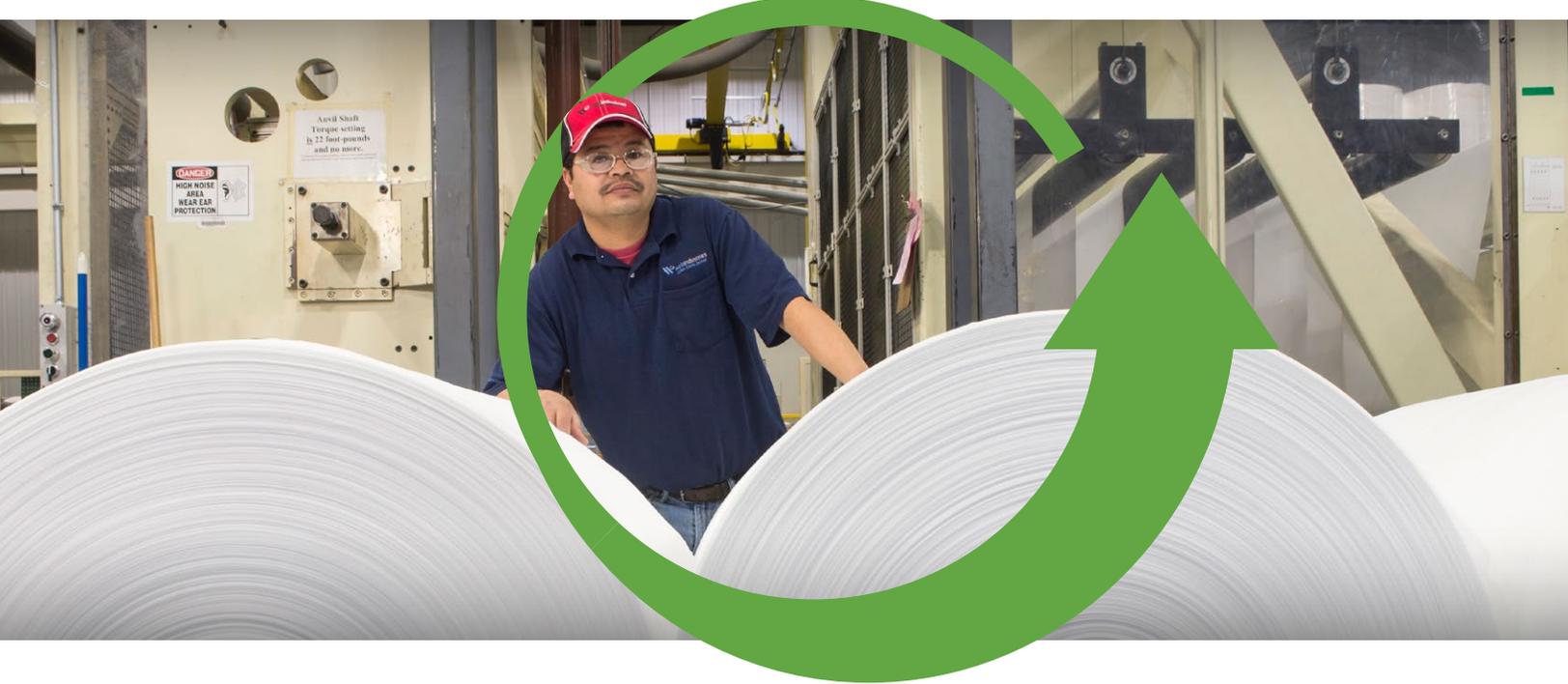


CASE STUDY

PERSONAL & HOME CARE

Tredegar Reduces Roll Changes by 600 Percent

Outsourced Spooling of 3D Hygiene Material Meets Customer Demand

Tredegar Corporation is an innovative producer of plastic films and aluminum extrusions. Based in Richmond, Va., the company has operations around the world, including sites in North America, South America, Europe and Asia, and serves multiple industries, from personal care to flexible packaging.

The manufacturer approached Web Industries when it sought a solution to an exciting new business opportunity presented by a large personal hygiene products customer. Tredegar needed to supply a specialized composite material on large-format spools, which the customer would use for high-efficiency production of personal care products in its manufacturing facilities. With a history of supplying most materials as pancake rolls, Tredegar needed some outside manufacturing capabilities to meet these new customer requirements.

Challenge

We began our collaboration by ensuring there was a thorough understanding of the unique material that needed to be spooled. The material is a differentiated 3D aperture composite, typically used as an acquisition distribution layer

(ADL) for diapers and similar personal care products. With a low basis weight and breathable construction, the material offers high fluid management while being thin and flexible, all of which play important roles in creating comfortable,

PRIMARY BENEFITS

- Customer satisfaction: Tredegar met new specifications for material orders
- Large-format spools enable manufacturing efficiencies for Tredegar's customer; 6X fewer roll changes
- Successful transition from samples to commercial product within weeks

“Our customer has been pleased with how the material is delivered to them — the quality, the format and the turnaround time.”

- Ahmed Makhani
Senior Global Product Manager
Personal Care, Tredegar

effective diapers. The material's 3D structure consists of cone-shaped holes, which are essential to its performance and cannot be compressed or otherwise damaged during slitting and rewinding. These cones, along with the material's lightweight construction, would demand very careful material handling.

We had to find a way to wind the material into large-format spools without making the roll too tight or too loose, identifying just the right tension and pack force to use. We made precise adjustments to our spooling drives and motors and leveraged computer-controlled air cylinders to achieve the proper pack pressure. The web tension had to be carefully calibrated throughout the different stages of the spooling process — set at one level in the beginning and then adjusted as the roll builds so that the material's integrity was maintained at all times. It could not be stretched too much or pinched too firmly, yet it had to be wound securely into a stable spool.

Scaling Up Rapidly

Creating large spools of such a soft, sensitive material was not the only challenge we faced. There was a tremendous sense of urgency to meet a tight turnaround time for Tredegar's customer. After the customer reviewed some sample spools supplied by Tredegar, it came back ready to order commercial quantities, which it wanted within two to three weeks. Normally, Tredegar would ease into such volumes, working its way to supplying half a container and then ultimately full containers.

Solutions

In the end, we successfully devised a way to wind the material into large-format spools with a 48-inch (121.9-centimeter) outer diameter. Each spool has 98,000



linear feet (29,870.4 meters) of material, with film slit widths ranging from about 2.8 inches (70 millimeters) to 4.1 inches (105 millimeters). We chose to use the STEP-PAC winding method, a type of traverse wind often used on fishing reels. As opposed to a parallel wind or other method, the STEP-PAC wind would allow for the least tension on the material.

By delivering such large spools, Tredegar enabled its customer to dramatically decrease time spent on roll splicing. Instead of splicing rolls every 15 to 20 minutes, now the customer only has to do so once every two to three hours, reducing roll changes by about 600 percent.

In the spirit of continuous improvement and innovation, Tredegar is developing a new ADL material, even softer than the current generation. The firm is working with us once again to support their outsourced spooling needs. On our end, we've ramped up capabilities, recently launching a new spooling line capable of spools up to 50 inches wide and 60 inches in OD, with slit widths up to 12 inches.

About Web Industries

A 100% employee-owned company, Web Industries, Inc., is one of the largest and most diverse providers of precision converting and outsource manufacturing. We help customers in the Aerospace, Medical, Personal & Home Care, and Industrial markets bridge their capability gaps and accelerate their go-to-market success by leveraging close, trust-based relationships to develop ingenious solutions precisely tailored to their needs. From project inception through commercialization, Web offers creative problem-solving backed by deep technical and operational expertise.

The world's top personal & home care product manufacturers trust our innovative engineering, converting, and manufacturing solutions to improve their products and get them to market ahead of the competition. Contact Web Industries at **+1 508.573.7979** or **sales@webindustries.com** to learn more.

