FACT SHEET - STANDARDS FOR BIODEGRADABLE PLASTICS

ASTM Standards for Oxo-Biodegradable Plastics

As a company singularly committed to promoting the use of environmental packaging materials for 14 years, Green Light Products Ltd supports the development of international standards relating to the establishment of practical and measurable specifications and methods for testing biodegradable products.

Many claims are made and this fact sheet will explain the various standards and how OPUS Bio film can be categorised as “Biodegradable”.

What is ASTM D6954-04?

The American Society for Testing and Materials (ASTM) validates oxo-biodegradation and ASTM D6954-04 is the standard test developed for testing whether plastics can degrade in the environment by a combination of oxidation and biodegradation.

OPUS Bio film is totally compliant with this internationally recognised standard and can therefore, be classified as “BIODEGRADABLE”.

What are EN13432 / ASTM D6400-04?

The commonly quoted standards for compostable plastics are EN 13432 and ASTM D6400-04 and are related to the performance of plastics in a commercially managed composting environment, but importantly, are not biodegradation standards.

Unfortunately, at the present time, there are no standards available for the performance of biodegradable plastics in alternative disposal environments to commercially managed composting, such as landfill, litter and home composting to name a few.

In order for a product to conform to these standards, the following criteria must be met:

Disintegration: the ability to fragment into non-distinguishable pieces after screening and safely support bio-assimilation and microbial growth

Biodegradation: conversion of carbon to carbon dioxide
to the level of 60% and 90% over a period of 180 days

Safety: that there is no evidence of any eco-toxicity in finished compost and soils can support plant growth

Toxicity: that heavy metal concentrations are less than 50% regulated values in soil amendments.

Does OPUS Bio conform to these standards?

OPUS Bio film meets the requirements of compostability outlined in these standards, except for the rapid carbon to carbon dioxide conversion rate. OPUS Bio will degrade and ultimately biodegrade slower than the rate specified in these standards. Therefore, it cannot be said to meet all the conditions of EN13432. However, this does not mean that the film will not biodegrade. On the contrary, it just converts the carbon to carbon dioxide in a slightly longer time frame; approximately 12 months instead of the 6 months specified in EN13432.

What other products are biodegradable but do not conform to EN13432?

There is much debate over the value of the EN13432 as a standard for compostability as many industry experts consider the requirements to be based on poor science. For example, under EN13432, the following products would not be considered biodegradable:

- Leaves
- Paper
- Natural Rubber
- Grain Proteins
- Lignin (a major component of trees)

Where does this leave OPUS Bio Film?

- OPUS Bio film is biodegradable
- OPUS Bio film can be used in municipal composting facilities although Green Light Products Ltd does not claim compostability for the product.
- We believe that the slower rate of biodegradation has a functionally important role to play in the performance of the air cushion. The film will retain air longer and the shelf life will be longer than plastics that biodegrade faster (according to EN13432).