



Virtual Elementary Nonwovens Training Course Agenda

DAY 1

Training is performed in Eastern Standard Time (EST)

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

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

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