

A study on polymer microstructure of EPDM with different catalyst systems.

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ARLANXEO produces EP(D)M synthetic rubber using either homogeneous vanadium-based Ziegler-Natta (ZN) catalysts or molecular (single-site) catalysts. Compositional differences originating from the applied polymerization technology is required to obtain the same compound properties, under the perform-alike concept. Fundamental understanding of the polymer microstructure is key for grade development.

This contribution looks at the differences in EP(D)M microstructure between ZN and molecular catalysis systems. By typical analysis methods like NMR, FT-IR and industry standard analyses methods, we will elucidate the major microstructural differences of the polymers produced via the two technologies and how this affects the final compound performances.