

DuPont™ NOMEX®

NOMEX® BRAND PAPER MEETS HIGH STANDARDS
FOR FLANDERS AND ITS CUSTOMERS

CRITICAL POWER EQUIPMENT DEMANDS QUALITY



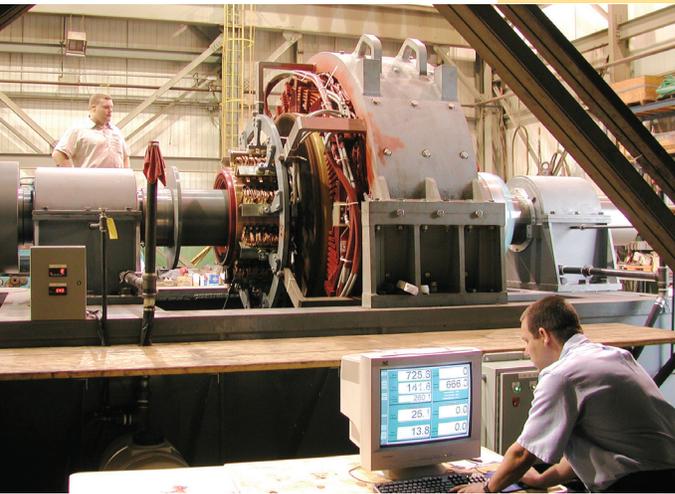
The 385 managers and employees of Flanders Electric, Evansville, IN, share a high sense of confidence in their ability to provide global customers with the highest quality power products and services. A set of solid values guides every move this dynamic company makes in delivering performance. Founded as a small motor repair shop in 1947, Flanders has grown into a highly competitive enterprise that today provides advanced technological expertise to a wide base of customers in the U.S. and an increasing number overseas.

Flanders is a manufacturing company, says co-owner Dave Patterson, offering design, repair and manufacture of motors and generators, controls and drives that power critical industries. These include coal, copper and phosphate mining; aluminum, steel and chemical processing; other heavy industries and utilities. With 12 locations, plus operations in Australia and Chile, Flanders' specialty is designing and building high-quality custom products to meet the needs of individual customers with special requirements.



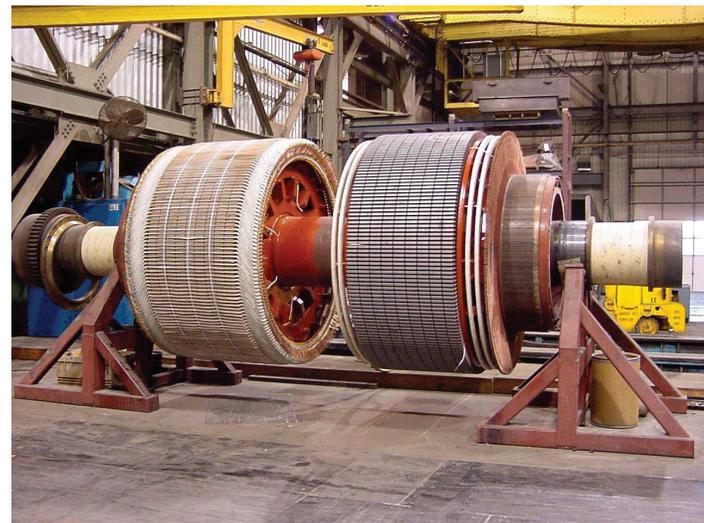
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Quality is 24/7, 365 Days a Year

The nature and specific needs of Flanders' customer base calls for quality. "Many of our customers are up and operating 24/7 all year long, and they just cannot tolerate unplanned downtime," says Bell. Today downtime is measured in minutes and can amount to thousands of dollars of lost time in production. "Quality materials, such as NOMEX® insulation combined with good design and sound engineering principles and practices, help the production equipment last longer. Downstream, this approach equates to quality work," adds Bell.



Quality Makes the Business

An integral part of the quality equation is the use of the latest and most advanced materials, including DuPont™ NOMEX® brand paper and laminates, to meet the high-heat requirements for the insulation of motors and generators. Using such high quality materials, combined with Flanders' strengths in design and engineering, results in a comprehensive and solutions-oriented offering for customers.

"Before NOMEX® insulation came along in the early 1970s, we used rag paper for insulation," says President and Co-owner Roy Patterson. "There was no tolerance for high temperatures. Now, with the use of NOMEX® insulation, we give our customers the best insulation we can offer." Spike Bell, sales manager at Flanders, spends time demonstrating to customers the importance of insulation. "They know that NOMEX® insulation plays a critical role in the insulation system," he says.

Design and Engineering Contribute to Overall Quality

Combining the strengths of high-performance raw materials with design and engineering capabilities is a win-win for Flanders customers. The company has 40 electrical and mechanical engineers on staff. "Many times, we'll take a concept—a need that a customer expresses in meetings and discussions—and send an engineering investigation crew on site to a steel mill, coal mine or aluminum mill to perform a mechanical and electrical analysis," says Bell. "Then we can tell them just how much capability they can put in their existing space. While that space is often limited, many customers need to increase production dramatically, putting more power in the same space," adds Bell. This way, Flanders can help customers from concept to analysis and design to manufacture to the commissioning of the whole system. NOMEX® insulation is one component Flanders can use to assist in their design of increasingly powerful systems in limited spaces.

Top Quality Insulation = Longer Lasting Motors, Generators

Motor and generator failure can lead to unplanned downtime. "Those electrical failures are due to overloading, building up heat, so you must have longer-lasting insulation which can withstand the higher heat cycles," says Dave Patterson. "Every new design we develop incorporates a NOMEX® insulation system." Patterson says that for highly critical designs, getting the maximum amount of horsepower out of a given frame, Flanders uses NOMEX® laminate systems, specifically NOMEX® insulation laminated with DuPont™ KAPTON® (NKN)





Laminate System. "An example of this application would be a 900-volt-plus DC motor or generator design with extremely limited insulation space. There we use KAPTON® insulation laminated between two layers of NOMEX® insulation, providing extra strength."

Patterson points out that newer DC designs use less and less space for insulation. That requires the highest-density insulation possible, delivering the needed strength in a very small space.

Measuring Quality is Paramount

Flanders belongs to the Electrical Apparatus Service Association (EASA), an international trade organization which provides members a means of keeping up-to-date on materials, equipment and state-of-the art technology. "In a survey of our global customer base, the number one concern of our potential customers is quality—by a long shot," says Bell.

One of Flanders' customers conducted a case study after reconditioning motors and generators. In less than a year, they had to recondition the equipment again. Flanders stepped in to rebuild the equipment, incorporating a 100% NOMEX® insulation system. After completing the rebuild for the majority of the equipment, the company experienced a 50 percent reduction in repair work, according to Bell.



Quality and Safety Go Hand-in-Hand

Flanders has earned the ISO 9001:2000 certification, the newest quality standard issued by the International Organization for Standardization. Along with the commitment to quality comes the responsibility for safety training. "It's just smart business," says Patterson. All training is done right on site with specific documented procedures to demonstrate just how it is conducted.



People and Relationships Are Key

Along with safety comes a concern for employees. Roy Patterson who was one of the original two Flanders employees and later purchased the company says, "We've been very lucky. We have a lot of good people, and they are key to our success." The average length of service is more than nine years.

People from DuPont make a big difference, too, according to Dave and Roy Patterson and Spike Bell. To help Flanders work with customers, DuPont provides key technical data and information about NOMEX® products, as well as shared promotions for trade shows and mailers. "It has been an educational process for Flanders to work with DuPont," says Bell.

Confidence, quality, top-notch design and engineering, safety and people orientation all add up to an expanding reputation with current and potential customers, as well as a growing business worldwide. Flanders proves the point that quality in everything grows a robust business.



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