

B438

CHECKERBOARD LABEL



Description

B438 thermal transfer printable tamper evident matte metallized polyester label

B438 is designed to leave a "CHECKERBOARD" footprint when the label is removed. In addition, a "CHECKERBOARD" pattern will appear on the top surface of the label in order to prevent it from being reused. Recommended 24 hour room temperature dwell before removal for full tamper evident performance. The adhesive nature of this product does not allow for repositioning and requires minimal handling in order to prevent prematurely exposed "CHECKERBOARD" pattern.

| | |
|------------------|---------------------------|
| Material | Metallized polyester |
| Print technology | Thermal transfer |
| Finish | Matte Silver |
| Adhesive | Tamper indicating acrylic |

Physical data

| Physical properties | Test method | Average results |
|---|---|--|
| Thickness | ASTM D 1000 - Substrate - Adhesive - Total | 0.0025 inch (0.064 mm) 0.0008 inch (0.021 mm) 0.0033 inch (0.085 mm) |
| Adhesion to: - Stainless steel - Aluminium - Glass - Smooth ABS | ASTM D 1000 30 minute dwell 30 minute dwell 30 minute dwell 30 minute dwell | 22 oz/in (24 N/100 mm) 28 oz/in (31 N/100 mm) 22 oz/in (24 N/100 mm) 54 oz/in (59 N/100 mm) |
| Tack | ASTM D 2979 Polyken™ Probe Tack (1 second dwell, 1 cm/sec separation) | Not applicable due to the nature of this product. |
| Drop shear | PSTC-7 (except use 1/2" x 1" sample) | 5 hours |
| Tensile strength and elongation | ASTM D 1000 - Machine Direction - Cross Direction | 56 lbs/in (981 N/100 mm), 117% 60 lbs/in (1051 N/100 mm), 90% |

Performance properties were tested on B438 printed with the R4300 ribbon.

Printed samples of B438 were laminated to aluminum before exposure to the indicated environmental condition.

| Performance properties | Test methods | Typical results |
|------------------------------------|--|---|
| Long term high service temperature | 30 days at 104°F (40°C) | No visible effect |
| Long Term Low Service Temperature | 30 days at - 40°F (-40°C) | No visible effect |
| Humidity resistance | 30 days at 100°F (37°C), 95% R.H. | No visible effect |
| UV light resistance | 30 days in UV Sunlighter™ 100 | Slight yellowing of topcoat. No visible effect to print. |
| Weatherability | ASTM G155, Cycle 1 30 days in Xenon Arc Weatherometer | Topcoat whitens. No visible effect to print. |

The tamper evident checkerboard pattern of B438 was retained after exposure to all of the listed conditions. Laboratory testing has shown that the tamper-evidence checkerboard pattern of this product becomes nonfunctional after exposure to temperatures higher than 104°F.

Performance property | Chemical resistance

| Chemical reagent | Subjective observation of visual change | | |
|-------------------------------|---|----------------------|----------------------|
| | Substrate / Adhesive | Effects of immersion | Cotton swab rubs |
| Methyl Ethyl Ketone | Slight adhesive ooze | Ink removed | Not applicable |
| 1,1,1-Trichloroethane | No visible effect | No visible effect | Ink removed |
| Toluene | No visible effect | No visible effect | Ink removed |
| Freon® TMS | No visible effect | No visible effect | Slight ink removal |
| Isopropyl Alcohol | No visible effect | No visible effect | Moderate ink removal |
| Mineral Spirits | No visible effect | No visible effect | No visible effect |
| JP-4 Jet Fuel | No visible effect | No visible effect | Slight ink removal |
| ASTM Reference Fuel B | No visible effect | No visible effect | No visible effect |
| SAE 20 WT Oil | No visible effect | No visible effect | No visible effect |
| Mil 5606 Oil | No visible effect | No visible effect | No visible effect |
| Rust Veto® 342 | No visible effect | No visible effect | No visible effect |
| Skydrol® 500B -4 | No visible effect | Severe ink removal | Ink removed |
| Super Agitene® | No visible effect | No visible effect | No visible effect |
| Deionized Water | No visible effect | No visible effect | No visible effect |
| 3% Alconox® Detergent | No visible effect | No visible effect | No visible effect |
| 10% Sodium Hydroxide Solution | No visible effect | No visible effect | No visible effect |
| 10% Sulfuric Acid Solution | No visible effect | No visible effect | No visible effect |

Application

Rating and serial plates that require high performance and evidence of label removal.

Shelf life

Shelf life is two years from the date of receipt for this product as long as this product is stored in its original packaging in an environment below 80° F (27° C) and 60% RH. It remains the responsibility of the user to assess the risk of using this product. We encourage customers to develop testing protocols that will qualify a product's fitness for use in their actual application.

Compliances

UL: B438 is a UL Recognized component label when printed with the R4300 and the R7950 ribbons. See UL file MH 17154. UL information can be accessed online at UL.com in the UL Product iQ area.

CSA: B438 is CSA Accepted to C22.2 No.0.15-95 Adhesive Labels Standard when printed with R4300 ribbon. See CSA record 41833 for specific details. CSA information can be accessed online at directories.csa-international.org.

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