



COLOMBO SALES AND ENGINEERING AND 3M HELP LIONS FANS Drown Their Sorrows

By David R. Miller, Associate Editor

Although the Detroit Lions did not perform as well as many hoped they would last year, dedicated fans still had plenty to cheer about. Other NFL teams should fear the day that the quality of the Detroit Lions' play matches the quality of their spectacular new home. Until that day arrives, many fans will choose to drown their sorrows at Ford Field.

Ferndale-based Colombo Sales and Engineering utilized 3M™ VHB™ Double-Coated Foam Tape to create a unique beverage chase system that will ensure a steady flow of beer to console disheartened fans, as well as a variety of soft drinks for fans who choose not to imbibe. Designing a system that would carry beverages from central coolers to remote serving locations at Ford Field was a complex engineering challenge.

DELIVERING THE GOODS

Trunk lines, that are usually bundled around copper refrigerant (glycol) lines, carry chilled beverages to remote serving locations that can be as far as 800 feet away from the supply cooler at Ford Field. Proper installation and protection of the trunk lines at Ford Field is of paramount importance. Beverage companies also

employ sophisticated cleaning techniques to the lines clean and they also insisted that the trunk lines be encased in a proper leak-proof chase system and that the chase system have a minimal number of pull boxes. Pulling the trunk lines through these chases complicates the installation considerably.

"Research revealed to us that a leak-proof joint was of utmost importance to the beverage industry and the structural integrity of the joints previously used was not very great," said Bernard Licata, president of Colombo Sales and Engineering. "A pull box was usually installed at every third or fourth bend, or every 100 feet."

Since pull boxes open up to provide direct access to the trunk lines, they also represent areas where leaks can develop, making them an undesirable addition to a beverage chase system. Remarkably, Colombo Sales and Engineering was able to engineer a system at Ford Field where pull boxes were used on only two trunk lines, each one in excess of 600 feet. To do this, the company needed to develop a



Colombo Sales and Engineering developed an alignment tool that allows beverage chase systems to be precisely connected in the field with 3M VHB Double-Coated Foam Tape.

structural joint stable enough to withstand the force of having several hundred feet of trunk line pulled through. The joints also needed to be smooth on the inside to prevent the trunk lines from getting snagged as they were fed through.

3M worked with Colombo Sales and Engineering to find an adhesive product that would meet the requirements that were set forth by the beverage company at Ford Field. Once the two companies decided on the 3M VHB Tape, Colombo Sales and Engineering developed an alignment tool that would allow chase sections to be taped precisely in the field. The joints that were created by this method exceeded all expectations.

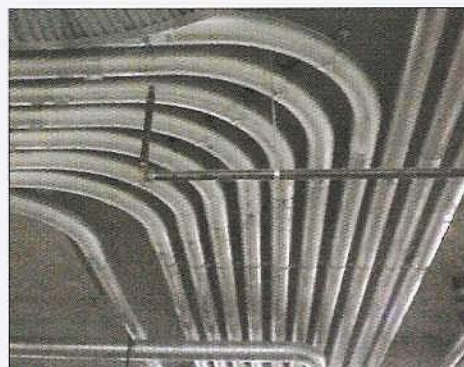
"3M took some of the units back to their laboratory," said Licata. "They put 200 pounds of pull on them and did no damage to the join at all. They brought them back to me and they looked exactly like they did when they left here. I took them into our shop and had our people put 40 PSI of pressure on them and they did not leak. We sent them back to 3M and they pulled them to the point of separation. The average pull to separation on a simple pluck test was about 575 pounds. If they

had grabbed the entire tube, instead of doing a pluck test, it would have been even greater because of the increased surface area."

VHB tape offers surprising strength for an adhesive product, making it suitable for a wide range of construction applications.

UNTAPPED POTENTIAL

3M VHB Tape was invented in 1979. The product was originally intended to replace rivets and other mechanical fasteners for



Trunk lines, like the ones seen here, carry chilled beverages to remote serving locations that can be as far as 800 feet away from the supply cooler at Ford Field

metal to metal connections, but the Ford Field project clearly demonstrates that new uses for VHB tape continue to surface. With a variety of different formulations on the market, VHB tape will hold against 25 to 40 pounds of peel per inch of width, depending on the substrate material and the type of tape that is used.

"We have different products to fit various applications," said Matt Tempelis, VHB tape marketing manager for 3M. "We started with metal to metal, but we now have technologies that bond very well to painted metal and many plastics, even the ones that are tougher to bond to. We have really branched out in terms of where this product can be used."

The strength and versatility of VHB tape challenges the notion of tape as a "quick fix" or temporary solution.

"VHB tape can handle very high temperatures," said Tempelis. "We have one product that can be bonded to clean metal and then put through a paint oven at 450° F for 20 minutes. For longer term temperature requirements, we have products that can handle 200-300° F. Humidity is not a problem for VHB tape. We have put bonded material underwater for 10 years. When we pull it out and do a peel test, the bond is as strong or stronger than it was before we put it in. This is a very robust technology that really doesn't lose performance with age. We have had applications in use outdoors for more than 20 years."

3M employs a highly trained team of adhesive specialists who can assist users in selecting a product that will work for specific applications. Because of the joint efforts of the 3M team and Colombo Sales and Engineering, fans at Ford Field will be able to cry in their beer, or even celebrate a Lions victory, for years to come.

For more information about 3M adhesive technology, call 1-800-362-3550. ☎

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