



BIOflex

BIOflex® FL

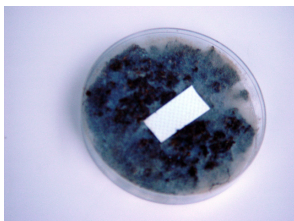
BIOflex® FL is a 15 oz. matte finish, strong, indoor/outdoor, front-lit, biodegradable banner/billboard material for UV, solvent or screen-printing. Very similar in all around performance to Ultima Supreme, BIOflex has one major difference; in landfill conditions (darkness, high heat, moisture and lack of oxygen), it attracts microbes that break down the PVC within 3 to 5 years. BIOflex contains no toxic materials and is tear, fade and fungus resistant. Widths range from 54" -196".

PVC has a remarkable balance of properties; it is strong, resistant to oil, chemicals, sunlight and weather. PVC is also flame resistant, easily decorated and low in cost. At one time, PVC was often formulated with little regard for avoidance of toxic ingredients. This is no longer true. BIOflex PVC contains no toxic materials. It is composed of pure PVC resin, fine particle limestone to provide opacity, plasticizer of vegetable origin to provide flexibility and the titanium pigment used in high quality paints to add sunlight resistance. More than 80% of the content of BIOflex is derived from sources other than petroleum.

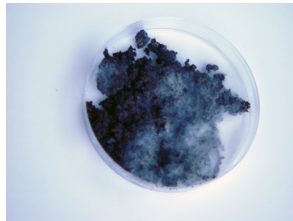
Before BIOflex, PVC had been immortal in the landfill; no degradation was found after decades of landfill burial. When degradable materials, such as starch, were added, they were consumed in the landfill but the PVC itself was untouched. Ultraflex Systems has developed a nontoxic formula that, at very low levels, enables landfill decomposition of BIOflex PVC. BIOflex has been engineered to be the first truly environmentally friendly, biodegradable PVC. Worldwide patents covering the BIOflex composition are pending.

In the landfill, the carbon and hydrogen content of BIOflex are partly consumed by the biomass organisms and partly released as methane from fermentation. In a well managed landfill, methane is harvested for use as fuel. The chlorine content of BIOflex is partly consumed and partly converted to soluble chloride, this has value as fertilizer since it makes soil nitrogen more rapidly available to plants. In experiments using landfill into which BIOflex had decomposed as compost in potting soil, plants and vegetables sprouted more rapidly than in controls.

Standard PVC vinyl that has been in a landfill for 30 days.



BIOflex PVC vinyl that has been in a landfill for 30 days.



Product Features

- In properly controlled landfills BIOflex PVC will vanish in 3 to 5 years
- 80% of the content is derived from sources other than petroleum
- Formula is non-toxic
- Contains no heavy metals, pesticides, bleaching agents, DOP or similar plasticizers, glycol ether or carcinogenic coloring agents
- Tear and fade resistant
- Compatible with UV, solvent and screen printers
- Available seamless 54", 63", 72", 126" and 198" widths
- Can be RF and heat welded
- Fire certified for NY MEA; NFPA701 and CA Fire Marshal Title 19 test
- Patent Approved

Certified Testing

In an ISO 13641 study by an independent testing laboratory, addition of BIOflex® to a landfill not only did not inhibit, but actually increased the level of biological activity. This ISO test is designed to ensure that materials added to a landfill do not release toxic substances. BIOflex begins to degrade in the landfill within a few weeks and depending on thickness and quantity added, the PVC will vanish in 3 to 5 years. It should be noted that landfills can be managed by control of temperature and moisture content so as to increase the level of biological activity.

The Woods End ASTM D5526 data show that the ratio of the fraction of organic carbon and hydrogen from BIOflex released to the air, and the fraction delivered to the solid biomass varies with landfill conditions, such as temperature and water content. The fraction released to the air is mostly methane, which can be harvested for fuel, along with the methane released by other components of the landfill, such as paper. Variability in the ratio of end product to the air and to the biomass is also typical of other land-filled materials, such as paper.

BIOflex has been tested for field performance including strength and weathering in the above tests as well as exposure to 2000 hours of laboratory UV, which BIOflex showed no signs of discoloration.

Packaging

BIOflex sample rolls are packaged using a stretch film that is made primarily of linear low density Polyethylene (LLDPE). All materials used in the production of this packaging are completely recyclable as low density polyethylene. Additionally, the protective shipping tubes are made from recycled materials and are fully recyclable.

Item Numbers and Sizes

Item Number	Size English	Size Metric	Weight	Finish
BIOFLMAT13750	54" x 164'	1.37m x 50m	15 oz/yd ² or 510 g/m ²	Matte
BIOFLMAT16050	63" x 164'	1.60m x 50m	15 oz/yd ² or 510 g/m ²	Matte
BIOFLMAT18530	72" x 164'	1.83m x 50m	15 oz/yd ² or 510 g/m ²	Matte
BIOFLMAT320050	126" x 164'	3.20m x 50m	15 oz/yd ² or 510 g/m ²	Matte
BIOFLMAT500050	196" x 164'	5.00m x 50m	15 oz/yd ² or 510 g/m ²	Matte



PVC * Textiles * Carpet * Wallscapes * Rigid * SAV * Specialty

All statements, technical information and recommendations about Ultraflex products are based upon tests believed to be reliable but do not constitute a guarantee or warranty. All Ultraflex products are sold with the understanding that the purchaser has independently assumed responsibility in determining the suitability of such product for its purposes.