Case Study
ADDWORKS® PKG 906 CIRCLE

Polymer stabilizer solution for enhanced recyclability – how Clariant helped a producer of packaging films to turn his manufacturing waste into value

OBJECTIVES
Reintroducing high amounts of post manufacturing waste into the manufacturing process has always been recognized as an important factor for lowering the costs and increasing the efficiency of plastics production.

While helping a global producer of plastic films to optimize the antistatic properties of a manufacturing process for flexible packaging, experts from Clariant’s BU Additives noticed the high amounts of plastic scrap generated during production. Aware of the negative impact this had both on the cost-effectiveness and the sustainability of the operations, they used the AddWorks® polymer stabilizer solution to solve this issue.

CUSTOMER NEEDS
• Reuse post manufacturing waste/off-spec material
• Avoid inferior film quality
• Avoid line speed reduction
• Raw material saving

SOLUTION
The newly developed AddWorks® PKG 906 Circle is a proprietary polymer stabilizer that makes it possible to significantly increase the recycled content of polyolefin films. It allows reintroduction of reground scrap at a rate of up to 20% and higher into virgin resins without any loss in quality or process efficiency, thus creating considerable benefits both in polypropylene (PP) and polyethylene (PE) film production.

The additive is particularly well-suited for bioriented polypropylene (BOPP) manufacturing but also applicable to cast and blown film processes. Consisting of free-flowing white granules that are free of carrier resin and food contact-approved, the product is easy to feed into existing processes and can be fully adapted to varying parameters, such as base resin quality, film type, recyclate quality and amount of recyclate added.

During production, AddWorks® PKG 906 Circle offers outstanding protection to the polyolefin resin, leading to optimum film quality without loss of transparency or additional yellowing. It significantly reduces the formation of gels and black spots and enables maximum line speeds without increased risk of film breakage.
**SIGNIFICANTLY INCREASED RECYCLED CONTENT IN COMMERCIAL BOPP FILM PRODUCTION**

AddWorks® PKG 906 Circle allows higher recycling rate of post manufacturing waste without loss in quality or process efficiency.

---

**BENEFITS**

Enhancing the quality of polyolefin films containing up to 20% recyclate in real-life case studies, and up to 30% in our tests, AddWorks® PKG 906 Circle has the potential to substantially improve the economic and ecological profile of packaging film production. Its cost- and waste-saving credentials are supported by solid performance data both in PP and PE matrices, as well as by a proven track record in the industry. Offering a bottom line friendly solution to reduce both plastic waste and the consumption of virgin resin, it is particularly suited for the sustainability needs of this particular industry.

---

**SUMMARY**

- Cost savings potential through higher recycling rate of post manufacturing waste
- Outstanding polyolefin resin protection supporting excellent film quality
- Significant gel and black spot reduction
- Maintained high line speeds
- Reduced film breakage
- Suitable for most PO film processes

For more information please contact additives4u@clariant.com

---

This information corresponds to the present state of our knowledge and is intended as a general description of our products and their possible applications. Clariant makes no warranties, express or implied, as to the information's accuracy, adequacy, sufficiency or freedom from defect and assumes no liability in connection with any use of this information. Any user of this product is responsible for determining the suitability of Clariant’s products for its particular application. Nothing included in this information waives any of Clariant’s General Terms and Conditions of Sale, which control unless it agrees otherwise in writing. Any existing intellectual/industrial property rights must be observed. Due to possible changes in our products and applicable national and international regulations and laws, the status of our products could change. Material Safety Data Sheets providing safety precautions, that should be observed when handling or storing Clariant products, are available upon request and are provided in compliance with applicable law. You should obtain and review the applicable Material Safety Data Sheet information before handling any of these products. For additional information, please contact Clariant.