Matthew Muir

R&D Engineer (restructuring)

Exton, PA - Email me on Indeed: indeed.com/r/Matthew-Muir/1a4d5afa4f3ebac8

An award-winning Process/Product Engineer and Research Chemist who delivers cost savings and new/ improved products using solutions based in the science of Polymer Morphology and Rheology.
Manages large projects collaboratively within matrixed work environments. Thrives in complex work environments requiring strong problem solving, communications, and systems skills.
Willing to relocate: Anywhere
Authorized to work in the US for any employer

WORK EXPERIENCE

R&D Engineer (restructuring)

AGC CHEMICALS AMERICA - Exton, PA - 2014 to 2015

Exton, PA 2014 - 2015
$11B manufacturer of fluoropolymers for wire & cable, gaskets, and other industrial applications.
R&D Engineer (restructuring)
Responsible for developing and commercializing improved fluoropolymer compounds. Led cross-functional teams, worked directly with plant and external customers. Trained interns in pilot-scale formulation and technical reporting.
• Identified a mineral filler for PTFE compounds which improved wear resistance by 25% and deformation under load (creep) by 30%.
• Determined the essential properties which contributed to increased conductivity that reduced filler loading by 20% in carbon-fluoropolymer compounds.

Group/Project Leader, Product Development and R&D (restructuring)

VALSPAR CORPORATION - Pittsburgh, PA - 2013 to 2014

Pittsburgh, PA 2013 - 2014
$4B manufacturer of paints and food packaging materials in the international consumer and industrial markets.
Group/Project Leader, Product Development and R&D (restructuring)
Managed a group of one (1) chemist and two (2) technicians and solved technical problems for barrier materials for PET-based food-packaging products. Responsible for R&D, quality, and all technical facets of the product line.
• Identified a UV-blocking additive which reduced UV transmission through bottles while maintaining oxygen scavenging properties resulting in improved shelf life.
• Optimized a new line of non-polyester packaging materials for a new market segment resulting in a consumer-friendly, recyclable product.

Project and Process Engineer (restructuring)

VEYANCE TECHNOLOGIES - Fairlawn, OH - 2012 to 2013

Fairlawn, OH 2012 - 2013
$2B manufacturer and seller of Goodyear Engineered Products servicing industrial and transportation markets.
Project and Process Engineer (restructuring)
Responsible for improving plant processes using lubricants, slab dips, and mold release agents for global plant operations, resulting in cost-saving efforts and scrap-reducing projects.
• Identified an opportunity to save $200K through lubricant substitution shortly after beginning new position.

• Discovered lubricant which enabled an industrial hose product to be reliably produced, which generated $150K in new revenues during the first year.

Senior Product Engineer

GARLOCK SEALING TECHNOLOGIES - Palmyra, NY - 2003 to 2012

Palmyra, NY 2003 - 2012
$70M leading manufacturer of gaskets and sealing products with 1800+ employees in 15 international plants.
Senior Product Engineer
Designed and maintained line of gasketing products with daily interactions with external suppliers and customers, marketing, and plant personnel. Responsibilities included overseeing technicians and junior engineers, designing new products, writing purchase specifications, monitoring quality testing, and adjusting operating conditions to improve production lines.
• Hired, trained, supervised, and evaluated four technicians, who performed testing and conducted manufacturing prototype trials, and 6 co op students, who pursued independent projects in product development and process improvement. One technician received two patents; one co-op was hired by Garlock upon graduation.
GARLOCK SEALING TECHNOLOGIES)
• Developed sheet gasketing product (patent pending) which seals exceptionally well in oils and water, while maintaining excellent flexibility. Product won Plant Engineering Magazine's Product of the Year in 2005.
• Managed large cross-functional project to remove harmful solvent from manufacturing operation while improving environmental and health/safety footprint. Groundbreaking, patented process won 2008 US EPA Environmental Excellence award.
• Led the process of qualifying a plant in Mexico City to produce a line of gasketing products. Trained engineers, QC personnel, and operators in best practices; validated plant's production capability with testing and statistical analysis.
• Functioned as Project Manager for process which replaced PFOA-containing dispersions from PTFE-containing production line; this required lab testing, prototype trials, full-scale production trials, and follow-up after implementation. Project involved 12 people spanning 6-12 months and was managed using MS Project.
• Teamed with customers to evaluate and revise product specifications and testing protocols, saving $50K annually in testing and $40K annually in scrap reduction.

Senior Research Chemist

THE GOODYEAR TIRE & RUBBER COMPANY - Akron, OH - 1988 to 2001

Akron, OH 1988 - 2001
World's 3rd largest tire and rubber company with $18B in sales, 17,000 employees, plants in 64 countries.
Senior Research Chemist
Responsibilities included variety of research projects in product development and utilizing a variety of analytical tools, focusing on relating morphology to end-use properties of rubber and polyester materials.
• Examined mechanical, thermal, and rheological properties of blends of PET with other polyesters. Evaluated additives which resulted in improved thermal properties while retaining desirable levels of crystallinity. Cut customers' cycle times by 25%.
• Studied physical properties of blends of various rubber polymers. Determined criteria which would yield tires with improved morphology resulting in tires with 50% improved traction.
• Introduced X-ray fluorescence to determine concentration of additives in rubber compounds. Developed variety of test methods to serve rubber compounding groups. Contributed to reducing 40% in concentration of curing accelerants, saving one plant over $80K per year in materials costs.
• Evaluated effect of stretching conditions on thermal and morphological properties of PEN experimental design, evaluated critical parameters for improvement of gas-barrier properties using wide-angle X-Ray diffraction and thermal analysis.

• Studied effect of adding nucleants on crystallization kinetics of PET utilizing wide-angle X-Ray diffraction and thermal analysis. Identified an additive which improved peak crystallization temperature significantly, decreasing cycle time by 50%+ in manufacturing processes. This saved one customer over $50K in energy and operating costs in their first year.
• Determined cause of stress-cracking of polyester articles under storage. Modeled time-temperature conditions which could cause damage to articles due to physical aging. Educated customers on proper storage conditions, saving an estimated $50K/year in damage.
• Determined crystallinity of natural rubber and analogs using X-ray diffraction. Determined effect of various additives on crystallinity under variety of conditions and developed models to predict end-use properties using laboratory data.

EDUCATION

Ph.D. in Polymer Science and Engineering
UNIVERSITY OF MASSACHUSETTS - Amherst, MA

B.S. in Chemical Engineering
UNIVERSITY OF MASSACHUSETTS - Amherst, MA

SKILLS

Product Development (10+ years), Six Sigma (10+ years), R&D (10+ years), Supervision (10+ years), Team Leading (10+ years), Polymer R&D (10+ years)

LINKS

http://www.linkedin.com/in/muirmatt