

**DAVID S. BURNHAM**  
SENIOR CHEMIST

**PROFESSIONAL EXPERIENCE**

---

DAMPING TECHNOLOGIES – *Mishawaka, Indiana*

2007 – 2010

**Senior Chemist**

- Developed pressure-sensitive adhesives for both attachment and high-damping functions for a privately-owned manufacturer of damping materials.
- Performed adhesive formulation, characterization of properties, rubber and adhesive mixing on a production scale.
- Characterized the damping properties of materials with VBT and SSFS testing and data analysis.
- Developed coating processes and liner selection for adhesive coaters.
- Developed 100% solids and solvent-based, high-peak damping, pressure-sensitive adhesives with damping at a wide range of temperatures based on the intended application.
- Replaced a solvent-based attachment pressure-sensitive adhesive with a 100% solids formula.
- Developed processes for the coating and curing of solvent-based and 100% solids adhesive formulas.
- Developed silicone formulas for use in tuned vibration absorbers.

MILLIKEN AND COMPANY – *LaGrange, Georgia*

2005 - 2007

**Technologist**

- Formulated and developed a urethane polymer dispersion with the required properties for end-use.
- Assisted in the development of a urethane primer/silicone topcoat coating system for one-piece woven automotive airbags.
- Responsible for taking a high add-on silicone coating for one-piece woven automotive airbags from lab to full production scale in three months.
- Produced procedure guidelines and standardized work implementation for an entire project from initial primer formulation and lab coating to full-scale production.
- Transitioned new products from the development stage to full production.
- Performed textile coating formulation, off quality analysis, and environmental compliance.
- Worked with Research and Development in the development phase of a new product, and assisted manufacturing in the scale up and launch phases.
- Ran production scale trials to determine the optimal process for fabric coating.
- Performed regulatory compliance and waste disposal.

ILC DOVER, INC. – *Frederica, Delaware*

1995 - 2005

**Senior Materials Development Chemist**

- Designed and rolled-out three generations of gas holding, heat sealable, and UV-stable material used for the hulls of advertising “lightships” (Budweiser and Goodyear blimps).
- Developed the coatings for the inflatable landing bags used in the Pathfinder mission to Mars.
- Developed silicone and urethane coated Vectran and Kevlar fabrics for use in various inflatables including crash bags and missile stabilizers.
- Developed a heat-sealable, composite material for large missile defense radar covers.
- Developed patented static-dissipative barrier films for use in pharmaceutical intermediate containment systems.
- Formulated shape-memory polymer coatings for carbon-fiber-based composite tubes.
- Designed experimental materials and produced them on a laboratory scale for a privately-owned manufacturer of high-tech inflatables and space suits.
- Synthesized an in-house replacement for a solution urethane, glove-dipping compound and ran the production batches of this urethane.
- Generated detailed cost estimates and schedules for the marketing and development of new materials. Evaluated the performance and confirmed the manufacturability of the materials in actual end-use.
- Ran samples of experimental materials at suppliers to confirm processes and properties.
- Performed all aspects of material design and development from base-cloth construction to coating, adhesive, and film formulation.

- Developed fabric coating via knife over roll and lamination, polymer synthesis, and film-extrusion processes.
- Directed the disposal of hazardous waste in compliance with EPA regulations.

TILTON ENGINEERED COMPONENTS – *Tilton, New Hampshire*

1992 - 1995

**Technical Manager**

- Designed a line of urethane foam covered endless textile and timing belts.
- Designed and tested new products and prototypes from inception to final launch in production.
- Established quality control procedures.
- Designed and created static dissipative endless belting.
- Developed cord-reinforced, dual-durometer cast urethane roll covers for corrugator machines.
- Developed textile-reinforced cast urethane belt with magnetic inserts for newspaper storage system; educated operators in mathematics and urethane chemistry.
- Responsible for product development, process engineering, regulatory compliance, compounding, and machine shop functions.
- ISO audit committee chairman.

**EDUCATION**

---

UNIVERSITY OF NEW HAMPSHIRE – *Durham, New Hampshire*

***Bachelor of Science in Biochemistry***

UNIVERSITY OF LOWELL – *Lowell, Massachusetts*

***Mechanical Behavior of Polymers***

***Rheology of Coatings***

AMERICAN CHEMICAL SOCIETY, RUBBER DIVISION – *Akron, Ohio*

***Certificate in Rubber Technology***

**PATENT**

---

***Co-Inventor, Patent # 6,653,377 – “System for the Contained Transfer of Particulates”***