Nanoreinforced® Polyamide 6 - Case Study

POSS® Molecular Silica® in PA6 makes sausage casing producer market leader

Problem:

A sausage casing producer with a minor share of ther market was interested in changing from traditional cellulose casing to a PA6 film. Unfortunately, there were some difficulties:

- Must be permeable to CO_2 and smoke
- Moisture barrier required
- Common blends and additives unsuccessful

Nanoreinforced® Polyamide 6 can meet these challenges, and provide additional benefits

Based on permeation data gathered and presented by Hybrid Plastics®, POSS®/PA polymer blends were identified as promising candidates for this application. Customer also identified specific blends of POSS® Nanostructures and PA film that could provide the required properties for successful application of PA nanocomposite film for sausage casing, and also realized additional benefits not originally anticipated.

- Packaging exhibits good permeation to CO_2 and smoke while providing some barrier to water.
- Increased shelf life of product, up to 20 days without refrigeration.
- Increased hydrophobicity eliminates need for drying PA before processing.
- Reduced viscosity allowing higher throughput of material lowers production costs.
- Better clarity and surface of film.
- Better printability.
- Increased temperature resistance allows for pasteurization and sterilization.
- Higher yield of film per kilogram of resin relative to cellulose.

Customer had only a negligible share of chorizo market prior to POSS®/PA development but became market leader only two years after commercial launch of POSS®/PA film.

Learn more about POSS® for packaging applications . . .

Click on the images at right to see a larger picture and more information. ⇒

Download the Nanoreinforced® Polyamide 6 TDS or the Nanoreinforced® Film Permeation TDS.

Ask a POSS® Expert how POSS® Chemicals can be used to improve your biomaterials.