

The Powder Coating Kitchen:

Intro to Powder Coating Formulation

Course Description

The PC Kitchen Intro to Powder Coating Formulation introduces new formulators, chemists and scientists to the fundamentals of creating a powder coating from the ground up. An introduction to resin chemistry and corresponding crosslinker technology will enable the chemist to understand how to construct a binder to meet the performance specified by the coating end user. A survey of powder coating additives, colorant pigments and extenders rounds out the basics of formulation technology. This hands-on course is held in a working powder coating laboratory, which includes practical sample making and coating evaluation. This PC Kitchen course is eligible for CEU (continuing education) credits.

Day One

Morning

- 9:00 Introductions and Course Overview
- 9:15 Powder Coating Evolution and Nomenclature: How Did We get Here?
- 9:45 Binder Chemistry: The Heart of a Powder Coating
- 10:45 Break
- 11:00 Binder Chemistry - Continued
- 11:45 Powder Application: A Very Electrifying Experience (Lecture and Hands-On Lab Demo)

12:15 Lunch

Afternoon

- 1:00 Colorant Pigments: Color My World
- 1:35 Extender Pigments: Very Filling
- 2:10 Processing: It May be a Coating, But it's Made Like a Plastic
- 2:45 Break
- 3:15 Lab Time: Let's Make a Powder Coating
- 4:00 Open Discussion

Dinner on your own or with your new friends

Day Two

Morning

- 8:30 Additives: The Voodoo of Formulating
- 9:30 The Mechanics of Formulating: Creating Products to Satisfy the Most Discerning Customers
- 10:30 Break
- 11:00 Test Methods and Analysis: Characterizing Performance of Powder Coatings
- 11:30 Formulating Assignments: Show Us What You Now Know
- 12:00 Lunch

Afternoon

- 1:00 Lab Time: Create Your Own Powder Coating
- 2:30 Evaluation of Your New Creation: Film Appearance and Mechanical Testing
- 3:30 Wrap-Up

Recommended Attire:

Attendees should wear safety glasses and comfortable shoes/clothes suitable for lab activities such as powder coating lab test panels and evaluating coating properties.

Nearby Hotels

There is ample free parking by the lab. If you want accommodations near the lab, you can consider the following:

Courtyard by Marriott (1.2 miles) – (614) 771-8999

<https://www.marriott.com/en-us/hotels/cmhwt-courtyard-columbus-west-hilliard/overview/>

Fairfield Inn (2.3 miles) – (614) 643-4300

<https://www.marriott.com/hotels/travel/cmhwe-fairfield-inn-and-suites-columbus-hilliard/>

Holiday Inn – (2.1 miles) - (614) 335-1150

<https://www.ihg.com/holidayinn/hotels/us/en/columbus/cmhbi/hoteldetail>

Hampton Inn – (2.2 miles) - (614) 851-5599

<https://www.hilton.com/en/hotels/cmhwehx-hampton-columbus-west/>

About Your Instructors

Kevin Biller

Kevin Biller, aka “Joe Powder”, has been formulating and manufacturing powder coatings since he began his career in 1978 at the Glidden Paint Company. His illustrious career has taken from the confines of the laboratories of major coatings companies to the entrepreneurial world as an operations manager and the owner of a powder coating manufacturer. On his way he has published over 500 articles in various trade publications, including Paint & Coatings Industry, Powder Coated Tough, Focus on Powder Coatings, International Paint & Coatings Magazine, Finishing Today and PPCJ (Polymers Paint Colour Journal). He regularly publishes his Ask Joe Powder column in North America, Europe and the Middle East.



Kevin has four U.S. patents in powder technology and has delivered technical presentations all over the world. In 2007 Biller established the Powder Coating Research Group. This R&D laboratory is a center of excellence in powder coating innovation, evaluation and testing. In 2021 the ChemQuest Group acquired PCR Group and is now called CQPCR.

Nathan Biller



Nathan started in the powder coating industry as a third shift operator at the fledgling Jamestown Powder Coatings back in 2001. He was working his way through college with an IT major. He learned the technology from the ground up: initially in manufacturing, but quickly advancing to QC including adjusting formulas in production. He worked there until 2005 when Jamestown moved the plant to Pennsylvania.

Nathan resumed his powder coating career in 2011 when he joined the PCR Group as an entry level formulator. Since then, he has advanced to Product Development Manager responsible for formulation strategies and new product development. Since the 2021 acquisition by ChemQuest he has become CQPCR Vice President of Technology and is on the executive team of the ChemQuest Group.