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Prediction Formulas for Melt Indexes of Blends of Linear PE's.

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Polyethylene is usually used in the form of homogeneous blends consisting of components of different molecular weights. These blends to some extent have been supplied as such from the polymer producer, but additional blending is often done by the converter.

Numerous melt index (/viscosity) formulas from the literature for prediction of melt indexes of a blend from that of its components have been compared. Some are to a large extent empirical, based on a limited set of experimental data, others are mainly based on theory. The quality of these formulas has been investigated by using a collection of data sets from various sources, together covering a very wide experimental range. Some deviations are very large, few formulas manage the whole range reasonably well. An improved formula covering all homogeneous linear polyethylene blends is suggested. This form is probably applicable also to other blends of linear polymers.

Limitations /pitfalls to such a formula, mainly to the homogeneous melt criterion, are further discussed.