Rectangular Duct Transverse Joint Sealing Inspection (Pre-Insulation) Guide

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Project	Location	Status

Date	Completed by

Record joint ID and location

No.	Done	Check / Requirement	Result	Notes / Evidence
1	☐	Record the joint identifier, duct run, and exact location on the plan or tag.		

Photograph joint from all sides

No.	Done	Check / Requirement	Result	Notes / Evidence
2	☐	Take clear photos of the joint from all four sides before touching anything.		

Verify surfaces clean and dry

No.	Done	Check / Requirement	Result	Notes / Evidence
3	☐	Confirm areas around the joint are clean, dry, and free of oil, dust, or loose debris.		

Check flange alignment and contact

No.	Done	Check / Requirement	Result	Notes / Evidence
4	☐	Verify mating flanges are even and fully seated with no visible steps or gaps around the perimeter.		

Confirm gasket installed (if used)

No.	Done	Check / Requirement	Result	Notes / Evidence
5	☐	If this joint type uses a flange gasket, verify a continuous gasket is present and properly seated between flanges.		

Check gasket compression

No.	Done	Check / Requirement	Result	Notes / Evidence
6	☐	Inspect for uniform gasket compression; no visible daylight along the flange-to-flange seam.		

Verify continuous exterior seal

No.	Done	Check / Requirement	Result	Notes / Evidence
7	☐	Confirm a continuous seal exists around the entire perimeter at both the flange-to-flange seam and the flange-to-duct edge.		

Inspect corner pieces seated

No.	Done	Check / Requirement	Result	Notes / Evidence
8	☐	Check each flange corner piece is fully seated and properly installed.		

Verify corner sealing complete

No.	Done	Check / Requirement	Result	Notes / Evidence
9	☐	Confirm sealant is applied at all four corners with no gaps or pinholes.		

Verify bolt/rod penetrations sealed

No.	Done	Check / Requirement	Result	Notes / Evidence
10	☐	Confirm all bolt or rod penetrations (including washers) have visible exterior sealing.		

Check nearby penetrations sealed

No.	Done	Check / Requirement	Result	Notes / Evidence
11	☐	Verify any screw holes or accessory penetrations near the joint are sealed on the exterior.		

Hand-check fastener tightness

No.	Done	Check / Requirement	Result	Notes / Evidence
12	☐	Attempt to turn several nuts/bolts by hand on each side; any that turn freely require tightening before resealing if disturbed.		

Check tape adhesion (if used)

No.	Done	Check / Requirement	Result	Notes / Evidence
13	☐	If tape is used, verify full adhesion with edges firmly rolled and no lifting or loose ends.		

Check reinforcing mesh (if used)

No.	Done	Check / Requirement	Result	Notes / Evidence
14	☐	If reinforcing mesh is used with mastic, confirm mesh is fully embedded and not exposed.		

Probe for adhesion and lifting

No.	Done	Check / Requirement	Result	Notes / Evidence
15	☐	Lightly probe sealant or tape; confirm no lifting, peeling, or loose sections.		

Scan for defects

No.	Done	Check / Requirement	Result	Notes / Evidence
16	☐	Visually scan for pinholes, voids, wrinkles, or fishmouths and mark any defects for rework.		

Inspect hidden/backside areas

No.	Done	Check / Requirement	Result	Notes / Evidence
17	☐	Use a flashlight and mirror to inspect hidden and backside flange areas.		

Check behind hangers/supports

No.	Done	Check / Requirement	Result	Notes / Evidence
18	☐	Verify no sections behind hangers or supports are left unsealed.		

Confirm exterior perimeter complete

No.	Done	Check / Requirement	Result	Notes / Evidence
19	☐	Confirm no unsealed seams or holes remain anywhere on the joint’s exterior perimeter.		

Remove excess sealant

No.	Done	Check / Requirement	Result	Notes / Evidence
20	☐	Confirm no excess sealant is hanging, dripping, or likely to detach; clean up as needed.		

Check sealant is dry-to-touch

No.	Done	Check / Requirement	Result	Notes / Evidence
21	☐	Touch sealant in a discreet spot; surface should be dry-to-touch (tack-free) before insulating.		

Record results and rework

No.	Done	Check / Requirement	Result	Notes / Evidence
22	☐	Document pass/fail, noted defects, and required rework with date, time, initials, and attach photos.		

Comments / Follow-up

Checklist guidance

Before insulation hides the work, verify each rectangular duct transverse joint is clean, aligned, sealed continuously, and dry-to-touch. This prevents air leakage, reduces rework, and protects system performance.

1. Record the joint ID, duct run, and exact location; photograph the joint from all four sides before touching anything.

2. Verify surfaces are clean and dry; check flange alignment and that any gasket used is present and uniformly compressed with no daylight.

3. Confirm a continuous exterior seal around the entire perimeter at both the flange-to-flange seam and flange-to-duct edge; ensure corners are seated and sealed.

4. Verify all bolt/rod penetrations (including washers) and any nearby screw holes or accessories are sealed on the exterior.

5. If tape is used, check adhesion and rolled edges; if mesh with mastic is used, confirm it is fully embedded; lightly probe to ensure no lifting or loose sections.

6. Hand-check several nuts/bolts per side; tighten any that turn freely and reseal if disturbed; remove excess sealant and clean up.

7. Use a flashlight and mirror to inspect hidden/backside areas and behind hangers; confirm no unsealed seams remain and that sealant is dry-to-touch; document results and any rework.

Tick the box when complete. Record Not done or N/A in Result and note any follow-up.