

Coater Head Safety: Matters to Consider

Every coating line has a coater head, the part of the line where paint is applied to the moving strip by rolls, but there is great variety in the types and configurations in use today. In fact, it is true that coating lines have variations coater head arrangements that differ in some form or fashion. This diversity makes it impossible to provide a definitive, universal guide to coater head safety; however, there are common hazards that must be understood and taken into account.

This toolkit will provide general guidance regarding coater head safety, addressing safety matters that can be considered by coaters in 3 broad areas: selection / installation, operation, and cleaning.

It is essential that coil coaters conduct a risk analysis of their operations to gain full understanding of their equipment, configuration, and the hazards that exist at their plants. Site specific safety and operations procedures should be developed after conducting the risk analysis.

Overview

There are many different types and configurations of coaters used in the coil coating industry: Vertical, horizontal, or S-wrap, with two roll or three roll coating heads, forward or reverse coating, conventional or quick change capability. This diversity is necessary to address the wide variety of coatings, substrates, and substrate thicknesses encountered in today's coating operations.

Regardless of the type of coater being used, some general precautions and guidelines apply. Companies should develop their own procedures for installation, operation, and maintenance to ensure that elements of their specific situations are addressed adequately.

Selection and Installation

Selection of the appropriate coater will depend on the available space, clearances, line configuration, planned coatings and substrates, etc. Coil coaters are advised to work closely with suppliers to learn about the best options that are available to meet their particular needs. When selecting equipment, consideration should be given not only to whether or not the coater will fit in the available space, but whether there is sufficient access for operation and maintenance, including cleaning.

- Follow all instructions from the manufacturer regarding installation of the coater and of ancillary devices such as guards.
- At a minimum, all guarding must be installed per manufacturer's specifications. Additional guarding or protective devices may be added if doing so would be determined beneficial
- Equipment should be lifted only at designated lift points.
- Use a solid base, align equipment using laser devices or equivalently accurate alignment equipment, and anchor properly.
- Follow all electrical codes and ensure intrinsically Safe or "explosion proof" components if flammable liquids are to be used.
- Ensure proper ventilation is available for the types of coatings that will be used.
- Avoid direct contact with coatings, solvents, or other liquids

This Tool Kit is part of a series of educational aids developed by the members of the National Coil Coating Association. NCCA is a trade association of coil coaters and suppliers of raw materials and equipment used in the coil coating process. The association concentrates its efforts on providing educational resources and assisting its members in providing superior products and services to their customers. NCCA Tool Kits are informational tools and should not be used as substitutes for instructions from individual manufacturers. Always consult with individual manufacturers for specific instructions regarding their products and equipment.

Operation

- Guards must be in position when operating.
- Never touch the strip.
- Do not have loose clothes, jewelry, hair, or similar items around moving equipment.
- Follow instructions provided by the manufacturer of the equipment when operating equipment
- Use appropriate lockout / tagout procedures when changing rolls.
- Consider weight of rolls and follow proper means of supporting rolls when changing.
- Weight of rolls should rest only on shafts when changing or transporting.
- Proper PPE must be worn at all times.
- Avoid direct contact with coatings, solvents, or other liquids.

Cleaning

- Due to proximity to the equipment during cleaning operations, extra care should be taken
- Follow all manufacturer's cleaning instructions and develop additional guidance for operators to address specific application / installation situations.
- Guards must be in position if the machine is running during cleaning operation.
- If rolls must be turning during cleaning operation, the direction of rotation should be in reverse, "open nip."
- Never use rags when the machine is running during cleaning operations.
- Never touch the strip with any tool, and never touch the rolls with hands when machine is running.
- Use non-flammable cleaning solutions / solvents if possible.
- If flammable materials are used, ensure equipment contains "explosive proof" electronics and that ground wires are used when pouring flammable material.
- Ensure there is sufficient ventilation to avoid excess accumulation of vapors
- Proper PPE must be worn at all times.