

WONDERLAND TIRE – THINKING OUTSIDE THE BOX

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We have often heard the advice, “You need to think outside the box.” Most of us have tried thinking “outside the box” with mixed results, hopefully mostly good results. The Wonderland Tire retread plant I visited last week has a management staff that I believe has not only been “thinking outside the box,” but has built a “new box.” The retread plant is located in Byron Center, Michigan and is one of the most impressive plants I have seen in a long time.

Wonderland Tire was started in 1978 by Bill Kamps, the grandfather of the current president of the company, Jon Langerak. A new plant was built at a new location in 1995 and expanded to 36,000 square feet in 2000. In 1998, they became an affiliate of the AcuTread Alliance Group of Mold Cure Retreaders. There are six plants in the AcuTread Mold Cure Retread affiliation that have developed some very impressive equipment conversions and very effective plant operation programs.



The Wonderland management team (from left to right): Jon Langerak, President; Jason Cleveland, Plant Manager; and Steve Oudekerk, Plant Foreman.

The first thing you notice when you walk into the plant is that it looks more like a tire and equipment display than a



These 18 CIMA presses, plus four more to be added in July, will allow Wonderland Tire to retread 46,000 tires in 2013.



The finished retread is inspected and labeled as part of the final inspection.



All tires are buffed on the Matteuzzi RAS 90 flange-type buffer.



The AZ cushion extruder fills buzzouts and places a thin layer of natural rubber on the buffed surface.



Teflon coating of matrix is a part of the molding system that also includes teflon coating of all bead and sidewall rings.



Finished rib design tread is removed from mold.

production plant. The facility has 10 full-time and 3 part-time employees, and runs 24 hours a day, Monday through Friday. The majority of the employees work from 6 a.m. to 4 p.m., and the steam heated CIMA presses are run 24 hours a day. Their production is 95% mold cure and 5% pre-cure to handle all sizes.

All casings are inspected on NDT II machines, both at initial inspections and again at final inspection. During the inspection of the casings they receive for retread, a total of 13.89% are rejected. The casings are all buffed on flange-type computerized RAS 90 Matteuzzi buffers. All AcuTread plants use flange-type buffers. Once the tires are buffed, they are mounted on the AZ Cushion Gum Extruder to fill any voids and to apply a thin layer of natural rubber.

The tread rubber, which is a proprietary blend of natural and synthetic rubber, is applied with customized 2001 Orbitread® machines that they call AcuTreaders. These 2001's are all specially customized for all the AcuTread affiliates at the Wonderland facility. The machines are stripped down to the bare frame and rebuilt with pin barrel extruders and new Allen Bradley Computer Control Systems. The new control systems allow the tire to be built to within 1/32 of the desired dimensions without operator



A nearly finished AcuTread 2001 builder on wheels to allow for movement to the building area for testing.



The completed AcuTread 2001 builder.



This custom built pin barrel extruder allows high quality, high Mooney rubber compounds to be applied to the tire casing.

participation. If the computer senses the tread depth and dimensions are over or under specifications during the building process, it will make the necessary corrections without operator interference. If the rubber temperature or the ribbon widths are not to specifications, the machine will automatically shut down.

While the 2001 Orbitreads are being redesigned, they are put on wheels so they can be put in the production line for final testing. In my opinion, the redesigned 2001 is the



A few of the many tread designs produced by Wonderland Tire.

most important machine in the plant. The tires are then cured in 18 CIMA bladder-type segmented presses (four more presses were to be installed in July). The Wonderland plant is scheduled to produce 43,000 mold cure retreads in 2013.

All of the matrices and sidewall plates are Teflon coated, producing a very clean looking product. The air pressures in the molds are generated by a screw-type compressor to 180 PSI and a booster is used to increase that pressure to 215 PSI.

The AcuTread Group has also developed an STT tread that is the first and only mold cure tire to be SmartWay certified by the Environmental Protection Agency (EPA).

Sometimes, when I see a plant as clean the Wonderland plant, I wonder if they are efficient. I was surprised to see the plant produces 1.75 tires per man per hour and I never saw a rerun the entire time I was there. Their tires are distributed through their five commercial locations, four in Michigan and one in Illinois. It is obvious this company is committed to preserving the mold cure retread industry by offering outstanding quality and service. The operation of this plant justifies the name AcuTread. **TTI**

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