Flat-Oval Duct Joint Assembly Inspection Guide

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Project	Location	Status

Date	Completed by

Applicable Documents

No.	Done	Check / Requirement	Result	Notes / Evidence
1	☐	Confirm the applicable approved joint detail and manufacturer installation instructions are available and identify the joint being inspected.		

Acceptance Criteria

No.	Done	Check / Requirement	Result	Notes / Evidence
2	☐	Confirm the referenced documents provide criteria for the installed joint system. Record missing or conflicting criteria for resolution before accepting the affected feature.		

Concealed-Feature Evidence

No.	Done	Check / Requirement	Result	Notes / Evidence
3	☐	Confirm flange attachment, gasket surfaces, sealing path, splices, and seating can be inspected before closure or are supported by documented pre-closure inspection evidence for this joint. Record unsupported concealed features as unverified.		

Flange System

No.	Done	Check / Requirement	Result	Notes / Evidence
4	☐	Verify the installed flange system matches the joint type specified in the approved detail.		

Flange Profile and Dimensions

No.	Done	Check / Requirement	Result	Notes / Evidence
5	☐	Check each mating flange profile against the approved flat-oval dimensions and shape, including straight sections and curved ends.		

Flange Face Condition

No.	Done	Check / Requirement	Result	Notes / Evidence
6	☐	Inspect mating flange faces for distortion or damage that would prevent the specified fit or uniform gasket contact.		

Flange Attachment

No.	Done	Check / Requirement	Result	Notes / Evidence
7	☐	Verify flange attachment to each duct section matches the approved detail.		

Gasket Material and Dimensions

No.	Done	Check / Requirement	Result	Notes / Evidence
8	☐	Verify gasket material and dimensions match the approved joint requirements.		

Gasket Contact Surfaces

No.	Done	Check / Requirement	Result	Notes / Evidence
9	☐	Inspect gasket contact surfaces for debris or contamination before joint closure and verify surface preparation follows the applicable installation instructions.		

Gasket Continuity

No.	Done	Check / Requirement	Result	Notes / Evidence
10	☐	Check that the gasket follows the specified sealing path continuously around both straight sections and curved ends.		

Gasket Splices

No.	Done	Check / Requirement	Result	Notes / Evidence
11	☐	Verify each gasket splice follows the applicable approved or manufacturer-specified splice detail. Mark not applicable if there are no splices.		

Gasket Seating

No.	Done	Check / Requirement	Result	Notes / Evidence
12	☐	Inspect the gasket before joint closure for damage, twists, folds, or displacement that would interrupt the specified seal.		

Rotational Alignment

No.	Done	Check / Requirement	Result	Notes / Evidence
13	☐	Check rotational alignment of the mating flat-oval profiles against the approved detail.		

Offset and Angular Alignment

No.	Done	Check / Requirement	Result	Notes / Evidence
14	☐	Verify offset and angular alignment between mating duct sections meet the applicable approved requirements.		

Fastening Feature Registration

No.	Done	Check / Requirement	Result	Notes / Evidence
15	☐	Verify flange holes or other fastening features register without deformation inconsistent with the approved detail or installation instructions.		

Fastener and Hardware Selection

No.	Done	Check / Requirement	Result	Notes / Evidence
16	☐	Verify installed fasteners and joint hardware match the approved type and size.		

Fastening Locations and Spacing

No.	Done	Check / Requirement	Result	Notes / Evidence
17	☐	Check that all required fasteners and joint hardware are installed at the specified locations and spacing around the full perimeter.		

Fastener Tightening

No.	Done	Check / Requirement	Result	Notes / Evidence
18	☐	Verify fastener tightening follows the manufacturer-specified method and sequence, including torque where specified, using observed installation or documented installation evidence.		

Final Closure and Compression

No.	Done	Check / Requirement	Result	Notes / Evidence
19	☐	Verify final flange closure and gasket compression against the approved detail or manufacturer instructions using the specified inspection method.		

Visible Gasket Condition

No.	Done	Check / Requirement	Result	Notes / Evidence
20	☐	Inspect the closed joint perimeter for visible gasket damage, extrusion, or displacement. Evaluate any observed condition against the applicable joint requirements rather than treating all visible extrusion as a defect.		

Final Duct Alignment

No.	Done	Check / Requirement	Result	Notes / Evidence
21	☐	Verify rotational alignment, offset, and angular alignment remain within the applicable approved requirements after fastening.		

Inspection Record

No.	Done	Check / Requirement	Result	Notes / Evidence
22	☐	Record the joint location, referenced document revisions, inspection findings, and any features that could not be verified.		

Discrepancy Closeout

No.	Done	Check / Requirement	Result	Notes / Evidence
23	☐	Record discrepancies and their disposition. Verify corrections by reinspection and document the results before marking affected checks accepted; retain unresolved items as open.		

Comments / Follow-up

Checklist guidance

A flat-oval duct joint requires inspection across both its straight sections and curved ends. This supporting guide explains how to use the approved checklist to assess joint assembly, distinguish visible findings from concealed-feature evidence, and document acceptance without assuming unspecified tolerances or installation requirements.

1. Identify the joint and gather its applicable approved detail and manufacturer instructions. Resolve missing or conflicting acceptance criteria before accepting affected features.

2. Coordinate inspection while concealed features remain accessible. If the joint is already closed, review documented pre-closure evidence and identify any unsupported features as unverified.

3. Apply the approved checklist during assembly to evaluate flange geometry, gasket installation, alignment, and fastening against the referenced requirements.

4. Complete the final assessment of closure, compression, visible gasket condition, and post-fastening alignment using the applicable inspection criteria.

5. Record findings and discrepancies, verify corrections by reinspection, and retain unresolved items as open.

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