

HellermannTyton

840 GLOSS WHITE SHB POLYESTER

PRODUCT CONSTRUCTION:

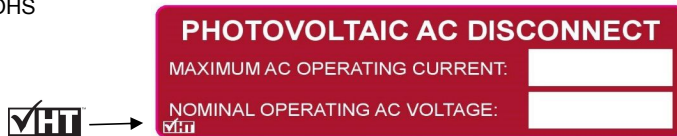
Facestock: 2.0 mil (51 microns) gloss white polyester
 Adhesive: 2.0 mil (51 microns) permanent acrylic
 Liner: 3.2 mil (81 microns) 55# paper



FEATURES

Facestock has high abrasion and scuff resistance, good weatherability and chemical resistance.
 Firm acrylic adhesive resists oozing and has excellent adhesion to a variety of surfaces.
 Facestock is top-coated for thermal transfer printing.
 Mil-Std-202G

UL recognized and CSA certified for indoor and outdoor use. MH16736 & MH14382 CSA 66956
 Adhesive bonds strongly to powder coat painted or baked enamel breaker boxes and panels
 HellermannTyton pre-printed variable print labels are pre-laminated with our 926 clear laminate to protect the red printing prior to end use. Additional 552 laminate can be applied after thermal transfer printed.
 ROHS



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.

APPLICATIONS

Barcode labels printed flexographically or by thermal transfer printer
 Rating plate labels for PV installations requiring high performance outdoor durability
 Property identification and asset labeling
 Durable goods labeling

PHYSICAL PROPERTIES

Service Temperature range: -40F to +300F (-40C to +150C)

Chemical	Performance
Strong acids	very good
Strong alkalis	very good
Grease, oil	Excellent
Organic solvent	Excellent
Water	Excellent

⚠ 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

Humidity resistance: Excellent: After 24 hours at 100 degrees F (38C) and 100% relative humidity. No change noted.

Adhesion: 180 degree peel, 10 min. Dwell (ASTM 3330)

Surface	Initial		Conditioned for 3 days at room temperature	
	oz./in.	N/100mm	oz./in.	N/100 mm
Stainless Steel	90	99	99	108
Polycarbonate	83	91	90	99
Polypropylene	77	84	85	93

ENVIRONMENTAL PERFORMANCE

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.

XENON
ARC TESTING
RESULTS
USING
840 GLOSS
WHITE SHB
POLYESTER

Left side is
5000+ hours exposure
in a Xenon Arc
Chamber

Right side is
original un-exposed
material for
comparison



WITHOUT 552 LAMINATE

WITH 552 LAMINATE

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
840 GLOSS
WHITE SHB
POLYESTER

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

Right side is
original un-exposed
material for
comparison



WITHOUT 552 LAMINATE

WITH 552 LAMINATE

RESULTS: PASS - Material has only slight color fading and slight ink crackle on the surface. Note that the use of the 552 laminate limits UV degradation. Text is clearly legible with no sign of adhesive failure or edge lift on either sample.

XENON
ARC TESTING
RESULTS
USING
840 GLOSS
WHITE SHB
POLYESTER

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

Right side is
original un-exposed
material for
comparison



WITHOUT 552 LAMINATE

WITH 552 LAMINATE

RESULTS: PASS - Material has only slight color fading and slight ink crackle on the surface. Note that the use of the 552 laminate limits UV degradation. Text is clearly legible with no sign of adhesive failure or edge lift on either sample.

The HellermannTyton UV chambers produce approximately .4488 MJ/m² of UV radiation per hour (at a frequency of 340 nm) Florida's average annual UV radiation (295 - 385 nm) is 280 MJ/m². Using this data, the 840 material labels have been exposed to the equivalent of 16.02 Florida sun years.

XENON
ARC TESTING
RESULTS
USING

Left side is
9038 hours exposure
in a Xenon Arc
Chamber

Right side is
original un-exposed
material for
comparison

840 GLOSS
WHITE SHB
POLYESTER



RESULTS: PASS - Material has only slight color fading and is still legible. Note that the use of the 552 laminate limits UV degradation. It is clearly legible with no sign of adhesive failure or edge lift on either sample.

552 Laminated

ANSI B71.1 indicates that label must pass at least 2000 hours of Xenon Arc testing which (according to B71.1) equates to 5 years of outdoor exposure.

ACTUAL OUTDOOR TEST RESULTS NOT LAMINATED

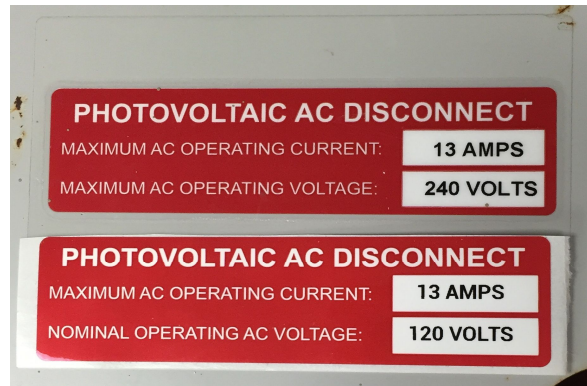
Unlaminated holding up very well after 5 years with minimal fading and no edge lift.



ACTUAL OUTDOOR TEST RESULTS LAMINTED WITH 552

Top label laminated with 552 clear laminate. No color fade and no edge lift after 5 years exposure.

Unexposed control label is on the bottom.



XENON ARC TESTING USING SILK SCREEN INK ON ALUMINUM



This comparison is a typical (non-HellermannTyton) silk screen aluminum plate after 7782 hours of accelerated aging. (This is not a HellermannTyton product.) This test shows that thick screen print inks will fade over time. 7782 hours is equivalent to 12.5 Florida Sun Years.

XENON ARC TESTING USING SILK SCREEN INK ON UV STABLE VINYL



This comparison is a typical (non-HellermannTyton) silk screen on vinyl after 7782 hours of accelerated aging. (This is not a HellermannTyton product.) This test shows that thick screen print inks will fade and fail over time. 7782 hours is equivalent to 12.5 Florida Sun Years.



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. 10.72 Florida sun years.

CHEMICAL TESTING



Printed samples were immersed in gasoline for 24 hours and then a brush was applied using norml hand pressure for 10 strokes to the marked portion of the label. The label was then allowed to dry for 45 minutes and wiped 25 times with a soft cloth.



Printed samples were immersed in alcohol (91%) for 24 hours and then a brush was applied using norml hand pressure for 10 strokes to the marked portion of the label. The label was then allowed to dry for 45 minutes and wiped 25 times with a soft cloth.



Printed samples were immersed in Radiator Fluid for 24 hours and then a brush was applied using norml hand pressure for 10 strokes to the marked portion of the label. The label was then allowed to dry for 45 minutes and wiped 25 times with

a soft cloth.



Printed samples were immersed in Brake Fluid for 24 hours and then a brush was applied using norml hand pressure for 10 strokes to the marked portion of the label. The label was then allowed to dry for 45 minutes and wiped 25 times with a soft cloth.



Printed samples were immersed in Engine Oil for 24 hours and then a brush was applied using norml hand pressure for 10 strokes to the marked portion of the label. The label was then allowed to dry for 45 minutes and wiped 25 times with a soft cloth.



Printed samples were immersed in Gasoline for 24 hours and then a brush was applied using norml hand pressure for 10 strokes to the marked portion of the label. The label was then allowed to dry for 45 minutes and wiped 25 times with a soft cloth.



Printed samples were immersed in Water for 24 hours and then a brush was applied using norml hand pressure for 10 strokes to the marked portion of the label. The label was then allowed to dry for 45 minutes and wiped 25 times with a soft cloth.

All other exposures in the US 100% or 10 years outdoor durability

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.

ROHS

Any product manufactured using 100B material, when purchaed from HellermannTyton Corporation is in compliance with the ROHS 2 (2011/65/EU), amended 2015/863/EU. These parts do not contain lead, cadmium, mercury, hexavalent chromium, Polybrominated Biphenyl (PBB) and Polybrominated Diphenyl Ether (PBDE). The amendment spells out the maximum specific Phthalates (BBP, DBP, DEHP, DIBP). These Phthalates are not knowingly used or intentionally added during the manufacturing process.

Furthermore, we do not believe we are adding any of said chemicals listed above while we convert the labels. We caution that it is incumbant upon our customer or end user to analyze for the presence

of chemicals listed above if they need to be sure of the content of restricted substances.

SPECIAL CONSIDERATIONS

Minimum application temperature +50F (10C) for best bonding conditions, application surface should be at room temperature or slightly warmer. Labels reach full bond after 24 hours.

HellermannTyton - <http://www.hellermann.tyton.com> - email: corp@htamericas.com - 414-355-1130 - 1-800-537-1512