



Material Handling, Loading, and Rigging Safety Guide

Category: Material Handling

Audience: Operators, riggers, forklift/crane operators, supervisors

Badge: Handling

Guidance for moving, loading, rotating, and unloading weldments, fixtures, positioner loads, and long assemblies around robotic welding systems.

Important limitation: This document is a general planning aid only. It does not replace OSHA requirements, employer safety programs, equipment manuals, SDS review, qualified risk assessment, training, lockout/tagout procedures, PPE selection, or competent safety review.

Handling Plan

- Review weight, center of gravity, lift points, travel path, pinch points, and landing area before moving material.
- Use trained forklift, crane, hoist, or rigging personnel according to site rules.

Positioner Loading

- Do not exceed rated capacity.
- Balance the load and secure the workpiece before rotation or robot operation.
- Keep hands and body clear of pinch zones between the workpiece, positioner, fixture, and supports.

Long Weldments

- Control sag, whip, deflection, trip hazards, and protruding ends.
- Use supports to maintain safe clearance and prevent shifting during welding.

Field Checklist

Item	Verified	Notes
Weight known		
Lift path clear		
Rated rigging used		
Load balanced		
Workpiece secured		
Pinch zones controlled		
Landing area clear		

Reference Basis

- OSHA 29 CFR 1910 Subpart Q - Welding, Cutting and Brazing.
- OSHA 29 CFR 1910.147 - Control of Hazardous Energy (Lockout/Tagout).
- NIOSH welding fume and manganese exposure resources.
- RAS equipment planning information for robotic arc welding systems using 480V / 60Hz / 3-phase power, RAS-500PR power supply, water-cooled torch packages, torch cleaning, and wire cutting stations.

Revision: RAS Safety Knowledge Base expanded safety resource set. Verify against current site-specific rules before use.