentable and export as PDF/Excel. Verify condition, seams, stiffness, dimensions.

Project:	
Date:	
Filled by:	

Delivery Verification	
1	Cross-check shipment against the approved fabrication schedule and delivery note; count panels and verify drawing mark numbers; acceptance: 100% match; evidence: signed count sheet and photos of labels.
2	Inspect packaging and strapping before opening; look for water stains, tears, or crushing; acceptance: no moisture ingress or impact damage; evidence: timestamped photos pre-unwrapping.
3	Record unloading conditions (dry/covered area) and weather; method: site log entry; acceptance: conditions documented; evidence: timestamped log with location and weather note.

Sheet and Coating Condition	
4	Measure sheet thickness at three locations per panel with a calibrated micrometer (0.01 mm); acceptance: within ±0.05 mm of approved gauge; evidence: readings logged with tool serial number.
5	Check zinc coating continuity using a magnetic coating thickness gauge; acceptance: uniform readings within ±10% of approved submittal and no bare steel; evidence: gauge readings and close-up photos.
6	Scan surfaces for white rust, scratches, dents, or creases; method: raking light visual; acceptance: no dents/creases >2 mm depth or 50 mm length; evidence: annotated photos, defect dimensions recorded.
7	Check cut edges and corners for burrs; method: glove glide and visual; acceptance: smooth, deburred edges with intact coating; evidence: macro photos at corners.

Panel Stiffness and Reinforcement	
8	Verify stiffening beads, tie rods, or angles match approved fabrication details; acceptance: type, spacing, and locations as submitted; evidence: photos with tape/ruler and marked-up drawing reference.
9	Assess stiffness by applying firm hand pressure (~50 N) at mid-span with a 1 m straightedge; acceptance: visible deflection ≤3 mm; evidence: photo of straightedge and measured gap.
10	Confirm flange profile (e.g., TDC/TDF) thickness and cleats present; method: calipers and visual; acceptance: profile dimensions match submittal; evidence: caliper readings and profile photos.
11	Check reinforcement fastener spacing against approved detail; method: steel tape; acceptance: within ±10 mm of specified spacing; evidence: measurement photo and recorded spacing.

Seam and Joint Closure	
12	Inspect Pittsburgh lock seams along full length; method: feeler gauge; acceptance: no gaps >0.5 mm and seam fully hammered; evidence: close-ups with 0.5 mm gauge.
13	Check longitudinal and transverse seams for continuity and alignment; method: visual; acceptance: straight, uniform seams with no splits or cracked coating; evidence: seam-line photos.
14	Verify sealant application where specified; method: visual and finger-drag; acceptance: continuous, adhered bead without pinholes or voids; evidence: macro photos at starts/ends.
15	Inspect corners (e.g., TDC/TDF) for tight fit and required clips/welds per details; acceptance: corners fully seated, no protrusions, coating unburnt; evidence: corner photos with ruler.

Dimensions and Tolerances	
16	Measure panel length and width with a Class II steel tape; acceptance: within ±3 mm of approved dimensions; evidence: recorded measurements with photo of tape in place.
17	Check squareness by measuring diagonals; acceptance: diagonal difference ≤3 mm; evidence: both diagonal readings logged and photographed.
18	Assess straightness/flatness with a 1 m straightedge; acceptance: local gap ≤3 mm; evidence: straightedge photos showing feeler gauge under highest gap.
19	Verify flange width uniformity with calipers; acceptance: within ±2 mm across panel; evidence: caliper readings at four sides recorded.

Documentation and Traceability	
20	Confirm each panel’s identification matches drawing mark and lot; acceptance: legible labels with drawing reference; evidence: label photos and delivery note cross-reference.
21	Verify calibration for micrometer, coating gauge, and tape; method: check certificates; acceptance: in-date calibration; evidence: certificate photos or IDs recorded.
22	Segregate and tag nonconforming panels; method: red tags and NCR initiation; acceptance: NCR opened and panels isolated; evidence: tagged panel photos and NCR number; store accepted panels on dry dunnage with covers.

Comments:

Filled by:

Signature:

Introduction	How to use this checklist
Rectangular galvanized steel duct panel inspection ensures delivered fabricated panels match approved details before acceptance. This delivery-focused guide supports galvanized ductwork delivery inspection, sheet metal duct QA, and rectangular duct fabrication checks. You will confirm sheet condition, zinc coating continuity, panel stiffness, seam closure quality, and dimensional tolerances using practical tools and objective evidence. By detecting dents, white rust, under-gauge sheet, open Pittsburgh locks, or out-of-square panels at the gate, you prevent downstream leakage, vibration, and costly rework. Scope is limited to rectangular galvanized steel duct panels at site delivery; it excludes installation, supports, hangers, leakage testing, and commissioning. Acceptance references the approved project specifications and authority requirements without citing clauses. The outcome is a clean, traceable record—measurements, photos, labels, and signatures—ready for consultant or client review. Use the interactive checklist: tick items as you go, add comments with photos, and export to PDF/Excel with a secure QR code for authentication.	1. Preparation: review approved fabrication drawings, submittals, and delivery note. Equip micrometer (0.01 mm), coating thickness gauge, steel tape (Class II), 1 m straightedge, feeler gauges, calipers, marker, camera, and PPE (cut-resistant gloves, safety glasses). Confirm tools are calibrated. 2. Set up a dry, level, cordoned inspection area near unloading. Protect materials from rain and standing water. Arrange lighting for raking-angle visuals and establish a tagging zone for nonconforming panels. 3. Using the Interactive Checklist: open the checklist on your device, select project and delivery lot, and start interactive mode. Tick items as you proceed in the inspection sequence. 4. Capture evidence in-app: enter numeric measurements, attach photos with tools visible, and reference panel IDs. Use comments to note drawing details or deviations and assign follow-ups. 5. Export and share: when complete, generate an export as PDF/Excel for stakeholders. The export includes timestamps, photos, measurements, and a QR code for verification. 6. Sign-Off: obtain digital signatures from inspector, contractor QA/QC, and consultant/client representative as required. Distribute the signed report and archive it in the project folder. 7. Close-out: tag and segregate nonconforming panels and issue an NCR. Move accepted panels to protected storage. Update the log to maintain full traceability.