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Applied Felts

Setting the Standard for CIPP Liners

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Applied Setting the

Hector Rawson (left), chairman of the board for the Rawson Group, Applied Felts' parent company, and Alex Johnson, president of U.S. operations for Applied Felts and managing director in the United Kingdom.

By Nick Zubko

Today, diversification can be a double-edged sword. Spread yourself too thin, and it's a slippery slope from jack of all trades to master of none. On the other hand, if you put all of your eggs in one basket, you inevitably leave yourself vulnerable during cyclical market shifts. Recently, this has resulted in more and more companies paying close attention to a balance in their approach — reinforce and support your specialty, but never turn a deaf ear when opportunity knocks.

When the W.E. Rawson Group was founded as a textile company in England back in 1865, few could have imagined the scope to which the company would expand over the following century. But by the mid-1970s opportunity had knocked, and the company became a partner in the development of a brand new industry. After explosive growth and dramatic change in the burgeoning cured-in-place pipe (CIPP) liner market, the Rawson Group eventually created a U.K.-based subsidiary named Applied Felts Ltd., ensuring it was in prime position to take advantage.

Drawing on the expertise of a parent company that helped create the CIPP process more than 25 years ago, Applied Felts has combined the latest technology with customized, end-to-end manufacturing, superior engineering and extensive quality control processes to set the industry standard for felt liners. Since the company set up shop in the United States a little more than 10 years ago, Applied Felts Inc. has become one of the leading, independent felt liner manufacturers — with more than 40 million ft of liner installed across North America.

Company History

W.E. Rawson started as a family-owned textile company in Wakefield, England, tracing its roots back to 1865. The company was properly incorporated in 1933 and after World War II became increasingly concentrated on the manufacture of non-woven textiles. But the thrust of the company changed drastically after 1975, when the Rawson Group was approached to develop a fabric to be used in a developing process called cured-in-place lining.

According to Alex Johnson, president of U.S. operations for Applied Felts and managing director in the United Kingdom, Insituform approached Rawson with the idea to develop a material that would allow the inversion of the liners into the pipe, rather than the original process of dragging the liners into place through plastic bags. Rawson's engineers developed the product and became virtually the sole supplier of fabric to make Insituform liners until 1988.

"What changed and resulted in the formation of Applied Felts, was that in 1988, Insituform had grown massively in the U.S. and they eventually decided to start their own felt manufacturing plant," Johnson explains. "Seeing the writing on the wall, we started to explore our options and we were approached by several contractors who wanted to take advantage of the fact that Insituform's patents were, by that time, starting to run out in Europe."

Felts

Standard for CIPP Liners

By late 1990, the Rawson Group formed Applied Felts Ltd. in England, as a company to manufacture the finished liners. Soon volume increased and the supply chain from England became too stretched, so in 1997 Applied Felts Inc. was formed in the United States. Initially the company shipped all the fabric from the United Kingdom and only assembled the liners at the U.S. plant, but the business grew so quickly that by 1999, a U.S. fabric manufacturing facility was built.

Initially, the felt liners were a relatively small part of the business. But now, Applied Felts represents a significant portion of the Rawson Group's business — about 40 to 50 percent, compared to less than 10 percent in 1994. After recognizing a need for a proven lateral rehabilitation method, Applied Felts partnered with RS Technik, the Swiss manufacturer of the Cityliner system, to form Maxliner in 1998. And in early 2005, Applied Felts established a brand new coating plant at its Martinsville, Va.-facility, now making it entirely self-sufficient in the United States.

Product Development

Supported by a parent company practiced in every area of fiber manufacture, Applied Felts has transformed its vast textile knowledgebase into the core of one of the primary manufacturers of CIPP lining materials. With access to every different type of fiber and polymer in the world, the Rawson Group supplies the company with a tremendous amount of resources and assets, enabling it to develop a product to suit nearly every conceivable application.

"We looked at what was happening during liner installations and effectively re-engineered and modified the product until we perfected it," Johnson says. "As most of the alterations are in the specifications of the fabric, if you are only set up to buy the fabric, turn it into tubes and sell it, you might never get there. But I think that was one of the key issues for us — having that many years of experience making the fabric itself. Many of our customers' systems are not identical; they do things in different ways and have different desires — and because of our background we are able to cater to that."

And it's that unique aspect of the company that seems to be a key to its continued success. As the only 100 percent, vertically integrated liner manufacturer in the industry, Applied Felts is able to control the production of the liner through the entire process. First, it purchases the raw fiber, then turns it into felt, coats it and finally turns out the liners. Not only does this improve quality control, but it also gives customers access to a product tailor-made to their needs.

"I think that vertical integration is really what distinguishes us from the competition — those companies that will buy their felt from someone else, ship it off to get coated and then make the liner," explains Dave Fletcher, national sales manager for Applied Felts Inc. "We are a pure manufacturer, which makes all the difference in the world. We can make subtle changes to the felt or the coating or how we build the liner, because we have control over every stage [of production]."

"All of this control in the manufacturing process allows us to take every bead of polymer and strand of fiber needed to make the felt, put those together and tweak the product to what our customers need," adds Gil Carroll, Applied Felts' director of business development. "For the larger diameter mainlines, there is obviously one set of criteria, but when you talk about our customers, like the plumbers who are dealing with 4- and 6-in. pipe, you need a more flexible tube. Those customers need something that can negotiate 45- and 90-degree bends, and that is something we are able to supply to two very different markets."

As a result, Applied Felts now offers a wide selection of liners that have impermeable coatings and can be cured either by hot water or steam. The AmbiCure liner, for example, is a single-layer, coated felt liner installed with ambient cure and onsite impregnation. The AquaCure inversion tube is a water-inverted, multiple-layer felt liner that forms a permanent composite inside the host pipe. SteamCure is a hot-air inverted liner with an internally polyurethane-coated felt lining material, contained in outer PVC-coated felt. Another recent addition is a highly flexible, PVC-coated Impreline tube that is able to line around 45-degree bends.

And since Applied Felts' manufacturing process is originated in-house, it involves a rigorous, 28-stage testing process at every phase of production. Using computerized weight control without recalibration, Applied Felts engineers are able to yield the most consistent felt in the length direction, while the addition of computerized web profiling provides totally uniform felt in the cross direction.

"We're always looking at ways to help the contractor out in the field, to make our customers more profitable," Carroll says. "Whether that's ease of installation or if it's developing new products with reinforcement to lessen the thickness requirement for a liner. Those are the kinds of things we try to get ahead of and be there to offer solutions to our customers to make them more competitive and help to expand the places that cured-in-place goes."

Partnerships

Since the beginning, one of the most important factors for the success of Applied Felts was creating partnerships with its clients. The company provided its first customers with a tremendous amount of tech-

nical support, taking the extra time to be present onsite to help customers perform successful trial installations. This approached helped to give Applied Felts a lasting reputation as much more than just a supplier of textile tubing.

"Back when the whole CIPP market was first opening up, Applied Felts did a great job partnering with groups of contractors who wanted to get into cured-in-place," says Fletcher. "We are not just a company that sells liners; we really partner with the customers. We help them develop systems and liners around their specifications, then work closely with them to make sure that at every phase of their growth in the business, we bring everything we can to the table to help them improve."

With long-time customers such as National Liner, CIPP Corp., Gelco, Lanzo Lining Systems, JWM (Premier Pipe) and many others, Applied Felts has been able to legitimize many of its customers right out of the gate, because it was able to help get them to market relatively quickly. The company now supplies about 40 percent of the market in the United States., with roughly 100 installation crews across the United States.

And instead of going out and actively pursuing new contractors as customers, Applied Felts has focused its attention on helping to grow the business of its existing customers, which continue to add to their own installation crews. The company established itself in a role to help its customers succeed and looked at those businesses as more important than going out and setting up more contractors, or convincing people that weren't doing cured-in-place to get involved.

"Our biggest strength is the relationship that we have with our customers," notes Carroll. "[Such as] the way that we service them and work with them to help overcome any issues they have out in the field. You look at some of the biggest customers we have and they are the ones that have been with us from the very beginning. Alex [Johnson] would come over to the United States and he really helped a lot of the bigger groups to get off the ground and get into the cured-in-place market."

Applied Felts has become one of the leading independent felt liner manufacturers, with more than 40 million ft of liner installed across the United States.

The Next Frontier

One of the common misconceptions in the business of CIPP lining is that there's only one way it can be done. But Applied Felts knows that isn't the case — each customer has its own unique set of blueprints and can approach the same job fundamentally differently. Since this creates a multitude of ways to achieve the same result, the company has run with the approach of treating every order from every customer as one distinct product.

"We really feel like Applied Felts, as well as our efforts with new processes, is helping cured-in-place get out through the whole industry," Carroll says. "In the past, it was a pretty expensive endeavor and a big commitment for a lot of people to get into lining mainlines. But now CIPP is getting out into other markets, such as Roto Rooter, with Maxliner and Cityliner, where either it wasn't available or wasn't necessarily known about. And that, in our view, helps expand the whole trenchless industry."

With its new coating facility, the potential for growth is even greater. The company is now looking to meet new challenges involving larger diameter liners (from 54 to 105 in.) and increasing its focus on the flexibility of small diameter liners. Precise control of the coating process is already allowing significant progress in both areas, not to mention aiding the shift to air and steam inversion methods — which of course puts even higher requirements on the fabrics.

"Our new coating system was built to be able to build the big liners quicker and more efficiently, plus the flexibility of our coating allows the [small diameter] liners to be very flexible and installed with less pressure," says Fletcher. "A lot of the flexibility of a liner has to do with the coating. So the better you can control the thickness of the coating, the better you can control the flexibility of the liner."

Now, as CIPP technology continues to evolve and improve, the needs of the customer will undoubtedly change along with it. For many contractors, the name of the game is productivity — so products are engineered to help achieve that goal. Others, however, simply have a technically difficult project in front of them and need a product that will allow it to be completed. So what sets one company apart from the rest will always be the same — how closely it comes to giving the customer exactly what they need. And for Applied Felts, the answer has always been to create a partnership.

"Applied Felts is not just a company that sells liners, we really partner with the customers," notes Fletcher. "We help them develop systems and liners around their specifications, then we work very closely with them to make sure that at every phase of their growth in the business, we bring everything we can to the table to help them improve. We are a pure manufacturer — we're not in the business to just sell a system, resins or equipment. So our customer's success is our success."

Nick Zubko is associate editor of *Trenchless Technology*.