



Composition of Ethylene Copolymers by FTIR

The challenge: The complexity of copolymers and terpolymers can make it difficult to accurately determine their composition.

How STRIDE can help:

Most ethylene copolymers (and terpolymers) can be analyzed for composition by infrared spectroscopy (FTIR). These include: acid, acrylate, maleic anhydride, ionomers, etc. as comonomers. Samples are usually analyzed using melt-pressed films, but the method can be adapted to individual sliced pellets (ATR). Calibration is often required to verify composition for a set of standards. This may involve titration (e.g. ethylene/acid copolymer) or NMR spectroscopy initially. It is also possible to carefully prepare accurate standards with composition accepted as is. After standards are validated, a reproducible FTIR method can be quickly developed.

Once developed, the method can be applied to extruded product with results available within minutes (after sample preparation to form films). A few replicate samples are usually analyzed to ensure sample homogeneity. The results can be used to ensure that a desired composition is produced, and to track changes in composition during a transition in products.

Contact us to learn more at research@stride2future.org