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Use of a new continuous temperature measurement technique in optimizing oven profiles during polymer product manufacturing

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Abstract

This paper describes the improvements realized by including a new continuous temperature measurement technique in the manufacturing process of polymer based gasket products processed through a conveyorized heated oven. This technique not only helped in generating the product temperature profiles on a more frequent basis but also helped in optimizing the temperatures and airflow in the oven to achieve better product quality. This new technique was an improvement over the old method as the measurements could now be obtained on a regular basis during normal production without interrupting product flow thus better representing the real oven environment. This tool proved to be an effective way of establishing oven-settings for different product styles processed through the oven. It also helped in improving productivity through the ovens. The results of the temperature profiles of the polymer product through the oven are discussed in detail and how these were useful in improving the manufacturing process.

Biography

Anand P. Roday is currently working as a Senior Product Development Engineer at Garlock Sealing Technologies, Palmyra, NY. His work is focused on developing new and improved products and processes. He received his Ph.D. in Mechanical Engineering from Rensselaer Polytechnic Institute, Troy, NY, USA. His research interests lie in developing new heat transfer technologies and improvements in heat transfer mechanisms to achieve desired material properties and process performance for new or improved products

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