

Extrusion Coating Training

Typical Training Outline – Extrusion Coating Process

1. Introduction – training plan
2. Machine & Polymer Safety
 - a. Why is product safety important?
 - b. How safety is achieved
 - c. Potential machinery hazards
 - d. Unsafe practices
 - e. MSDS's
 - f. Polymer smoke
 - g. Polymer burns
 - h. Rupture disks
 - i. Polymer packing
3. Extrusion 1 Process
 - a. Definitions & components
 - b. Feed throat
 - c. Barrel
 - d. Heating & cooling
 - e. Melt process & screws
4. Extrusion 2 Process
 - a. Screw design requirements
 - b. Melt controls screws
 - c. Mixing
 - d. Performance
5. Unwind, Winder & Web Handling Process
 - a. Tension/Horsepower
 - b. Web Handling
 - c. Winder Tension Tools
 - d. Splicing Process
 - e. Winding
6. Primer Coater & Dryer Process
 - a. Substrate Adhesion
 - b. Types of priming
 - c. Offset Gravure
 - d. Direct Gravure
 - e. Coating Applicators
 - f. Coat weight Control & Stability
 - g. Drying Process
 - h. Drying Equipment

- i. Process Control
- 7. Extrusion Coating & Laminating Process
 - a. Purpose
 - b. Chill water system design & control
 - c. Basics of process
 - d. Troubleshooting
- 8. Extruder Maintenance & Purging
 - a. Screw wear
 - b. Barrel construction
 - c. Purging basics
 - d. Purging edge bead reduction dies
 - e. Purging methods
- 9. Troubleshooting
 - a. Problems and solutions for typical extrusion coating defects or issues
- 10. Review each day
 - a. Attendees work as teams to answer questions at the end of each day to reinforce information learned

Typical Training Outline – Extrusion Coating Machinery Familiarization

1. Introduction – training plan
2. Machine Line Overview
 - a. Line components
 - b. Tension sections
 - c. Walk through line
3. Machine & Polymer Safety
 - a. Why is product safety important?
 - b. How safety is achieved
 - c. Potential machinery hazards
 - d. Unsafe practices
 - e. MSDS's
 - f. Polymer smoke
 - g. Polymer burns
 - h. Rupture disks
 - i. Polymer packing
4. Unwind Machinery
 - a. Unwind
 - b. Splicer
 - c. Dancer/Tension Control
5. Extruder machinery
 - a. Extruder
 - b. XYZ base
6. Extruder Downstream Machinery
 - a. Screen changer
 - b. Valve
 - c. Feed pipes
 - d. Feed Block
 - e. Die
7. Laminator Machinery
 - a. Chill Roll
 - b. Backing roll system
 - c. Strip off roll
8. Edge Trim Machinery
9. Winder Roll Changer Machinery
 - a. Slitters
 - b. Roll Changer
 - c. Knife mechanism
 - d. Winder
 - e. Roll & shaft handling

10. Miscellaneous Machinery

- a. Web guides
- b. Pull roll
- c. Corona or Flame treater pull roll
- d. Water recirculation system
- e. Other

11. Review each day

- a. Attendees work as teams to answer questions at the end of each day to reinforce information learned

Typical Training Outline – Extrusion Coating Operation

1. Introduction – training plan
1. Machine Line Overview
 - a. Line components
 - b. Tension sections
 - c. Walk through on shop floor
2. Machine & Polymer Safety
 - a. Why is product safety important?
 - b. How safety is achieved
 - c. Potential machinery hazards
 - d. Unsafe practices
 - e. MSDS's
 - f. Polymer smoke
 - g. Polymer burns
 - h. Rupture disks
 - i. Polymer packing
3. Unwind / Splicer operation
 - a. Panelview screens
 - b. Set up screens
 - c. Set point screens
 - d. Run screens
4. Extruder operation
 - a. Panelview screens
 - b. Set up screens
 - c. Set point screens
 - d. Run screens
5. Winder Roll Changer Operation
 - a. Panelview screens
 - b. Set up screens
 - c. Set point screens
 - d. Run screens
6. Laminator Operation
 - a. Panelview screens
 - b. Set up screens
 - c. Set point screens
 - d. Run screens
7. Supervisory System Training
 - a. Log in and system levels
 - b. Screen review
 - c. Entering setpoints
 - d. Alarm screen
 - e. Historical trending
 - f. Reports

8. Review each day
 - a. Attendees work as teams to answer questions at the end of each day to reinforce information learned

Cast Film Training

Typical Training Outline – Cast Film Process

12. Introduction – training plan
13. Machine & Polymer Safety
 - a. Why is product safety important?
 - b. How safety is achieved
 - c. Potential machinery hazards
 - d. Unsafe practices
 - e. MSDS's
 - f. Polymer smoke
 - g. Polymer burns
 - h. Rupture disks
 - i. Polymer packing
14. Extrusion 1 Process
 - a. Definitions & components
 - b. Feed throat
 - c. Barrel
 - d. Heating & cooling
 - e. Melt process & screws
15. Extrusion 2 Process
 - a. Screw design requirements
 - b. Melt controls screws
 - c. Mixing
 - d. Performance
16. Cast Film Process
 - a. Purpose
 - b. Chill water system design & control
 - c. Basics of process
 - d. Troubleshooting
17. Extruder Maintenance & Purging
 - a. Screw wear
 - b. Barrel construction
 - c. Purging basics
 - d. Purging edge bead reduction dies
 - e. Purging methods
18. Troubleshooting
 - a. Problems and solutions for typical cast film defects or issues
19. Review each day
 - a. Attendees work as teams to answer questions at the end of each day to reinforce information learned

Typical Training Outline – Cast Film Machinery Familiarization

11. Introduction – training plan
12. Machine Line Overview
 - a. Line components
 - b. Tension sections
 - c. Walk through line
13. Machine & Polymer Safety
 - a. Why is product safety important?
 - b. How safety is achieved
 - c. Potential machinery hazards
 - d. Unsafe practices
 - e. MSDS's
 - f. Polymer smoke
 - g. Polymer burns
 - h. Rupture disks
 - i. Polymer packing
14. Extruder machinery
 - a. Extruder
15. Extruder Downstream Machinery
 - a. Screen changer
 - b. Valve
 - c. Static or Pneumatic Edge Pinning
 - d. Vacuum Box
 - e. Air Knife
 - f. Feed pipes
 - g. Feed Block
 - h. Die
16. Casting Section Machinery
 - a. Chill Roll
 - b. Secondary Cooling
 - c. Embossing section (option)
17. Edge Trim and Refeel Machinery
18. Randomizer
19. Winder Roll Changer Machinery
 - a. Slitters
 - b. Roll Changer
 - c. Knife mechanism
 - d. Winder
 - e. Roll & shaft handling
20. Miscellaneous Machinery
 - a. Corona treater pull roll

- b. Water recirculation system
 - c. Other
- 20. Review each day
 - a. Attendees work as teams to answer questions at the end of each day to reinforce information learned

Typical Training Outline – Cast Film Operation

1. Introduction – training plan
2. Machine Line Overview
 - a. Line components
 - b. Tension sections
 - c. Walk through on shop floor
3. Machine & Polymer Safety
 - a. Why is product safety important?
 - b. How safety is achieved
 - c. Potential machinery hazards
 - d. Unsafe practices
 - e. MSDS's
 - f. Polymer smoke
 - g. Polymer burns
 - h. Rupture disks
 - i. Polymer packing
4. Extruder operation
 - a. Panelview screens
 - b. Set up screens
 - c. Set point screens
 - d. Run screens
5. Winder Roll Changer Operation
 - a. Panelview screens
 - b. Set up screens
 - c. Set point screens
 - d. Run screens
6. Casting Section Operation
 - a. Panelview screens
 - b. Set up screens
 - c. Set point screens
 - d. Run screens
7. Supervisory System Training
 - a. Log in and system levels
 - b. Screen review
 - c. Entering setpoints
 - d. Alarm screen
 - e. Historical trending
 - f. Reports
8. Review each day
 - a. Attendees work as teams to answer questions at the end of each day to reinforce information learned