

# Sheet and film extruder purges bio-based resins with New & Improved Dyna-Purge® X.

## SITUATION

Reynolds Packaging KAMA, of Hazleton, PA is a supplier of extruded sheet and film products. As an industry leader for over 30 years, they have been at the forefront of using bio-based resins for food packaging and other major industries under the brand name PlasTerra™. Partnering with Cereplast, Inc., Reynolds Packaging offers a complete line of biodegradable and compostable materials. Cereplast resins are formulated from starch and other biodegradable components, including PLA from NatureWorks, LLC.

Reynolds Packaging's R & D facility is responsible for the development of raw materials and color matching. In the lab, they operate a single screw extruder with a flat coat hanger die. While developing their bio-based plastics line, the project team worked with numerous bio-resins, all with very distinct processing characteristics. The product engineer noticed that changing back and forth from some petroleum-based resins to bio-resins typically meant long purge times and excess waste. Such dissimilar resins, coupled with severe melt flow ranges (.75 to 20 MI), would make it almost impossible to purge the extruder and die. Purging 3 to 4 times every week after every resin or color evaluation, the product manager concluded that they needed to try a commercial purging compound.

The company reached out to Dyna-Purge®, a leading supplier of commercial purging compounds. After a joint review of Reynolds purging needs, they settled on sampling New & Improved Dyna-Purge® X. **Dyna-Purge X is designed for purging extrusion machines, including both sheet and film. The purge compound has a temperature range of 320°F to 575°F (160°C to 302°C) and can be used to purge a variety of thermoplastic resins, including bio-based.**

## SOLUTION

After running tests with New Dyna-Purge® X, the Product Engineer stated that it was the best performing purging compound he had ever used. The engineer based his conclusion on the following:

## RESULTS

- 25% less material needed for purging with New & Improved Dyna-Purge® X.
- Significantly reduced the amount of time required for purging.
- Lowered the amount of raw material needed to chase out the purge.
- No residue left behind.



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CASE STUDY