Solving Film Defects Faster (Part 1 & 2)

A 90 min online short course
by Jochum Beetsma

To register, please visit:
http://coatings.specialchem.com/online-course/1156-Film-Defects-Cratering-Pinholes-Crawling-Floating-Orange-Peel-Coatings-Inks

In many cases film formation of coatings does not proceed in the way it is desired by the formulator and by the user of the system.

A variety of phenomena governs the processes taking place during film formation. Often one of these phenomena results in a bad film being formed. Prevention and resolution of film defects in coatings & inks costs a huge amount of time and money. Many companies rely on trial-and-error approaches in order to resolve problems that come up which can leads to higher development time, more expensive formulations...

Optimize faster coatings & inks film performance by better analyzing causes of defects (pigment mobility, solvent separation, gradients in surface tension...) and choosing efficient solutions.

By referring to physical chemistry principles, Jochum Beetsma will show you how to deduct, what to adjust for efficient problem solving.

Why you should attend:

1. Improve problem analysis with proper film defects identification and understanding (cratering, pinholing, crawling, floating...).

2. Save time by knowing from start what to adjust thanks to confident use of physical chemistry principles (Gibbs energy, surface tension...).
3. Develop simpler, more cost-effective formulations by avoiding the multiplication of unnecessary additives in your paint or ink system.

**Who is it for?**

Coatings and Inks formulators / developers with a need to better apply science behind film defects to attack problem more efficiently.

**Outline**

The following sections will be covered during this 2-part course:

**Part 1: Tue. November 20, 2014**

1. Basic physical chemistry
   - Gibbs energy
   - Surface tension
   - Wetting
   - Capillary pressure

2. Coating film defects
   - Surface Tension Gradient Driven Flow
   - Levelling
   - Crawling
   - Cratering
   - Orange peel

3. Case Studies
   - Marangoni Effect
   - Wetting Agent in Waterbased Paint
   - Coating of Plastics
   - Orange Peel in Powder Coating
   - Matt Coatings
   - Matt 2-Component paint
   - Anti-Corrosive Primer for Steel
   - Loss of Adhesion

**Part 2: Tue. December 4, 2014**

1. Basic physical chemistry
   - Surface tension
   - Wetting
   - Surface Tension Gradient Driven Flow

2. Coating film defects
   - Floating
   - Hammer finish
   - Flooding

At the end of the training there will be a **Q&A Session** where you can pose questions to Jo-chum Beetsma.

A transcript of all the questions & answers will be made available after the event.
3. Discussion of Case Studies from Part 1

Marangoni Effect
Wetting Agent in Waterbased Paint
Coating of Plastics
Orange Peel in Powder Coating
Matt Coatings
Matt 2-Component paint
Anti-Corrosive Primer for Steel
Loss of Adhesion

Presented by Jochum Beetsma

Jochum Beetsma graduated in physical chemistry from the University of Groningen. He has worked at Sigma Coatings the development of Industrial Coatings and at DSM Coating Resins on Alkyd Emulsions, Powder Coatings and High Solids.

Since 2004 Jochum is independent advisor within Meritus Groep. In his work he tries to find the optimal combination of applying knowledge in a clever way and trial-and-error approach in order to understand and improve properties of coatings. In 1991 Jochum was co-initiator of the post-graduate Coating Technology training program (in cooperation with, among others, Technical University of Eindhoven, Akzo Nobel, Fast and Sigma Coatings) and now he is a coordinator of, and lecturer within, that training program. Additionally, he is lecturer of Paint Technology Courses for Reed Elsevier and member of the SpecialChem Expert Team.

Jochum executes in-house training programs for companies in coating and ink industry and he is active as interim project manager specialised in new product development in chemical industries. The objectives of his principals are: solve problems, implement innovations and introduce new raw materials, chemistries and technologies in their industries.
Past attendees feedback

Content: ★★★★★  Technical Level: ★★★★★  Speaker: ★★★★★  (194 evaluations)

Tryg J., from Carestream:
"Very good fundamental understanding of chemistry behind film defects. Appropriate level in general with a good balance of practical and fundamental understanding."

Francis M., from SEPAD:
"Excellent course! It gives a real understanding of the causes of the defects."

Bernd W., from Rhein-Chemotechnik:
"It was good to see, how simple physical phenomena interact and how gradients are formed even with a homogeneous applied film"

Roger K., from Eastman Kodak:
"This very good course covered fundamental concepts given during previous courses, but done so with more hands-on practical examples of how those concepts relate to defects."

Patrick Y., from Cabot Corporation:
"Excellent technical content!"

Joel R., from Folien Fischer AG:
"Good explanation of the physico-chemical phenomena of different film defects."

Subrahmanya S., from Asian Paints Ltd.:
"Jochum Beetsma gave very good link between defects and physical chemistry"

Chad K., from Lexmark International:
"This course connects experimental results and observations with the underlying physical science and principles governing coating defects. This is the best discussion of surface energy and surface wetting/dewetting that I have heard."

Christopher J., from International Paint/Akzonobel:
"The course helped improve my understanding of the cause of coating defects, and has equipped me with the tools to analyse and resolve these problems."

Gerry G., from Albany International:
"I gained a better understanding of "cratering" vs "orange peel" I am looking forward to Part 2, to determine the difference between cratering vs. pinholes. and the difference between "hammer finish" vs. "orange peel."

Ian M., from Verdex Ltd.:
"Gave a good insight into some relevant surface issues we are currently having."

Past attendees profile
• R&D-Applied/Formulation/Prod. dev. - 66%
• Tech. Service/Customer Assistance - 10%
• Basic Research - 6%
• Purchasing/Supply chain - 1%
• Product Design / Engineering - 13%
• Consulting/Training/Education - 4%
• Production / Manufacturing - 5%

Albany International, Bayer MaterialScience, Sherwin Williams, Wacker Chemie AG, Dow Chemical CO., Baker Hughes, IVC Industrial Coatings, Kodak IL Ltd., AkzoNobel, Thai Optical Group Pcl, Lexmark Int. etc.

Next session:

Part 1 on Tue. 20 November, 2014 & Part 2 on Tue. December 4, 2014

Both courses are at 10 a.m. ET / 4 p.m. CET - Your local time

Fee:

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(Currency Converter)

SpecialChem is not accountable for users' costs linked to participating in the Online Course, including but not limited to the phone and Internet connection fees. We provide local phone numbers when available.

Your registration includes:
- **Pdf slides** at least 24h before the live session
- **1h online short course** by an independent expert
- Live interaction with the expert during the **30-minute Q&A session**
- **Q&A Transcript** when you submit your feedback on the course
- **Expert contact details** to further discuss your projects

**Why train with SpecialChem?**

- Our 450,000+ members from the chemical industry help us **tailor trainings to your needs**
- Our course catalogue has been refined over the years (since 2003) to improve **pedagogy & content quality**
- **2000 of your peers** are trained by us every year
- **97% satisfied attendees** in 2013

**Tips to optimize cost of attending**

1. **Attend with your colleagues**: a REGULAR access allow 3 attendees sharing the same connection
2. Purchase **e-Training Credits** in advance, you can save
   - ✓ up to 30% with the 5 OC Credits option
   - ✓ up to 55% with the 10 OC Credits option.
3. Get a **12-month unlimited access** to all Online courses – anyone from your company can use this access

Contact us for more details ([online-courses@specialchem.com](mailto:online-courses@specialchem.com))

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[Image: PDF Slides & joining details](#)

[Image: Discussion with the expert](#)