



Introduction to Michelman

IACMI Meeting – July 27, 2016



About Michelman

Established in 1949

- Specialty chemicals
- Emulsion Expertise
- Customer focused
- 3rd Generation Family enterprise

Today, Michelman is:

- Global
- 425 employees
- Family owned
- “Patient Capital” approach
- Professionally managed
- Innovating a sustainable future with expert materials



Michelman Headquarters
Cincinnati, OH

Michelman Product Matrix

Matrix resin \ Michelman Product	PE	PP	Urethane	Ester	Unsat. Ester / Vinyl Ester / Epoxy	Carbonate	PVC	PPS	Amide	HT: Imide / PEEK	SAN / ABS
Imide									x	x	
Phenoxy				x	x	x		x	x		x
Epoxy (P)					x						
Epoxy (E)					x						
PP		x									
PE	x										
PUD			x	x		x	x	x	x		
PU solution			x	x	x	x			x		
E-MA									x		
SMA									x		
Polyamide			x						x	x	
Lubricants	x	x	x	x	x	x	x	x	x	x	x

Diverse portfolio of chemistries which allows for optimized composite performance

Sizing & Surface Treatment – Michelman Expertise

Targeted Applications:

Glass Fiber

Carbon Fiber

Aramid Fiber

Natural Fiber

UD Tapes

Technical Textiles

Co-Mingled Fabrics

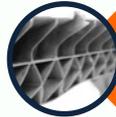
Pre-pregs



Network of 3rd party collaboration partners



Unique emulsion manufacturing technologies



Customized and designed for specific application requirements



Environmentally friendly water-based



New products – reactive , high temp, etc.

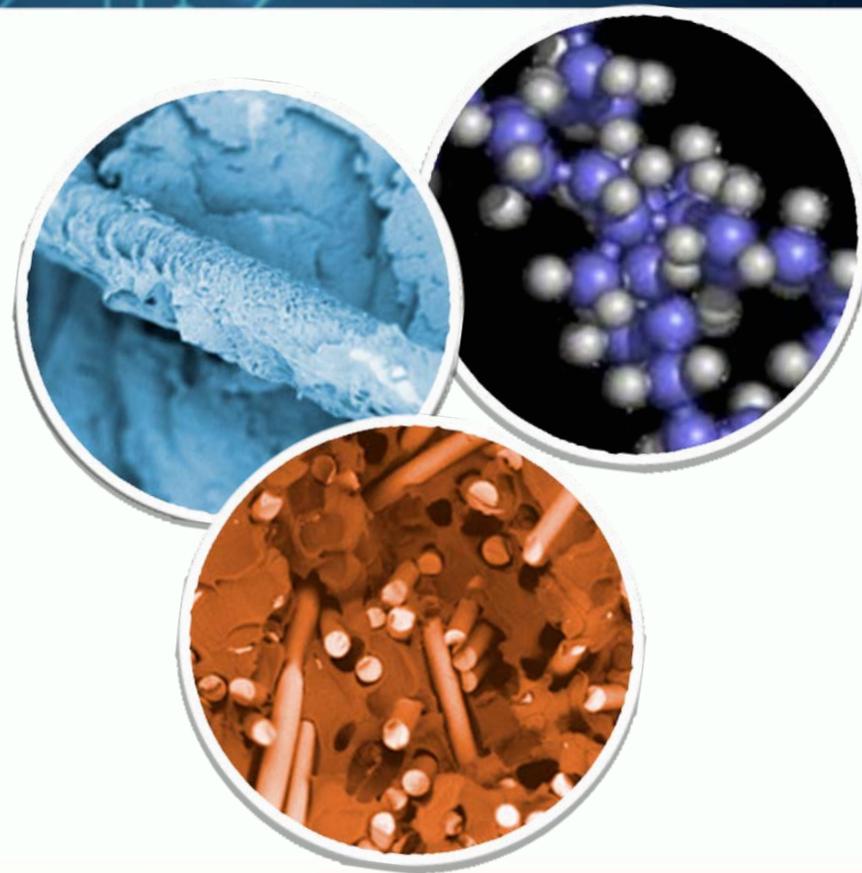


Expertise across thermoplastics & thermosets

Sizing & Surface Treatment – Michelman Expertise

Three specific examples:

- **Hydrosize® FCNX 1487 & 1488** (under development) **Polyurethane** – we develop unique polyurethane dispersions with added reactivity to increase fiber/polymer adhesion targeted at nylon composites
- **Hydrosize® HP1632 Polyimide**– commercially available imide based sizing targeted for high temperature applications using PEI, PEEK, PPS or other HT polymers
- **Hydrosize® HP302 Modified Phenoxy** – commercially available phenoxy-based sizing targeted for Polycarbonate, PC Blends, High Temp PA, PET/PBT, Epoxy, and Vinyl Ester



We are here to support your technology needs!

- Michelman is committed to composite industry and is the “interface expert”
- We offer over 70 years of experience in emulsion chemistry
- We have a dedicated team of sales, technical and marketing professionals
- We look forward to becoming a member of IACMI sponsored projects and supporting IACMI consortium members with their projects

Challenge Us
ENGAGE
US

Our Purpose:

To Innovate a Sustainable Future with Expert Materials

How to connect with Michelman

Michelman

9080 Shell Road
Cincinnati, OH 45236

Tel: +1 513 793 7766

Fax: +1 513 793 2504

www.michelman.com

Challenge Us
ENGAGE
US

Management

Mike Annis

Group Vice President
513-794-4215 (Office)
513-680-3816 (Cell)
mikeannis@michelman.com

Sales

Aaron Hoffman

Americas Sales Manager
513-686-2701 (Office)
513-403-7566 (Cell)
aaronhoffman@michelman.com

Marketing

Steve Bassetti

Global Marketing Manager
513-794-4195 (Office)
513-288-1238 (Cell)
stevebassetti@michelman.com

Technology

Ryan Breese

Global Technology Manager
513-794-4281 (Office)
513-313-1003 (Cell)
ryanbreese@michelman.com

MICHELMAN®

Come visit us at CAMX
Booth G 79



Thank you.

