

Enhancing Traceability in Tire Manufacturing with Custom Labels



THE CHALLENGE

A tire manufacturing plant in Mexico produces approximately 19,000 passenger light truck (PLT) tires daily. This plant faced challenges in data capture and traceability. The manual process of recording data for each tire build machine (TBM) led to inconsistencies and gaps, making it difficult to correlate specific TBMs and operators with the final products. The inability to trace the bill of materials (BOM) back to individual tires further complicated quality control efforts.

The Quality Manager/Project Manager recognized the need for a unique identification scheme for each tire manufactured at the plant. This system had to link each tire to the corresponding TBM, operator, and BOM, ensuring a comprehensive audit trail and improving traceability. They needed to provide a means for the operator to quickly capture this unique data and to verify this information against a build ticket.



OUR SOLUTION

Already a supplier of pre-cure barcode labels, Computype was approached for their expertise and proven solutions. The plant needed a reliable partner to develop a unique identification system quickly and efficiently. They wanted a known pre-cure tire label solution to minimize trials and to minimize time to a final solution. Computype's experience and existing relationship made them the ideal choice.

Computype designed a serialized, color-coded barcode label system to uniquely identify the TBM work cell for each tire. The labels featured color options corresponding to different TBM codes, maximizing sequence range with a minimal number of digits available. The Computype verification system ensured no duplication of sequences, providing the plant with a reliable solution.

The implementation process began with creating working samples for production testing at the TBM work cells. Once the data collection system was implemented, the samples were applied to green tires and run through the curing process. The project involved process engineering, quality managers, and TBM operators, taking approximately 6-8 weeks to complete.

The labels were applied manually at the TBM work cell, with process changes enabling data capture through the plants Programmable Logic Controller (PLC) system. This integration allowed comprehensive data for each tire, identifying the specific TBM and operator involved in its production. The improved data accuracy enhanced quality control and traceability, meeting the plants rigorous standards.

HOW COMPUTYPE HELPED

Since the implementation, the plant has achieved tighter quality control and more complete data for each manufactured tire. The ability to trace each tire back to its TBM and operator has significantly improved their production process. The plant continues to purchase both TBM and First Phase labels from Computype, anticipating further business as they expand their operations.

The speed and efficiency of the implementation, driven by knowledgeable personnel with a clear vision stood out as the most impressive aspect of this project. The Computype solution has set a new standard for precision and efficiency in tire manufacturing, providing a robust framework for future growth and success.

WE'D LOVE TO HEAR FROM YOU.

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