## Valmet IQ Color measurement and control course

This course provides a review of the theory and algorithms of color measurement and control as used in Valmet IQ's QCS.



#### Objective

The course is for QCS maintenance personnel. After completing the course the participants will be familiar with Valmet IQ Web Color measurement and IQ Color MD Control application.

#### Target group

QCS maintenance persons

#### Prerequisite

Valmet DNA operator skills Valmet IQ Basic Course or Valmet IQ Quality measurement maintenance course

#### Course duration 2 days

Course limit Max. 8 attendees

#### Benefits

Through Valmet's professional training programs, either standard courses or tailored to your specific needs, you will have optimized competences available in your organization. Together we make a development plan for your personnel based on your business needs, and deliver the agreed training flexibly and effectively.

Optimized competence development enables •better utilization of features in the automation and control solutions •proper installation, start-up, operation and maintenance of the solutions and equipment •improved knowledge of product-related safety and environmental issues •better employee motivation

The results are typically visible as higher productivity, plant availability, improvements in end product quality, time and material savings.





# **Course Program**

#### Day 1, 9:00 - 16:00

#### **Color Theory**

- •Definitions and standards
- •Importance of the light source
- Color coordinate systems
- •From spectrum to color coordinates
- Spectral response of dyes

#### Measuring the color

- Sources of measurement error
- •Differences between online and lab measurements

#### Valmet IQ Web Color Measurement

- Structure and measuring principle
- Calibration
- Standardization
- Maintenance

#### Hands-on exercises

Day 2, 8:30 – 15:30

### AutoCalibration Tool

- •Calculating the laboratory correlation:
- •L,a,b => XYZ
- •Entering correlation values by reels

#### Valmet IQ Color MD control

- •Multi variable structure
- Limitations
- •Dye feed
- Production speed feed forward
- Optimization algorithm parameters

### Hands-on exercises on control simulator

- •Defining dye spectral response
- •Setting the control execution interval
- •Fine tuning: filtering, post processing
- Cost function weighing
- Troubleshooting

Valmet IQ Web Color Measurement



