

## Effect of Iron Contents on Rheological Properties of Syndiotactic Polypropylene/iron Composites

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**Abstract :** The effect of iron contents on the rheological behavior of sPP/iron composites in the melt phase was investigated using a series of syndiotactic polypropylene/iron (sPP/iron) composite samples. Using the Advanced Rheometric Expansion System, studies with small amplitude oscillatory shear were conducted (ARES). It was discovered that the plateau modulus rose along with the iron loading. Also it was found that both entanglement molecular weight and packing length decrease with increase in iron loading.. This finding demonstrates how iron content in polymer/iron composites affects chain parameters and dimensions, which in turn affects the entire chain dynamics.

**Keywords :** plateau modulus, packing length, polymer/iron composites, rheology, entanglement molecular weight

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