

# Eye on Quality: Binsfeld Technology Pays Off For Oriental Weavers

BY KEN NORBERG, EDITOR



Engineer Amin Radwan, General Manager – Yarn Division, Oriental Weavers of America, an Egyptian-based company, and Michael Binsfeld, President of Binsfeld Engineering.

**O**riental Weavers is the largest rug producer in the world, with manufacturing facilities in Egypt, China and the US. From their beginning in 1980, to their expansion to the US in 1992 to the present, they have successfully grown their market. Oriental produces 190 metric tons of yarn per day worldwide, with 30 metric tons produced at the Oriental US facility. One of the leading reasons for their success is the company's focus on quality.

Engineer Amin Radwan is the general manager of the yarn division at Oriental Weavers of America in Dalton, Georgia. He is keenly aware of how important yarn quality is to the different finished products Oriental sells. In 2001 Mr. Radwan received a United States patent for his development of Nylene yarn.

This specialty product results from a process that involves blending nylon and/or polyester with polypropylene during extrusion. The resulting yarn has the physical characteristics of pure nylon or polyester at a fraction of the price. In addition to exceptional touch and luster, the Nylene process allows for brilliant colors.

"In the yarn process, temperature control on the heated draw godets is critical for optimum quality. If the temperature is off at this point in the process the yarn will have subtle variations in shrinkage and color or emissivity (shine). You don't see the problem until the rug is woven – much too late in the process. In open field rugs the problem shows as streaks from poor thread lines," Mr. Radwan explained.

"We were having these streaking problems and suspected the analog

temperature transmitters on our Neumag 3-zone godets because we were also having intermittent failures of these devices where they would stop working if they got too hot and then start working again after they cooled down. We were not seeing problems on yarn from our Neumag 6-zone machine, which uses digital temperature transmitters.

"We asked Neumag for help in resolving the issue and they introduced us to Binsfeld Engineering," he said.

Michael Binsfeld, president of Binsfeld Engineering Inc., a world leader in making after-market digital transmitters as upgrades for existing machinery, was grateful for the opportunity to help solve the problem Oriental Weavers was experiencing.

"Mac Lattam of Nuemag USA called and asked us to come in and meet with Mr. Radwan," said Mr. Binsfeld. "We have a strong working relationship with Neumag, which sells our digital transmitters as an upgrade for some of their older analog devices. The application at Oriental is typical of the projects we work together on.

"The hot environment on a draw godet is not well suited to analog electronics, which are susceptible to drift at elevated temperatures," Mr. Binsfeld explained. "Digital electronics are immune to this drift meaning precision can be maintained in the measurement process regardless of how hot the transmitter gets.

"Our transmitters are designed to hold precision at the elevated temperatures. And they keep running without failure – backed by a five-year warranty."

Failure-free operation was critically important to Emad Bikhit, the plant's technical manager. "The original analog transmitters were failing intermittently on hot days in the plant, shutting down



Samples of Nylene yarn with vibrant colors.



Emad Bikhit, Plant Technical Manager – Yarn Division, Oriental Weavers of America and Mike Kawiecki, VP Temperature Transmitter Sales, Binsfeld Engineering Inc. standing in front of the machine instrumented with Binsfeld transmitters.

production lines. They would test fine later in the motor shop. We needed to eliminate these shutdowns, and the Binsfeld transmitter did that for us.

“We have not had a single transmitter related shutdown with the Binsfeld devices,” he said.


Oriental Weavers of America has upgraded all of its older analog transmitters and solved the problems they were having. The reduced downtime on the draw rolls is helping them keep pace with the high demand for their products. With large volume commitments from Home Depot and JC Penny, and growing business with Lowes and other retail suppliers, they need to keep

their production in high gear.

Eliminating the streaking problem in the open-field rugs allows a higher percentage yield of top grade product. This was an especially frustrating issue because it could not be detected until the end of the production process. Now, the production department is confident they will get the yarn quality they need to run the products they require.

Success at the Dalton, Georgia plant has prompted Oriental Weavers to consider the Binsfeld transmitters for their machinery in their large yarn production plant in Egypt.

“Based on our positive experience with the Binsfeld transmitters here in the US, we have implemented an evaluation of the technology at our yarn plant in Egypt”, said the engineer Mr. Radwan, who sits on a companywide review board that continually examines all processes in the manufacturing operations and recommends implementation of improvements.

“We are so impressed with the Binsfeld technology and the improvement in yarn quality that we want to upgrade the machines in Egypt with digital temperature transmitters,” he said. 

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