

## >> Coperion know-how at your disposal: Seminars on Process Technology for Pharmaceutical Hot Melt Extrusion in 2019

### COURSE OBJECTIVES

- To provide process engineers and operation supervisors with an understanding of the fundamental and practical aspects of the design and operating mode of a ZSK twin screw compounder
- To update knowledge in the field of pharmaceutical hot melt extrusion

### LANGUAGE

All courses will be held in English if there is no other predefinition.

### TRAINER

Johannes Donner, Dipl.-Ing.  
Process Engineer Special Applications  
Coperion GmbH, Stuttgart, Germany



### DATES AND LOCATION

#### SESSION 1

#### **upon request**

Coperion GmbH, Stuttgart, Germany

### SEMINAR FEE

EUR 1.330,- per trainee. This price will be charged plus VAT.

### ATTENDEES WILL RECEIVE

- Coloured Coperion TEXTBOOK PROCESS TRAINING ON PHARMACEUTICAL HOT MELT EXTRUSION
- Certificate upon completion of the course
- Small breakfast, lunch and drinks during a.m./p.m. breaks
- Shuttle service to and from the hotel to Coperion, Stuttgart
- Discount on room rates at the Kongresshotel Europe, Siemensstrasse 26, 70469 Stuttgart Germany

### INDIVIDUAL SEMINARS

In addition to the regularly scheduled classes in Stuttgart, Germany, courses can be held at your company's site.

Training contents can be modified according to your objectives. Having discussed your needs we work out a customized training schedule and pricing for you.

## >> Content. Seminar on Process Technology for Pharmaceutical Hot Melt Extrusion

### DAY 1

- Basic process knowledge in the field of pharmaceutical hot melt extrusion
- Self cleaning screw profile of twin screw extruders
- Development of the ZSK twin screw extruders
- Screw elements: layout and definitions
- Working principle of screw elements
- Compounding plants and comparison of different extruder systems
- Process stages inside of the ZSK
  - Feeding
  - Melting
  - Degassing
  - Metering
  - Screw tip design
- Materials for different applications
- General layouts for different applications

### DAY 2

- Process variables
  - Specific energy influence of rate and screw speed
  - Motor load (torque)
  - Temperature profile: influence of the various operating parameters
- Latest Coperion developments and insights in the field of pharmaceutical hot melt extrusion
- Interlocks
  - Interlock sequences
  - Start up sequences
- Scale-up
  - Methods to design a compounding line
  - Product properties
  - Interlock sequence
  - Specific energy
  - Melt temperature
- Trouble shooting
  - Operating window
  - Analysis of rate limitations
  - Torque limitations
  - Melting limitations
  - Vent limitations
  - Feed limitations
  - Pressure limitations

### CONTACT INFORMATION

For more information about Coperion's seminars please contact:

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