

## TFS Learning Path Timing

1. Safety – 45 minutes
  - TFS Safety – 20 minutes
  - Understanding Machine Safety – 25 minutes
  
2. Introduction – 1 hour 25 minutes
  - TFS Machine Introduction – 25 minutes
  - TFS Time, Temperature & Pressure – 15 minutes
  - TFS Main Concepts – 40 minutes
  
3. Installation – 25 minutes
  - TFS Installation – 25 minutes
  
4. Operation – 6 hours 15 minutes
  - Daily Startup – 20 minutes
  - HMI Screen Navigation – 15 minutes
  - Operation and Function of the Lower Reel Holder – 15 minutes
  - Test Cycling the Machine – 15 minutes
  - Scrap Take-Up Systems – 15 minutes
  - Forming with Air – 15 minutes
  - ISOPack – 20 minutes
  - Forming with Vacuum & Air Pressure – 15 minutes
  - TFS Package Burst Testing – 20 minutes
  - MAP – Modified Atmosphere Packaging – 20 minutes
  - Servo Chain Drive – 20 minutes
  - Forming with Preheat Air Mechanical Assist – 20 minutes
  - Printed Film Registration – 30 minutes
  - Sealing Plate Operation – 20 minutes
  - Zipper Application – 20 minutes
  - VSP – Vacuum Skin Packaging – 20 minutes
  - Daily Start-Up for Skin Machines – 15 minutes
  - Film Preheat -20 minutes
  - Loading Film – 25 minutes
  - Forming with Compressed Air & Preheating – 15 minutes
  
5. Configuration – 5 hours 35 minutes
  - Form to Seal Alignment – 25 minutes
  - Longitudinal Cutting – 30 minutes
  - Forming Mold Change – 20 minutes
  - Cutting Knife Changeover – 30 minutes
  - Transverse Cutting Methods – 20 minutes
  - Recipe Creation from Scratch – 30 minutes

- Recipe Management – 15 minutes
  - L-Extraction & Partial Extraction for Forms – 20 minutes
  - Sealing Operation – Dome – 20 minutes
  - Loading a Recipe – 15 minutes
  - Complete Format Change – 45 minutes
  - Seal Tool – Remove and Replace – 15 minutes
  - Activate the Graphical Statistics Option – 20 minutes
  - Removal & Replacement of the Sealing Dome – 15 minutes
  - Squaring the Longitudinal Cutting System – 15 minutes
6. Sanitization – 2 hours 21 minutes 30 seconds
- Sanitization Training – IP Rating – 20 minutes
  - Machine Sanitization – Part 1 – 25 minutes
  - Machine Sanitization – Part 2 – 30 minutes
  - Machine Sanitization – Part 3 – 20 minutes
  - Machine Sanitization – Part 4 – 30 minutes
  - Wash Down Guide Video – Intermediate Cleaning – 1 minute
  - Wash Down Guide Video – Primary Cleaning – 7 minutes 30 seconds
  - Wash Down Guide Video – Deep Cleaning – 8 minutes
7. Maintenance – 5 hours 10 minutes
- Understanding the Electrical Manual – 25 minutes
  - Understanding the Mechanical Manual – 15 minutes
  - TFS Machine Lubrication – 25 minutes
  - Static Vacuum Check with Old UPC – 15 minutes
  - Replacing the UPC HMI – 20 minutes
  - UPC License Installation – 20 minutes
  - Preventative Maintenance – 20 minutes
  - CAN Bus Electrical – 25 minutes
  - Activating the VPN Access for the UPC Platform – 20 minutes
  - Seal Gasket Wear & Damage – Skin Machine – 15 minutes
  - Enable VNC on AB HMI – 25 minutes
  - Vacuum Pump Maintenance – 20 minutes
  - Consol – Infeed Conveyor Removal 15 minutes
  - Procedure for Adjusting a Servo-Driven Lifting System – 30 minutes
  - Static Vacuum Check with New UPC – 20 minutes
8. Troubleshooting – 1 hour 25 minutes
- Troubleshooting Vacuum Leaks – 25 minutes
  - Troubleshooting Package Seals – 20 minutes
  - Error in Motors – UPC – 20 minutes
  - UPC CAN Bus Error Troubleshooting – 20 minutes

9. Peripherals – 3 hours

- Chiller Operation – 20 minutes
- Liquid Separator Operation – 20 minutes
- ELS Labeler – 25 minutes
- ELS Labeler CF Card Backup – 15 minutes
- ELS Reel Load Procedure – 15 minutes
- Consol Converging Conveyor – 20 minutes
- Bell-Mark Printer – 30 minutes
- Bell-Mark Coder – 35 minutes

10. Applications – 25 minutes

- Production Control – 25 minutes

11. Work Instructions for TFS Thermoformers – 4 hours 45 minutes

- Change Seal Tooling – 15 minutes
- Changing Longitudinal Cutting Systems – 30 minutes
- Check Machine Functionality (Vacuum) – 15 minutes
- Error in Motors – 45 minutes
- Inspect Vacuum System – 10 minutes
- Inspect, Clean & Repair Lower Seal Tool – 15 minutes
- Inspect, Clean & Repair Seal Head – 15 minutes
- Inspect, Clean & Repair Vacuum Manifold – 15 minutes
- Installing the Forming Tool – 15 minutes
- Loading Upper Film - 15 minutes
- Lower Film Installation – 10 minutes
- Lower Film Tension Control – 10 minutes
- Pneumatic Change of Seal Pate – 10 minutes
- Printed Film Registration – 20 minutes
- Removing the Lower Form Tool – 10 minutes
- Sanitization – Components to Cover – 5 minutes
- Troubleshooting Pivot Valves – 10 minutes
- Vacuum Static Test – 10 minutes
- Verify Seal Tooling Installed Correctly – 10 minutes

Total = 31 hours 6 minutes 30 seconds