



# Virtual Elementary Nonwovens Training Course Agenda

## DAY 1

Training is performed in Eastern Daylight Time (EDT)

- |          |   |
|----------|---|
| 10:00 am | <b>Introductions</b>  |
| 10:10 am | <b>Welcome to the world of engineered fabrics</b>   |
| 10:14 am | <b>Module 1: Basics of Nonwovens</b> <ul style="list-style-type: none"><li>• Definition of nonwoven</li><li>• Nonwoven markets</li><li>• Products and description</li><li>• Producing a nonwoven<ul style="list-style-type: none"><li>○ Raw material</li><li>○ Web formation</li><li>○ Bonding</li><li>○ Finishing</li></ul></li><li>• Raw material selection<ul style="list-style-type: none"><li>○ Fibers</li><li>○ Polymers</li><li>○ Shapes</li></ul></li></ul> |
| 10:52 am | <b>Module 1 Q &amp; A</b>   |
| 11:07 am | <b>Module 2: Web Formation – Carding</b> <ul style="list-style-type: none"><li>• Fiber opening and blending</li><li>• Carding</li><li>• Machine details</li><li>• Randomized web</li><li>• Web attributes</li><li>• Applications</li></ul>  |
| 11:37 am | <b>Module 2 Q &amp; A</b>   |

- 11:52 am      **Module 3: Web Formation – Air Laid**
- Air laid processes
    - Long fiber
    - Short fiber
  - Machine details
  - Web attributes
  - Applications
- 12:08 pm      **Module 3 Q & A**
- 12:23 pm      **BREAK**
- 2:00 pm      **Module 4: Web Formation – Wet Laid**
- Wet laid process
  - Machine details
  - Web attributes
  - Applications
- 2:21 pm      **Module 4 Q & A**
- 2:36 pm      **Module 5: Melt Spinning – Spunbond**
- Spunbond Process
  - Machine details
  - Web attributes
  - Applications
- 2:56 pm      **Module 5 Q & A**
- 3:11 pm      **Module 6: Melt Spinning – Meltblown**
- Meltblown Process
  - Machine details
  - Web attributes
  - Applications
- 3:37 pm      **Module 6 Q & A**
- 3:52 pm      **Module 7: Bonding – Chemical**
- Chemical bonding processes
    - Gravure printing
    - Dip and nip
    - Foam padder
    - Spray
    - Powder
  - Additives
  - Dry and cure
  - Applications
- 4:22 pm      **Module 7 Q & A**
- 4:37 pm      **Course Concludes for the Day**

## DAY 2

- 10:00 am      **Module 8: Bonding – Needlepunch**
- Needle punching process
  - Machine details
  - Needle technologies
  - Fabric properties
  - End products
- 10:29 am      **Module 8 Q & A**
- 10:59 am      **Module 9: Bonding – Hydroentangling**
- Hydroentangling process
  - Machine details
  - Fabric properties
  - End products
- 11:26 am      **Module 9 Q & A**
- 11:41 am      **Module 10: Bonding – Thermal**
- Thermal bonding processes
    - Calender
    - Through air
    - Infrared
    - Ultrasonic
  - Fabric properties
  - End products
- 12:01 pm      **Module 10 Q & A**
- 12:16 pm      **Module 11: Stitch Bonding**
- 12:20 pm      **Module 11 Q & A**
- 12:30 pm      **BREAK**
- 2:00 pm      **Module 12: Finishing and Converting**
- Chemical
  - Mechanical
  - End products
- 2:14 pm      **Module 12 Q & A**
- 2:29 pm      **Module 13: Product Development**
- Product example - Diaper
  - Product development process
- 2:42 pm      **Module 13 Q & A**

2:57 pm	<b>Module 14: Worldwide Nonwovens – Statistics and Trends</b> Brad Kalil - INDA
3:42 pm	<b>Module 14 Q &amp; A</b>
3:57 pm	<b>Module 15: Nonwovens Industry Response to COVID-19 Pandemic</b> <b>Special Topics</b> , Dave Rouse – INDA <ul style="list-style-type: none"><li>• Flushability</li><li>• Plastics in the environment</li></ul>
4:17 pm	<b>Module 15 Q &amp; A</b>
4:27 pm	<b>Closing Comments</b>
4:30 pm	<b>Course Concludes</b>

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