

Compostable Flexible Packaging

Technical Data Sheet – Product ID: **C-25-K**



CompostablePak.com

Material Description:

A high performing, laboratory tested, compostable food-grade packaging material. Excellent tear properties, totally opaque, great heat seal profile and boasting superior oxygen and water vapor transmission rates. This is an innovative, custom engineered, patent pending, industrial compostable flexible packaging material. It is food contact and nitrogen-flush safe with an outstanding paper printing surface. The kraft paper surface aids in ink saturation and helps provide an immediate appearance of compostability when interacted with by the consumer.



Illustration of product disintegration while composting

Physical Properties / Characteristics:

Property	Test Method	Unit of Measure	Value (average)
Thickness	Caliper	Mils	4.1
Heat Seal Temp	ASTM F1921	Fahrenheit	230 – 400
Dart Drop	ASTM D1709 A	f-50(g)	42.5
Tensile @ Break	ASTM D882	PSI	10219 MD 5223 TD
Elongation @ Break	ASTM D882	%	3 MD 8 TD
Opacity	ASTM D2805	D65/10 observer angle	99.47
Elmendorf Tear	ASTM D1922		66.6 MD 108 TD
OTR	ASTM D3985	CC/SQ M – 24 HR ATM	.469
		CC/100 SQ IN – 24 HR ATM	.0302
WVTR	ASTM F1249	G/SQ M – 24 HR ATM	2.91
		G/100 SQ IN – 24 HR ATM	.19
Industrial Compostable	ASTM D6400/6868	Pass or Fail	PASS

All properties are tested under standard laboratory conditions unless otherwise stated.

MD - Machine Direction | TD - Transverse Direction

Storage: optimal storage conditions are ambient temperatures of 70 degrees F with low or no humidity, away from any source of local heating or direct sunlight. Material should be allowed to reach operating room temperatures for 24 hours before use.

Case Study

ROAM (roamsnacks.com)

- Roam uses this material (C-25-K) in roll-stock form to package its three flavors of mushroom crisps. Roam runs the material through a digital printing press for printing on the kraft paper surface, then installs the printed roll of material onto a VFFS automated, intermittent bagging machine for final packaging of its food product. The packaging material (C-25-K) performs very well and passes ASTM D6868 as its presented below in its final formed/sealed shape.



ASTM D6400/6868 – Industrial Compostable Test

SOURCE: <https://www.astm.org/Standards/D6400.htm>

ASTM International, formerly known as American Society for Testing and Materials, is an international standards organization that develops and publishes voluntary consensus technical standards for a wide range of materials, products, systems, and services.

This specification covers plastics and products made from plastics, including bio-based and plastics made from plants that are designed to be composted in municipal and industrial aerobic composting facilities. This is the leading US standard.

D6400 Test Requirements:

1. Disintegration During Composting - Measured by the physical breakdown of product to pass a 2mm sieve. Up to twelve weeks of disintegration are allowed before sieving.
2. Inherent Biodegradation - Measured by carbon dioxide (CO₂) evolution as the product biodegrades.
3. No Adverse Impacts on the Ability of Compost to Support Plant Growth - Testing for heavy metals and plant growth study.

Printing Inks

A true compostable package considers all aspects of the packaging, including the printing inks themselves. There are different commercial printing methods which exist, such as digital, flexographic, offset etc. and certain inks may be limited to specific printing methods. Some inks are certified by European compostable standards and few, but an expanding amount are being certified by US certifying entities. Nonetheless, we encourage using certified and tested compostable inks. For example, the HP Electro ink series has EU compostable certificates for specific usage amounts and is limited for use in only certain HP digital presses.

We can assist in helping identify the most appropriate printing method, materials and artwork confirmation with our commercial printing partners.

Compostable Overview

SOURCE: Biodegradable Products Institute (BPI) bpiworld.org

Overview and Definition

Composting is a natural process that turns organic materials into a conditioner for soil. As an organic-matter resource, compost has the unique ability to improve the chemical, physical, and biological characteristics of soils.

Compost is produced through the activity of aerobic (oxygen requiring) microorganisms. These microbes require oxygen, moisture, and food in order to grow and multiply. When these factors are maintained at optimal levels, the natural decomposition process is greatly accelerated. The microbes generate heat, water vapor, and carbon dioxide as they transform raw materials into a stable soil conditioner.

Compost can be produced from many “feedstocks” - raw organic materials, such as leaves, manures, food scraps, wet/soiled papers and certified compostable products. State and federal regulations exist to ensure that only safe and environmentally beneficial composts are marketed.

“Biodegradable” And “Compostable”

You may remember from high school geometry class that while every square is a rectangle, not every rectangle is a square. That’s a lot like the difference between the terms “biodegradable” and “compostable”. While everything that is compostable is biodegradable, not everything that is biodegradable is compostable.

Technically speaking, lots of things are biodegradable. That is because the term “biodegradable” has no time frame attached to it, meaning that if a given material will eventually break down, it can be described as biodegradable. The term “compostable” does have a time frame attached to it, though that time frame is defined by each individual composter and his or her specific operational requirements. Generally speaking, most composters would like the material they allow into their facilities to break down in fewer than 80 days.

US Federal Trade Commission (FTC) Green Guides Summary

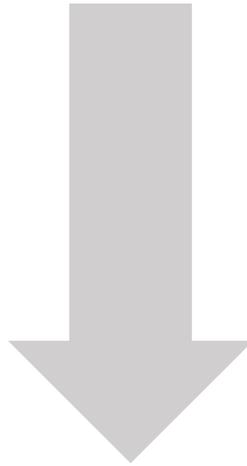
SOURCE: https://www.ftc.gov/system/files/documents/public_events/975753/ftc_-_environmental_claims_summary_of_the_green_guides.pdf

Marketers who claim a product is compostable need competent and reliable scientific evidence that all materials in the product or package will break down into — or become part of — usable compost safely and in about the same time as the materials with which it is composted.

Marketers should qualify compostable claims if the product can’t be composted at home safely or in a timely way. Marketers also should qualify a claim that a product can be composted in a municipal or institutional facility if the facilities aren’t available to a substantial majority of consumers.

The following may be an acceptable statement to include on product packaging which is only industrial compostable:

“Industrially Compostable - Appropriate facilities may not exist in your area”

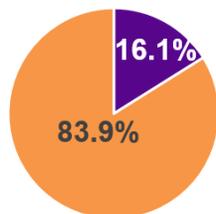


Why Go Compostable?

The NYU Stern Center for Sustainable Business (CSB) published a 2020 report which found...

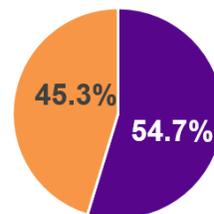
- Sustainability-marketed products grew **7.1x faster** than products not marketed as sustainable.
- Despite the fact that sustainability-marketed products are 16.1% of the market, they delivered **54.7%** of the CPG market growth (2015-2019).
- Sustainability-marketed products continue to grow despite the COVID-19 pandemic.
- Sustainability-marketed branded products enjoy a significant price premium of **39.5%** vs. their conventionally-marketed branded counterparts, with a widening premium of +5.3 pts vs. 2014.

\$ Share of Market
(2019)



■ Sustainability-marketed products
■ Conventionally-marketed products

\$ Share of Market Growth
(2015-2019)



■ Sustainability-marketed products
■ Conventionally-marketed products

SOURCE: <https://www.stern.nyu.edu/experience-stern/about/departments-centers-initiatives/centers-of-research/center-sustainable-business/research/research-initiatives/csb-sustainable-market-share-index>

A 2020 **Boston Consulting Group** survey of more than 15,000 U.S., Europe and South America consumers found...

- Nearly **75%** of consumers are willing to pay more for sustainable packaging.
- Nearly **50%** of consumers actually shy away from harmful packaging. Of those consumers avoiding harmful packaging, 68% associate plastic with ocean pollution.
- Along with the large number associating plastics with ocean pollution, the report shows that almost **60%** of consumers say they are less likely to buy a product in harmful packaging.

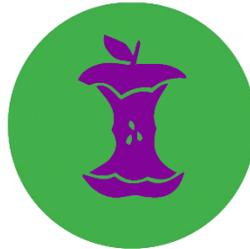
SOURCE: <https://www.environmentalleader.com/2020/04/new-report-finds-overwhelming-majority-of-consumers-are-willing-to-pay-more-for-sustainable-packaging/>

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