

# HellermannTyton

## 242 REFLECTIVE GRAPHIC FILM

### USES:


The HellermannTyton 242 reflective high performance vinyl is a high performance, enclosed lens, retro-reflective film which meets or exceeds the applicable requirements of ASTM D4956-07 for reflectivity. Specifically designed for photovoltaic electric installations that require excellent reflective characteristics to meet the IFC requirements commonly found in PV applications where power must be identified on conduits, cable assemblies, combiner boxes, raceways and enclosures.

Face:	7 to 8 mils (.18 to .20mm) vinyl
Adhesive:	Pressure activated, slideable
Liner:	Polyethylene-coated paper
Durability:	7 years initial outdoor durability, but can last much longer in outdoor vertical exposure
Temp range:	-30F to +200F (-34C to +93C)
Min. Application Temp:	+50F (10C) for flat surfaces and +55F (+13C) for curved surfaces.
Appearance:	Similar daytime and nighttime appearance that retains most of its reflectivity when wet.
Application surfaces:	Vertical, flat, curved or corrugated surfaces, with or without rivets. 242 is printed and then laminated with 334 clear polyester to protect the printed text.

### FEATURES:

Long term durability and outdoor performance  
Dimensionally stable liner for easy converting  
High Gloss Finish  
Resists mild alkalis, mild acids, and salt.  
Good for powder coat painted surfaces and and EMT conduit.  
Excellent resistance to water.  
Meets ASTM D4956, Type I  
Product Warranty 7 Years  
Use of clearcoats (UV, solvent) or protective laminates may extend the performance of reflective films.  
HellermannTyton automatically laminates all pre-printed reflective solar markers with a clear UV stable laminate (334 laminate) as standard procedure during the manufacturing process.

**WARNING: PHOTOVOLTAIC POWER SOURCE** 

The "CheckHT" symbol in the corner of the label signifies that this product is warranted for 7 years and meets all applicable codes and standards and have been Xenoc Arc tested to the highest standards of outdoor durability. 

### PHYSICAL CHARACTERISTICS




<u>Adhesion</u>	<u>Value</u>
Aluminum	6.0 pounds/inch (1.1 kg/cm)
FRP (Fiberglass Reinforced Plywood)	3.0 lb/inch (0.5 kg/cm)
Painted Aluminum panels	4.5 pounds/inch (0.8kg/cm)

Initial life is 5-7 years, but is designed for much longer use.

#### Reduced Durability for graphics NOT in US vertical exposure.

If Graphic Exposure is: Use this percentage of US vertical exposure

Desert SouthWest	70% (.7)
All other exposures in the US	100%

 **WARNING:** Cancer and Reproductive Harm.  
 **AVERTISSEMENT :** Peut Causer le Cancer et des Dommages au Système Reproducteur.  
 **ADVERTENCIA:** Cáncer y Daño Reproductivo.  
[www.p65warnings.ca.gov](http://www.p65warnings.ca.gov)

XENON  
ARC TESTING  
RESULTS  
USING  
242 REFLECTIVE  
GRAPHIC  
FILM.

Left side is  
5000 hours exposure  
in a Xenon Arc  
Chamber

Right side is  
original un-exposed  
material for  
comparison



RESULTS: PASS - Material has only very slight color fading and clearly legible with no sign of adhesive failure or edge lift.

XENON  
ARC TESTING  
RESULTS  
USING  
242 REFLECTIVE  
GRAPHIC  
FILM.

**Left side is  
7000+ hours exposure  
in a Xenon Arc  
Chamber**

**Right side is  
original un-exposed  
material for  
comparison**



RESULTS: PASS - Material has only very slight color fading and clearly legible with no sign of adhesive failure or edge lift. Slight crackle in red ink.

XENON  
ARC TESTING  
RESULTS  
USING  
242 REFLECTIVE  
GRAPHIC  
FILM.

**Left side is  
10,000+ hours exposure  
in a Xenon Arc  
Chamber**

**Right side is  
original un-exposed  
material for  
comparison**



RESULTS: PASS - Material has only very slight color fading and clearly legible with no sign of adhesive failure or edge lift. Slight crackle in red ink.

The HellermannTyton UV chambers produce approximately 4488 MJ/m<sup>2</sup> of UV radiation per hour (at a frequency of 340 nm) Florida's average annual UV radiation (295 - 385 nm) is 280 MJ/m<sup>2</sup>. Using this data, the 242 material labels have been exposed to the equivalent of 16.02 Florida sun years.

### ACTUAL OUTDOOR TESTING RESULTS



The 242 material has been tested in actual continuous outdoor exposure for five years in Wisconsin. Plate faces Southwest. After five years, the exposed label shows no signs of fading and no edge lift.



This comparison is an engraved plate exposed to 6690 hours of accelerated aging. This is not a HellermannTyton product. This test shows that even colored plastic will fade due to UV exposure.

Shelf Life: Product retains its performance properties for a least two years from the date of manufacture if properly stored at room conditions of 70F (21C) and 50% relative humidity.

Any outdoor graphic exposed to solar energy more than half the daylight hours in Arizona, New Mexico and the desert areas of California, Nevada, Utah and Texas may see reduced outdoor durability.

Outdoor Life: Outdoor aging is dependent on climate, the direction the label faces, the surface angle to which the label is applied (horizontal or vertical) and the amount of airborne pollutants to which the label is exposed. Initial life of 7 years, but is designed to last much longer in UV conditions. HellermannTyton makes no claim or warranty regarding outdoor durability in actual end user conditions.

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