Level 3 Training School – ST Splicing
Steel Cord Splice – Stage I, II, III
4-Day General Overview

Day-1
8:15 am to 8:30 am
Welcome/Opening Comments/Introductions

- Overview of Course Objectives

8:30 am to 9:30 am
Conveyor System & Belting – *Classroom Session*

- Components - Conveyor Technology as Applied ST Belt
- Belt Construction – ST Rating (diameter vs pitch vs number)
- Function – Operational Forces & Splice Design (Stage I, II, III)

9:30 am to 9:45 am
Break

9:45 am to 10:00 pm
Basic Vulcanized Splicing Overview – *Classroom Session*

- Vulcanized Splice Types
    - Step Splices – General splice design & overview
    - Finger Splices – General splice design & overview
    - Steel Cord Splices - ST splice layout (Stage I, II, III)

10:00 am to 12:00 pm
Stage I Splicing Process (ST-1000 Belting) – *Classroom Session*

- ST Belt Splice Process
    - Splice Station – Choosing the location to make the splice
    - Splice Station – Building and Using the Splice Table
    - Clamping – Where to place the clamps & safely securing them
    - Pulling Slack – Why DOT is important and safely pulling the belt
    - Center Line & Squaring Belt End
    - ST Splice Layout - Understanding Stage I, II & III
    - ST Splice Cover Removal Techniques (hand vs power skiving)
    - Cord Separation Techniques (hook knife, piano wire, cord stripper)

- Splice Patterns, Odd vs Even, Number and Cord Dia.
- Splice Material Types, Shelf Life and Storage
- ST Rating vs Noodle Size
- Splice Assembly Techniques and Process (cord alignment)
- Noodle Gun use for cord end fills
- Vulcanizer Set-Up and Operation (200 PSI)
- Curing & Cooling Process

12:00 pm to 1:00 pm
Lunch

1:00 pm to 3:45 pm
Stage I Splicing Process (ST-1000 Belting) – *Workshop Session*

- Center Line – Why to not use belt edge for squaring & finding center
- Bias – Yes or No. How to calculate and understand left vs right hand lead
- Splice Length – Reading the splice table and understanding bend zones
- Splice Pattern – Cord diameter vs pitch ratio vs cord count
- Splice DOT – Finding the proper outside (edge) cord direction
- Splice Layout – Applying splice layout drawings and tables
- Edge Cutting – Hand cutting the splice area rubber edges
- Removing Covers – Safe use of the power winch while hand skiving
- Removing Covers – Removing the covers with power skiver
- Cord Separation – Using hook knifes
- Cord Separation – Using power winch & piano wires

3:45 pm to 4:00 pm
Questions and Finish the Day – *Classroom Session*

Day-2
8:15 am to 8:30 am
Review / Discuss Objective

8:30 pm to 12:00 pm
Stage I Splicing Process (ST-1000 Belting) – *Workshop Session*

- Cord Prep – Cleaning the cords to desired finish
- Buffing Covers – Why buff the rubber cover bevel area
- Dry Fitting – Aligning the splice ends together with CL and pattern
- Holding Splice Ends – Clamping the splice ends and belt edges

- Splice Materials - Building the bottom cover panel (gauging & splice rubber types)
- Cleaning – Using cleaning solvent (which one) and it's proper and safe use
- Primer – Where and why to use cord primer, applying it and drying

12:00 pm to 1:00 pm
Lunch

1:00 pm to 3:45 pm
Stage I Splicing Process (ST-1000 Belting) – *Workshop Session*

- Cement – Where to use and why, number of coats needed, drying
- Laying Cords – Using center line, center cord pattern fitting, laying noodles
- Cord Pattern – Using cord center method keeping cords straight
- Following Cord Pattern – Cutting cords using cord pattern, cord end gaps
- Filling Gaps – Using noodle gun to fill cord end gaps and bend zone gaps
- Replacing Rubber Edges – Building rubber edges back and trimming to width
- Splice Materials – Gauging top cover & cable gum vs belt cover, placement, trimming
- Frame vs SVP – How to decide which vulcanizer, why curing length & water pressure
- Edge Bars – Sizing (width x gauge), filling press, padding how to gauge
- Press Set Up – Safe, proper operation of Almex Vulcanizer (Frame & SVP)
- Curing (1) – Using flow time and calculating cure time
- Curing (2) – Cure temperature based on belt splice material type
- Curing (3) – Cool down temperature, pressure vs boiling point
- Finishing – Trimming edges, buffing over flow, QC Durometer testing

3:45 pm to 4:00 pm
Questions and Finish the Day – *Classroom Session*

Day-3
8:15 am to 8:30 am
Review / Discuss Objective

8:30 pm to 12:00 pm
Stage I Splicing Process (Repeat) – *Workshop Session*

12:00 pm to 1:00 pm
Lunch

1:00 pm to 3:45 pm
Stage I Splicing Process (Repeat) – *Workshop Session*

3:45 pm to 4:00 pm
Questions and Finish the Day – *Classroom Session*

Day-4
8:15 am to 8:30 am
Review / Discuss Objective

8:30 pm to 12:00 pm
Stage I Splicing Process – *Workshop Session*

- Finish any splices
- Prep for H-Block testing

12:00 pm to 1:00 pm
Lunch

1:00 pm – 2:30 pm
Splice Testing & Analysis – *Workshop & Classroom Session*

- Test & Grade Splices Made in Class
- Testing the Effect ST vs Fabric splice rubber makes (H-Block samples)
- Understanding Splice Analysis and Testing**
- Adhesion Testing (H-Block)
- Durometer Testing (splice vs belt)
- Applying Splice Failure Analysis Process
- School Review Questions

2:30 pm – 3:00 pm
Student Testing - *Classroom Session*

- Participant Written Testing
- Participant Review of School

3:00 pm
Finish the Class - *Classroom Session*

- Certifications and Test Results can be downloaded from the Almex website.

FYI – For those booking flights out after the class on day 4. Look at flights leaving after 6 pm.

**Customer can provide failed splices for failure analysis process learning.

Hotel and Restaurants
Many hotel accommodations are possible near the school. I would recommend either one of these two.

Hilton Garden Inn Atlanta East/Stonecrest
7890 Mall Ring Rd, Lithonia, GA 30038
Phone: (678) 526-1000

Holiday Inn Express & Suites Atlanta East
7846 Stonecrest Square
Lithonia GA 30038
Phone: (678) 325-4830

FYI - Near this hotel is a large mall and a number of restaurants around the mall.

Transportation from Airport
You can take a cab at $70+ or an airport shuttle. This airport shuttle company travels to Lithonia where the hotel is located for $50. However, each additional passenger is $10, so if more than one of you take the same shuttle it will save money. You can book a reservation on the website. Airport Metro Shuttle http://www.airportmetro.com/

Transportation to School
It is not Almex's responsibly to make sure everyone gets from the hotel to the classroom and back each day. But, some of the other class members will have vehicles and may be available for helping out if you need a ride. The common way students get around is the use of Uber or Lyft.

There is a parking lot on the south side of the Almex building with a door that goes directly into the classroom area.

Class Breaks and Lunch
Almex will provide lunch each day with drinks and snacks at breaks. If you have special dietary needs please let us know.

Almex Contact and School Location
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