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BLOCK PATTERN CONSPICUITY KPT2

I. Description:

The KPT2 is a tough, weather and solvent resistant microprismatic retroreflective sheeting designed for rugged outdoor use on the sides and rear of trucks, trailers, school buses, farm equipment, automobiles and all types of mobile and industrial equipment.

The sheeting is composed of cube corner (microprism) retroreflective elements integrally bonded to a flexible, smooth-surfaced, tough and weatherresistant UV stabilized polymeric film. The prism surfaces are coated with a vacuum deposition of aluminum to provide a mirror surface to the prism facets. The resulting tape is not more than 0.008 inch thick and comes with an aggressive high-tack pressure sensitive adhesive.

II. Colors

The KPT2 is available in white, gold, yellow, orange, red, green, and blue colors providing brighter, more vivid daytime colors than previously available in metalized microprism sheeting. The colors conform to the requirements in Table 1 when tested in accordance with ASTM practices E308 and E1164 and standards E1347 and E1349. The measured values are the average of eight readings. The test sample is rotated 45° about its own axis after each reading.

III. Reflectivity

The KPT2 shall meet or exceed the minimum coefficient of retroreflection shown in Table 2. The sheeting shall be measured in accordance with ASTM E810. Rotation angles of 0° and 90° are measured and averaged.

TABLE 1
COLOR SPECIFICATION LIMITS

| Chromaticity Coordinates* | | | | | | | | | | |
|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------------|------|
| Color | 1 | | 2 | | 3 | | 4 | | Luminance Factor (Y%) | |
| | x | y | X | y | x | y | x | y | Min. | Max. |
| White | 0.303 | 0.300 | 0.368 | 0.366 | 0.340 | 0.393 | 0.274 | 0.329 | 27.0 | ---- |
| Gold | 0.375 | 0.405 | 0.405 | 0.445 | 0.438 | 0.412 | 0.399 | 0.381 | 18.0 | 30.0 |
| Yellow | 0.498 | 0.412 | 0.557 | 0.442 | 0.479 | 0.520 | 0.438 | 0.472 | 15.0 | 45.0 |
| Orange | 0.558 | 0.352 | 0.636 | 0.364 | 0.570 | 0.429 | 0.506 | 0.404 | 14.0 | 30.0 |
| Red | 0.648 | 0.351 | 0.735 | 0.265 | 0.629 | 0.281 | 0.565 | 0.346 | 2.5 | 12.0 |
| Green | 0.026 | 0.399 | 0.166 | 0.364 | 0.286 | 0.446 | 0.207 | 0.771 | 3.0 | 9.0 |
| Blue | 0.140 | 0.035 | 0.244 | 0.210 | 0.190 | 0.255 | 0.065 | 0.216 | 1.0 | 10.0 |

* The four pairs of chromaticity coordinates determine the acceptable color in terms of the CIE 1931 Standard Colorimetric System measured with CIE Standard Illuminant D₆₅.

TABLE 2
COEFFICIENT OF RETROREFLECTION*
(Candelas/Lux/Square Meter)

| Observati on Angles | Entrance Angles | White | Gold | Yellow | Orange | Red | Green | Blue |
|---------------------|-----------------|-------|------|--------|--------|-----|-------|------|
| 0.2 ° | -4 ° | 460 | 425 | 310 | 185 | 75 | 75 | 35 |
| | 30° | 250 | 230 | 165 | 100 | 60 | 60 | 20 |
| 0.5 ° | -4 ° | 100 | 90 | 70 | 40 | 25 | 25 | 10 |
| | 30 ° | 65 | 60 | 45 | 25 | 15 | 15 | 5 |

IV. Adhesive

The adhesive is protected by a release liner that shall be removed by peeling, without soaking in water or other solvents. The adhesive produces a bond such that a one-inch wide strip shall support a 1-3/4 pound weight for five minutes without the strip peeling a distance of more than two inches when applied to a smooth aluminum surface.

V. Impact Resistance

Following application to a smooth surface aluminum rectangle, 0.020 inch by 3 inch by 6 inch, the specimen is conditioned for 24 hours at 72°F and 50% relative humidity. The sheeting shall show no cracking when the face of the panel is subjected to an impact of a two pound weight with a 5/8 inch rounded tip dropped from a 100 inch pound setting on a Gardner variable impact tester, IG-1120.

VI. Shrinkage

A 9 inch by 9 inch specimen of the sheeting with liner is conditioned a minimum of one hour at 72°F and 50% relative humidity. The liner is then removed and the specimen is placed on a flat surface with the adhesive side up. Ten minutes after the liner is removed and again after 24 hours, the specimen is measured to determine the amount of dimensional change. The specimen will not shrink in any dimension more than 1/32 inch in 10 minutes and 1/8 inch in 24 hours.

VII. Flexibility

The sheeting is conditioned for 24 hours at 72°F and 50% relative humidity. The release liner is removed and the sheeting is sufficiently flexible to show no cracking when bent in one second's time around a 1/8-inch diameter mandrel with the adhesive contacting the mandrel.

VIII. Solvent Resistance

The KPT2 meets the requirements of LS-300C solvent resistance, section 3.6.7, when tested as specified in Table VI, test method 4.4.6.

IX. Specular Gloss

The sheeting shall have a specular gloss of not less than 40 when tested in accordance with ASTM method D523 at an angle of 85°.

X. Application

Material should be applied to a smooth, clean, dry surface at temperatures ranging from 50°F to 100°F.

XI. Durability

5 years

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed and the following is made in lieu of all warranties, express or implied. Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, user shall determine the suitability of the product for their intended use, and user assumes all risk and liability whatsoever in connection therewith.