

Rectangular duct section lifting and assembly - JSA - B

en-SG · Technical failure review · v1.0 · 2026-10-14 · Sources: article section 9

Site: | Item ID: | Work area:

Approval	Work supervisor	Technical reviewer	Release / handover authority

1. Job details and team signatures

Date / time		Location / area		Assessor		Supervisor	
Team signatures							

2. Conditions and hold points

Stage	Time	Location / area	Environment / readings	Item / condition	Controls	Plant / tools	Approval / signature
HP-0 Start							
HP-1 Review section and supports							
HP-2 Lift and align							
HP-3 Transfer load deliberately							
HP-4 Inspect and hand over							

Complete after actual checks. Recheck after changes, defects or shift handover.

3. JSA risk assessment

Job stage	Hazards and effects	Failure factors	Technical and procedural controls	Site verification	P	S	R	A
1. Inspect and prepare zone	1. Platform fall 2. Dropped materials 3. Flange leakage	1. Access unsuitable 2. Work below continues 3. Flange bent in storage	1. Provide suitable protected access 2. Exclude people below 3. Hold distorted connection parts	1. Access equipment acceptance 2. Controlled fall zone 3. Gasket and fastener identity				
2. Prepare grounded joint	1. Finger crush 2. Sealant exposure 3. Misaligned connection	1. Hands between flanges 2. Product hazards ignored 3. Joint forced together	1. Use controlled alignment tools 2. Follow sealant precautions 3. Check fit before lifting	1. Hands clear of pinch points 2. Joint instructions and sealant SDS 3. Dry fit and gasket position				
3. Lift and align	1. Suspended-load strike 2. Access collision 3. Rigging damage	1. People enter fall zone 2. Travel obstructed 3. Sharp edge contacts sling	1. Maintain exclusion and signals 2. Move within planned clearance 3. Protect rigging as specified	1. Signal owner and clear zone 2. Platform and duct separation 3. Landing alignment				
4. Connect hangers and flanges	1. Finger pinch 2. Fastener failure 3. Air leakage	1. Hands used as alignment aid 2. Wrong joint hardware 3. Gasket displaced	1. Use suitable alignment aids 2. Install specified hardware 3. Inspect continuous joint seal	1. Connection sequence 2. Fastener and gasket inspection 3. Lift still supporting load				
5. Transfer load deliberately	1. Elbow sag 2. Duct distortion 3. Worker struck below	1. Transfer abrupt 2. Flange mistaken for support 3. People remain underneath	1. Follow planned gradual transfer 2. Observe hanger and duct response 3. Keep clear throughout transfer	1. Transfer sequence and observer 2. Movement and load response 3. Release authorisation				
6. Hold movement or damage	1. Concealed joint defect 2. Unsafe body support 3. Repeated support failure	1. Insulation hides defect 2. Worker catches duct 3. Cause remains unknown	1. Maintain approved safe support 2. Prohibit body support 3. Review anchors mass and geometry	1. Observed movement 2. Safe support condition 3. Repair and reinspection basis				

P/S/R/A: Complete only after actual site assessment using the site risk method.

4. Pre-work checklist

☐ Access equipment acceptance	☐ Hands clear of pinch points	☐ Signal owner and clear zone
☐ Connection sequence	☐ Transfer sequence and observer	☐ Observed movement
☐ Gasket and fastener identity	☐ Lift still supporting load	☐ Repair and reinspection basis