283h Co-Crystallization of Ethylene-Propylene-Diene Elastomer with Polyethylene Plastomers

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The commercialization of single-site catalysts in olefin polymerization provides an opportunity for making varieties of new polyolefins such as Plastomers and new generation of EPDM elastomers from the same old monomers. In order to take advantage of these new polymers, for example, to improve crack growth resistance in rubber compounds, we need to understand the fundamental physics during processing. This paper investigates the co-crystallization of the blend of an EPDM and a plastomer by thermal analysis, optical/electron microscopy, rheology, and durability (crack growth resistance) tests.