

Polymer Testing Seminar May 2011

5. Thermal Properties

- 5.1. Introduction to thermal properties
- 5.2. Melting and crystallization
 - 5.2.1 Differential scanning Calorimetry, D3417, D3418
- 5.3. Thermal degradation
 - 5.3.1. Thermo-Gravimetric Analysis, TGA
 - 5.3.2. Oxygen Induction Time, OIT
- 5.4. Thermo-Mechanical Analysis, TMA, D696

Day 3

6. Chemical Properties and Structure

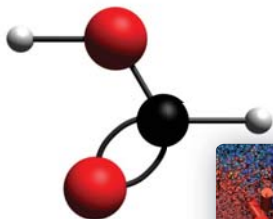
- 6.1. Introduction to chemical properties
- 6.2. Molecular weight
- 6.3. GPC
- 6.4. Fourier Transform Infra-Red, FTIR
- 6.5. Other tests

7. Flammability

- 7.1. Flame retardancy mechanisms
- 7.2. UL 94
- 7.3. LOI

8. Environmental Effects

- 8.1. Weathering
 - 8.1.1 Outdoor weathering
 - 8.1.2. UV effects
 - 8.1.3. Temperature effects
 - 8.1.4. Oxygen / Ozone
 - 8.1.5. Artificial weathering
- 8.2. Aging
 - 8.2.1. Accelerated aging.



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Participant Information

Name:.....

Occupation:.....

Specialty:.....

Company:.....

Mailing Address:.....

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E-mail:.....

Tel.:.....

Fax:.....

Course Fee : 4500 SR/person

Special discount for early bird and group registration.

For further details please contact:

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Testing and Analysis of Polymers, Mechanical, Thermal and Chemical Properties May 16 -18, 2011 Dubai, UAE



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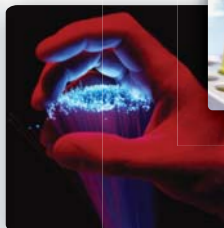
Introduction

SABIC Polymer Research Center at King Saud University, Riyadh, Saudi Arabia in collaboration with Gulf Scientific Corporation, Dubai, are offering this seminar. This will be a 3-day event at GSC, Technical Center in Dubai. This course is designed for polymer industry professionals such as polymer engineers, foremen, operators and managers as a tool enabling them to perform their jobs with higher efficiency. This will help attendees to better understand basics of polymers and their properties. The stress would be on understanding the fundamentals of polymer properties and how to test them. Emphasis will be on interpreting the test results and turn them to useful tool of improving your job.

Key Topics that You'll Learn About

Analysis and Testing of Polymers:

- Basics of polymers
- Mechanical testing and analysis
- Data analysis and interpretation
- Thermal testing standards
- Thermo-mechanical Characterization
- Quality control
- Chemical Analysis
- Standards of chemical testing



How will You Benefit from this Course?

- Learn some of the common ASTM standards and how to interpret the results.
- Learn how to understand the datasheet of polymers and the significance of their parameters.
- Learn some useful thermal testing methods and learn about their significance to the polymer industry
- Learn some tricks and tips in using a variety Of testing instrument.

And much more...

Who Should Attend

This training course is a must for any professional involved with plastics and wants to understand the fundamentals of polymers testing, characterization and analysis.

Instructors

Dr. Rabeh Elleithy is the technical director and chair professor of SABIC Polymer Research Center at King Saud University. He brings 25 years of experience in the polymer field. He spent 10 years in industry working at PolyOne Corp and BASF Corporation in the USA. He managed the polymer mechanics lab where he helped customers to solve their material related problems. He spent 15 years in academia in universities like Case Western Reserve University & Tuskegee University in the USA.

Dr. Ilics Ali is an Assistant professor of SABIC Polymer Research center at King Saud University. His major research focus is on polymer nanocomposite, polymer synthesis and characterization etc. He spent 5 years in industry and academia. Prior to joining SPRC, he worked as a research Scientist at GE plastics in India.



Polymer Testing Seminar May 2011

Day 1

1. Introduction

- 1.1. Basics of polymers
- 1.2. Importance of polymer choice
- 1.3. Datasheets
- 1.4. Why do we test polymers?
- 1.5. QC and QA

2. Mechanical Properties

- 2.1. Introduction to mechanical properties
- 2.2. Short term properties
 - 2.2.1. Tensile, D638 and Flexure, D790
 - 2.2.3. Crack propagation resistance
 - 2.3.1. Fracture toughness, D5045, D6068
 - 2.4. Dynamic properties
 - 2.4.1. Fatigue, D671
 - 2.4.2. Impact, D5420, D3763, D256
 - 2.5. Long term properties
 - 2.5.1. Creep, D2990
 - 2.6. Composites
 - 2.6.1. Shear, D4475

Day 2

3. Thermo-mechanical (viscoelastic) Properties

- 3.1. Introduction thermo-mechanical (viscoelastic) properties
- 3.2. Heat deflection temperature, D648
- 3.3. Vicat, D1525
- 3.4. Dynamic Mechanical Analysis, D5297

4. Rheological Properties

- 4.1. Introduction to rheological and flow properties
- 4.2. Melt Flow Index, MFI, D1238
- 4.3. Capillary rheometer, D3595
- 4.4. Rotational rheometer, D4440

