

# THERMOFORMING THIN & THICK GAUGE

CROWNE PLAZA  
TAMPA WESTSHORE

Event Code:  
**PIDT-18-182**

**24-25 January 2018, Tampa, Florida**

Thermoforming is a plastic process that begins with a sheet of plastic and ends with formed commercial parts. Along the way the sheet is heated to the plastic forming temperature and placed in a single-sided mold. Air is evacuated between the sheet and the mold either with vacuum or a combination of vacuum and external air pressure. When the sheet is sufficiently cooled, it is removed to a trim fixture where the part is removed from the plastic sheet around it. For thin sheet, the non-product plastic is recovered, reground and reprocessed into more sheet. This seminar begins with how thermoforming works and advances through why thermoforming works. A thorough understanding of the entire process should help attendees understand new polymers, new mold concepts and new advances in thermoforming technology so that they can deal with customers' new product demands and handle troubleshooting issues with aplomb.

## Program Content

- What is Thermoforming?
- Sheet Extrusion Concepts
- What is Thermoforming Technically?
- Thermoformed Products : Thin-gauge & Thick-gauge
- Thermoforming Machine - Typical Elements
- Observations and Tests for Incoming Sheet
- Polymer thermoforming characteristics
- Sheet Heating Concepts
- Mechanical Properties during heating/forming
- Regrind issues
- Thick Gauge Machine Concepts
- Thin Gauge Machine Concepts
- Sheet Heating
- Molds for Thermoforming - Types and Design
- Part Design
- Trimming
- Production Measurement and Control



## Instructor:



### Dr. Jim Throne

is a Well-Known & Well-Experienced Plastics Processing Consultant from Dunedin Florida with more than 45+ years experience. His consultancy focuses on advanced plastics processing technologies, including thermoforming, foam processing and rotational molding. He is a Fellow of the SPE, Fellow of IoM3 (England) and a Chartered Scientist (England). He was SPE Thermoformer of the Year 2000. He received the first Lifetime Achievement Award from the SPE European Thermoforming Division in 2004 for his technical contributions to the international thermoforming industry. In 2004, he was inducted into the Plastic Pioneers Association. He has published ten books in polymer processing, including four in thermoforming and two in thermoplastic foam processing. He holds nine US patents, including two in thermoplastic foams and a fundamental one in thermoforming CPET. He has written more than a dozen technical book chapters and has published and presented nearly 200 technical papers. He was Technical Editor of SPE Thermoforming Quarterly and Editor of SPE Rotational Molding Division Newsletter. His BS is in Chemical Engineering from Case Institute of Technology. His MChE and PhD in Chemical Engineering are from University of Delaware.

## Registration Fee/ Person

**1,200 US\$/Person**

The registration fee includes documentation, lunch and refreshments

**Group Discount:** If 3 or more delegates join from the same organization, 10% discount will be offered on total registration fee

**Program Schedule:** 8.30am to 4.30pm

## Venue & Accommodation

CROWNE PLAZA TAMPA WESTSHORE  
5303 West Kennedy Blvd. | Tampa, FL 33609  
Direct 813.405.1181 | Fax 813.288-7343 | [www.cptampawestshore.com](http://www.cptampawestshore.com)

## To register

Please download registration form at [www.plastics-industry.org](http://www.plastics-industry.org) and send to **Mr. Len Czuba**

**Len Czuba, President  
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