



# protecting the environment

...we've made it our business



# TYTHESTER® PLASTIC CARDS

Tythester plastic cards - The core material is patented and made completely from natural minerals, which is then overaminated in polyester. The Tythester inner core materials are also continuous, homogeneous and composed of polyolefins and inert fillers formed into a sheet composing a microporous structure.

There are no known health hazards associated with the products as evidenced in testing done to date. When burned Tythester combustion products are similar to those organic compounds with equivalent components.

Tythester should not be considered injurious to mammalian cells as verified by cytotoxicity tests

Tythester can be recycled with HDPE in a high intensity mixer such as a twin screw extruder. It is not, however, biodegradable.

It can be disposed of in a landfill and will not leak into ground water. It can also be incinerated in an atmosphere of excess oxygen. When burned it yields water, CO2 energy plus a clean ash due to its silica filler.

Tythester does not contain any cellulose based materials and does not contribute to the harvesting of our forests. It is NON-TOXIC and does not contain any ozone-depleting constituents.

## POLYESTER

The Polyester overaminated material (Melinex) which forms the protective layer on both sides on the Tythester core material gives the finished plastic card its high gloss appearance whilst at the same time adding to its strength and durability.

You can flex the finished card over 20,000 times at 180 degrees without the card breaking or cracking, making the Tythester Plastic cards one of the strongest on the market today. Also, since all the printing is on the inner core, the printed design cannot be scratched, scuffed, or damaged, being totally protected by the high quality polyester plastic surfaces.

## POLYESTER CONSTRUCTION

Melinex polyester is a biaxially oriented film produced from the polymer polyethylene terephthalate (PET). It is manufactured from terephthalic acid and monoethylene glycol, both of which are derived from petroleum feedstocks.

## TYTHESTER RECYCLING

It provides a high performance to weight ratio and is therefore not wasteful of resources. It can also be recycled into polyester fibre for use as a filling for sleeping bags, pillows, and clothing. The actual Tythester/Polyester products are also being used by the Food Industry and Supermarkets, and is nearly always the top choice for children's toys, e.g. placemats, coasters, games, and bookmarks when 'environmentally friendly' plastic is being sourced.

## BIODEGRADABILITY

On controlled incineration, Melinex behaves in a similar manner to common natural cellulosic materials such as wood, and paper. Gases, mostly CO2, and water are produced and the small quantities of catalyst residues remain as ash. In many circumstances, energy balance studies show that incineration with Energy Recovery is the most environmentally friendly efficient recovery route for polyester waste

## ENERGY PROPERTIES

Melinex (Polyester) has approximately the same energy content as soft coal and is thus a useful component of mixed domestic refuse for incineration as it assists the combustion of wet paper, and vegetable matter. The valuable energy released can be recovered and used in the heating of municipal buildings, homes and industrial facilities

Melinex polyester is stable, and inert on exposure to the environment. It will remain virtually UNCHANGED when buried for very long periods, thus aiding the stability of the landfill site as a whole. It is unaffected by either alkaline or mild acid conditions and will not contaminate water tables or run-offs into rivers or other water courses.

## CONCLUSION - Help to protect the environment with Tythester® Plastic Cards

TYTHESTER Plastic Cards can be manufactured in a range of thicknesses, using a combination of various core and polyester weights. Because of its low density, it is a very much lighter product than the non environmental PVC product. It is also much stronger than PVC. To the touch, a Tythester card feels thinner than PVC if one compares a normal 30thou (760 micron) cheque card to the Tythester equivalent e.g. 750 micron, but is in fact much stronger. A 850 micron is available should a thicker weight be required.

## DISADVANTAGES OF PVC

Tests have shown that as PVC is made from Chlorine, which is known as an extremely dangerous poisonous chemical, PVC is polluting the atmosphere, depletes the ozone layer, and is at its most toxic during its raw state of being manufactured - PVC CAN ONLY CONTINUE TO DAMAGE OUR WORLD. The damaging affect of this material is currently being discussed not only by Greenpeace, WWF and similar ecology - oriented Non Government Organisations (NGL) but now also by 'think tanks' and industry-oriented groups.

- TYTHESTER POLYESTER DOES NOT CAUSE ANY ECOLOGICAL PROBLEMS
- PVC produces and releases dioxins (very toxic substances) which requires sophisticated installations and handling
- All Scandinavian and many European countries have now banned Dioxins (in all PVC cards) in their most civil societies and have socially and politically completely refused PVC as an unaccepted material - too toxic to use
- Burning PVC produces also HYDROCHLORIC ACID (HCl) which contributes to the generation of acid rain

### PLASTIC thicknesses available/ weights of each card

Plastic thickness		Weight
850 micron	36 thou	3 1/2 grams
750 micron	30 thou	3 grams
600 micron	24 thou	2 grams
500 micron	20 thou	2 grams
400 micron	16 thou	2 grams
325 micron	13 thou	1 gram

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