

## Embedded Tutorial Wednesday March 21, 2018

### Selecting Adhesives and Thermally-Conductive Adhesives for Electronics Systems

Presented by:

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**Part I – Thermal Interface Material Categories**  
Dave Saums (20 minutes)

**I. Terminology for Thermal Interface Materials**

**II. TIM categories**

- Why does understanding different TIM categories matter?
- Fourteen TIM category definitions
- Table: Category definitions, basic relative differences
- Thermally-conductive adhesive TIMs
- Adhesives and mechanical clamping: Differences in packaging and uses of each

**III. Thermal performance testing of TIMs**

- Thermal resistance and bulk thermal conductivity: Which matters for selecting a TIM for an application?
- Understanding TIM data sheet performance values and sources of data
- Sources of TIM data sheet performance values
- Standard test methodologies for TIM performance

**Part II – Adhesives and Thermally-Conductive Adhesives**  
Tom Rogers (40 minutes)

**I. Adhesive categories**

- Principal chemistries
- Common applications by principal category
- Important distinctions

**II. Thermally-conductive adhesives**

- Principal types
- Common applications

**III. Selection process for thermally-conductive adhesives**

**IV. High-temperature thermally-conductive adhesives**

**Part III – Q&A**



**Dave L. Saums** has thirty-nine years of technical marketing, product development, and business development experience with advanced thermal materials, thermal components, and two-phase liquid cooling systems.

Dave has operated a consulting firm focused on thermal materials and components for fourteen years, in addition to twenty-five years' experience with thermal component and materials manufacturers.



**Tom Rogers** is the Technical Director at Polyonics, Inc., where he leads the company's product and technology development efforts with an emphasis on specialty films, tapes, and interface materials for electronics applications.

Tom has a BS and MS in Chemical Engineering from the New Jersey Institute of Technology and University of Idaho, respectively. He also has an MBA from Xavier University.