

# PU 201: Polyurethane Raw Materials Testing, Specifications and Performance: “The Myth and Magic”

## Course Description:

This course takes an in-depth look at the testing methods, specifications, and performance characteristics of polyurethane raw materials. Starting with the urethane chemical reaction, the course examines how key raw materials — isocyanates and polyols — are measured and characterized, covering critical parameters such as % NCO, hydroxyl content, acid number, basicity, water content, and blended polyol methods. Participants will explore how laboratory testing relates to real-world specifications and application performance, demystifying the connection between analytical data and formulation outcomes.

## Introduction to Composites

- The urethane Chemical Reaction

## Isocyanates (-NCO)

- Isocyanates Content as % NCO

## Polyols

- Hydroxyl Content (-OH)

## Other Isocyanate Methods

- Acid Number
- Basicity as % Nitrogen
- Water
- Blended and Formulated Polyol Methods

## Relationship between Testing and Specifications

## Applications or Performance Testing