

TEST REPORT

1. No : CT13-02298

Reissuance (R1)

2. Client :

Date : Feb. 13, 2013

○ Name : Shindo Industry

○ Address : #1378-3, Seonyu-ri, Munsan-eup, Paju-si, Kyunggi-do, Korea

○ Date of Receipt : Jan 8, 2013

○ Date of Issued : Feb 13, 2013

3. Use of Report : Quality control

4. Test Sample : Flexible delineator post

5. Method :

(1) RS-FITI-2010-032

(2) KS A 3507 : 2010

| | | |
|---|---|---|
| Affirmation | Tested By Name : Joon Young Heo <i>J. Y. Heo</i> | Technical Manager Name : Lee, Song Won <i>S.W. Lee</i> |
| Our report apply only to the standards or procedures identified and to the sample(s) tested unless otherwise specified. The test results are not indicative of representative of the qualities of the lot from which the sample was taken or of apparently identical or similar products. | | |

Korea Conformity Laboratories

President Song Jae Bin

Jae Bin Song

Address : 153-803 459-28, Gasan-Dong, Geumcheon-Gu, Seoul, Korea 82-2-2102-2500

Result Inquiry : Polymer Materials Team 82-2-2102-2663

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6. Test Results

1) Flexible delineator post (Body)

| Test Item(s) | Unit | Test method used | Test Result(s) |
|---|------|------------------|----------------|
| Hardness(Type A) | — | (1) | 93 |
| Tensile strength | MPa | (1) | 34.6 |
| Elongation | % | (1) | 660 |
| Tear strength | N/cm | (1) | 1 129 |
| Accelerated weathering test - Color difference(ΔE_{ab}) | — | (1) | 6.6 |

2) Flexible delineator post (Reflective sheet(White))

| Test Item(s) | Unit | Test method used | Test Result(s) |
|--|--------------|------------------|----------------|
| Coefficient of retroreflection (Observation angle:0.2° , Entrance angle:-4°) | cd/(lx · m²) | (1) | 432 |
| Coefficient of retroreflection (Observation angle:0.2° , Entrance angle:30°) | cd/(lx · m²) | (1) | 322 |
| Coefficient of retroreflection (Observation angle:0.5° , Entrance angle:-4°) | cd/(lx · m²) | (1) | 433 |
| Coefficient of retroreflection (Observation angle:0.5° , Entrance angle:30°) | cd/(lx · m²) | (1) | 159 |
| Accelerated weathering test - Coefficient of Retroreflection retention | % | (1) | 86 |
| Chromaticity (x) | — | (2) | 0.307 |
| Chromaticity (y) | — | (2) | 0.326 |

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3) Flexible delineator post (Reflective sheet(Yellow))

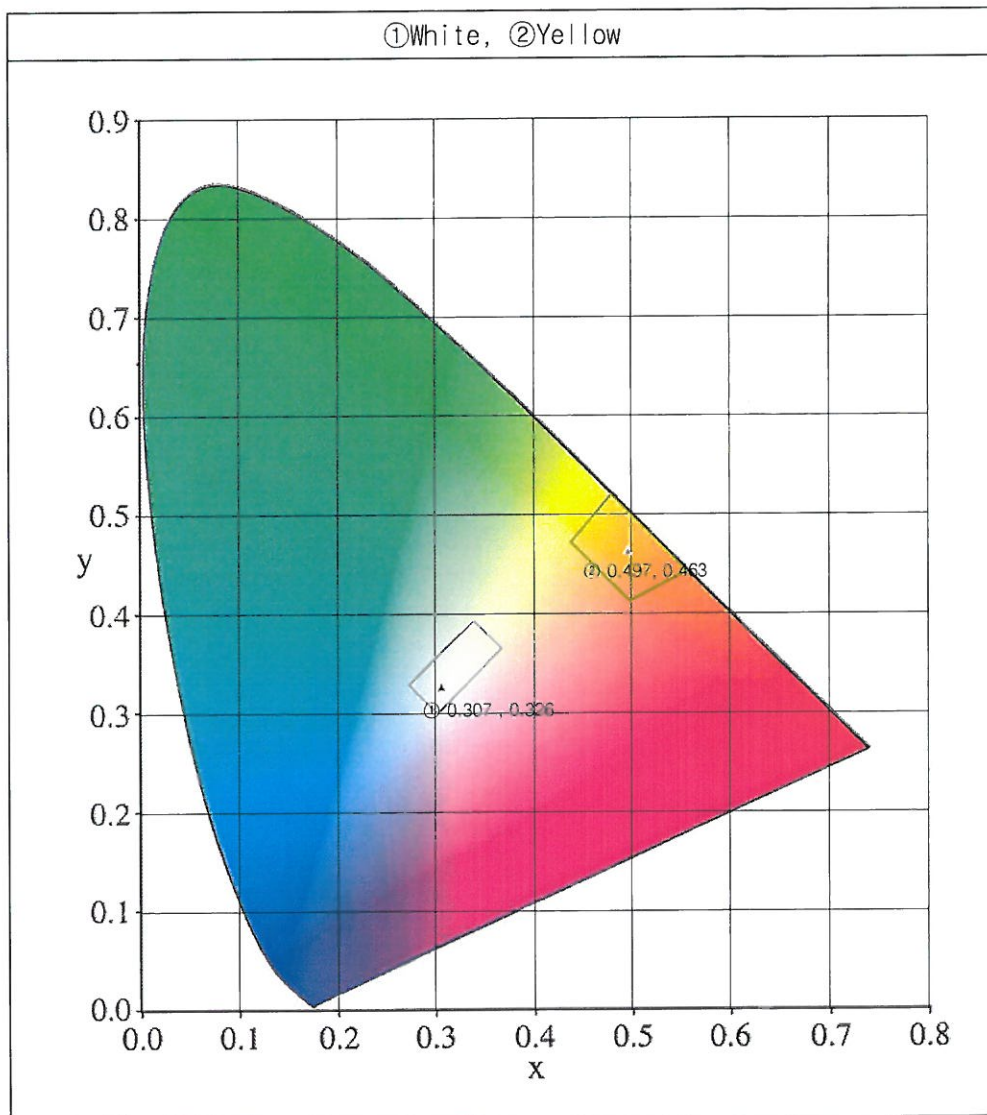
| Test Item(s) | Unit | Test method used | Test Result(s) |
|--|--------------|------------------|----------------|
| Coefficient of retroreflection (Observation angle:0.2° , Entrance angle:-4°) | cd/(lx · m²) | (1) | 410 |
| Coefficient of retroreflection (Observation angle:0.2° , Entrance angle:30°) | cd/(lx · m²) | (1) | 260 |
| Coefficient of retroreflection (Observation angle:0.5° , Entrance angle:-4°) | cd/(lx · m²) | (1) | 364 |
| Coefficient of retroreflection (Observation angle:0.5° , Entrance angle:30°) | cd/(lx · m²) | (1) | 89 |
| Accelerated weathering test - Coefficient of retroreflection retention | % | (1) | 84 |
| Chromaticity (x) | - | (2) | 0.497 |
| Chromaticity (y) | - | (2) | 0.463 |

- Accelerated weathering test - Weather - 0 - Meter, Xenon Arc Type
 Irradiance : 0.35 W/m² (340 nm)
 Test Duration : 500 h
 Cycle: 102 min Light only & 18 min Light and spray
 (63±3) °C Black Panel Temperature
 (50±5) % Relative Humidity

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► Chromaticity coordinates



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[Samples]



----- End of Report -----

TEST REPORT

1. No : CT12-23123

2. Client

○ Name : SHINDO INDUSTRY

○ Address : #922-3 Dongpae-ri, Gyoha-eup, Paju-si, Kyunggi-do, KOREA

○ Date of Receipt : May. 08, 2012

○ Date of Issued : May. 24, 2012

3. Use of Report : Quality Control


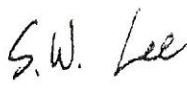
4. Test Sample : Flexible Delineator Post

5. Test Results

Refer to Attached Pages

▶ Sample ;



| | | |
|--|---|--|
| Affirmation | Tested by Jae Won Eom  | Technical Manager Song Won Lee  |
| Our report apply only to the standards or procedures identified and to the sample(s) tested unless otherwise specified. The test results are not indicative of representative of the qualities of the lot from which the sample was taken or of apparently identical or similar products. | | |

Korea Conformity Laboratories President Jae Bin Song



Address : 153-803 459-28, Gasan-Dong, Geumcheon-Gu, Seoul, Korea 82-2-2102-2500

Result Inquiry : 82-2-2102-2666

No : CT12-23123

TEST REPORT

| Test Items | | Unit | Test Results | Test method used |
|-----------------------------|-------------------------|-------|--------------|------------------|
| Accelerated Weathering Test | Appearance (Grey scale) | Grade | 3-4 | GR M 6022:2003 |

- ▶ 1) Weather-O-Meter, Carbon Arc Type (lamp 1EA)
- └ 2) Cycle: 102 min Light only & 18 min Light and Spray
- └ 3) Test Duration : 250 h
- └ 4) (63 ± 3) °C Black Panel Temperature
- └ 5) (50 ± 5) % Relative Humidity

----- End of Report -----