Telegan PRESSED PRODUCTS LTD	**Technical Datasheet**	TDS009/01

VYNALAST
Photoluminescent Engraving Laminate

VYNALAST Photoluminescent Engraving Laminate is a tough, rigid, PVC product designed for the more technical applications of engraved signage. In addition to the excellent chemical resistance, high tensile strength, good impact toughness and dimensional stability, low thermal conductivity and good electrical properties demonstrated by standard VYNALAST, VYNALAST Photoluminescent adds the dimension of afterglow.

VYNALAST Photoluminescent has a "glow in the dark" core which incorporates specialist non-toxic, non-radioactive luminous pigments that absorb ambient light, releasing it slowly when the light source is removed. When tested to DIN 67510-1 it surpasses PSPA Class B criteria (50/7-900/DIN67510) which translates as 16hrs of glow after a 5 minute exposure to a 1000lux light source.

It excels in outdoor applications where it is resistant to salt water corrosion and other environmental factors. Fabrication is easy with VYNALAST Photoluminescent sheet, which can be sawn, drilled, formed, bent, milled and welded and it comes in a range of colour options to suit the user's needs.

VYNALAST has a much lower specific gravity than other chemically resistant materials such as high duty alloys, is easily machined using standard joinery equipment, and is free from electrolytic effects when used in combination with other substrates.

Physical Properties

Property	Value	Method
Specific gravity	1.34	DIN 53479
Vicat Softening Point	83 +/- 1°C	DIN EN ISO 306 (5kg; air)
Tensile strength	42-50 N/mm²	DIN EN ISO 527 / 1-3
Elongation at Break	50-100 %	DIN EN ISO 527 / 1-3
Izod impact strength	160 J/m	ASTM D256
Coefficient of thermal linear expansion.	8×10^{-5} per unit of length per °C	
Maximum service temperature	60°C	
Volume resistivity	10^{15} ohm/cm	BS2782:1983 Method 230A
Surface resistivity	10^{14} ohm	BS2782:1983 Method 231A
Dielectric strength	14 kV/mm	BS2782:1983 Method 220 and 221

Chemical Resistance

Organic Compounds

VYNALAST is unaffected by aliphatic hydrocarbons (most oils and greases), as well as aliphatic alcohols. It is attacked by aromatic and chlorinated hydrocarbons, ketones, ethers, esters and amines. Usually these organic compounds will cause swelling of the PVC by solvent action.

Inorganic Compounds

At temperatures of up to 60°C, VYNALAST is resistant to attack by most inorganic liquids including moderately concentrated acids, all alkalis and aqueous salt solutions at all concentrations. Powerful oxidising agents including oxidising acids will attack it in certain conditions.

A more comprehensive chemical resistance datasheet can be obtained on request from Telegan.

Engraving

VYNALAST is a thermoplastic laminate and so to avoid common features such as burring or fusing we would recommend observing the following guidelines:

1. It is essential that the engraving tool starts sharp and is regularly sharpened to maintain performance.
2. Flat head tools work better than those with a needle point.
3. Slow down the engraving tool speed (rpm). This will reduce frictional temperature and reduce the likelihood of burring.
4. Slow down tracking speed (speed of tool over the surface). This also reduces any temperature build up. As mentioned above, Telbex is thermoplastic and so excessive temperatures will soften the material.

There is a small loss in overall cycle time when compared to other types of engraving laminate, but it is the other properties such as formability, easy fabrication and excellent chemical and weathering resistance which separates VYNALAST engraving laminate from other engraving products.

Cleaning

Cleaning is best carried out with dilute soap or detergent solution before being rinsed thoroughly using fresh water. Proprietary cleaners should be avoided as they may contain solvents or abrasives which could damage the material surface.

Storage

Material should be stored in a cool, dry environment between 5-25°C.

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