

LX Glas Corp., R&D Center
 296, Oehang 1-gil, Gunsan-si, Jeollabuk-do, (54008), Korea TEL (063) 460-1333 FAX (063) 467-2985

| | | | | | | |
|-------------|---|-----------------|------------|--------------------|-------------------------|--|
| Report No. | 20240411 | Date of Receipt | 2024-05-02 | Date of test | 2024-05-09 ~ 2024-05-16 | |
| Client | SANGBO corp. | | | Name | Hwang, Min-Kyu | |
| Address | (10016) 50, Daeseomyeong-ro, Tong Jin-Eup, Gimpo, Gyeong Gi Do, Korea 10016 | | | Uses | Quality Control | |
| Test Sample | CX90 05% | | Test Item | Optical Properties | | |

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Test Results

- Test method used : ISO 9050:2003, 3.2 Performance of optical measurements
 KS L 2016:2014, 6.3 Performance of optical measurements; JIS A 5759:2016, 6. Measurement method
 KS L 2514:2011, 4.Measurement of spectral transmission and reflection factor
- Instrument : 1) FT-IR, Spectrophotometer, Nicolet, 6700, U.S.A.
 2) UV-VIS-NIR Spectrophotometer, Perkin-Elmer, Lambda 950 & 1050, U.S.A.
- Testing environment : Temperature : min 21 °C, max 25 °C, Humidity : min 60 % R.H., max 65 % R.H.
- Location of Test : Permanent Testing Lab On Site Testing
 (Address : 296, Oehang 1-gil, Gunsan-si, Jeollabuk-do, Republic of Korea)

5. Test Results :

| Test Item | Symbol | Unit | ISO 9050 :2003 | KS L 2016 :2014 | JIS A 5759 :2016 | KS L 2514 :2011 |
|---------------------------------|----------|--------------------|-------------------|--------------------|---------------------|--------------------|
| Solar Energy Transmittance | TE | % | 4.5 | 4.8 | 4.5 | 4.5 |
| Visible Light Transmittance | TL | % | 5.2 | 5.2 | 5.2 | 5.2 |
| Ultra Violet Transmittance | TUV | % | 0.0 | | 0.0 | 0.0 |
| Solar Energy Reflectance(Ext.) | RE(e) | % | 5.1 | 5.1 | 5.1 | 5.0 |
| Solar Energy Reflectance(Int.) | RE(i) | % | 5.2 | 5.5 | 5.2 | 5.1 |
| Visible Light Reflectance(Ext.) | RL(e) | % | 5.3 | 5.3 | 5.3 | 5.3 |
| Visible Light Reflectance(Int.) | RL(i) | % | 5.5 | 5.5 | 5.5 | 5.5 |
| Solar Energy Absorbance(Ext.) | AE(e) | % | 90.4 | 90.2 | 90.4 | 90.5 |
| Correct Emissivity(Ext.) | E(e) | - | | | | 0.84 |
| Correct Emissivity(Int.) | E(i) | - | | | | 0.87 |
| Shading Coefficient | SC | - | | 0.41 | 0.41 | |
| U-Value (Winter) | U-Value | W/m ² K | | 6.0 | 6.1 | |
| Solar Heat Gain Coefficient | SHGC | - | | | 0.36 | 0.36 |
| Solar Factor | S Factor | % | 28.3 | | | |

* Measuring condition(TL% & RL%) : ISO 9050, JIS A 5759 & KS L 2514 : D65/2, KS L 2016 : A/2

** Measuring condition(TE%, RE% & AE%) : AM=1.5(300 nm ~ 2 500 nm)

*** Measuring condition(TUV%) : AM=1.5(300 nm ~ 380 nm), Film side (attached 3 mm Clear Glass) : Inside

' Continued '

| | | |
|-------------|--|--|
| Affirmation | Measurements performed by Name : Kim, Shin Ae  | Approved by Title : Technical Manager Name : Lee, Soo Yeon  |
|-------------|--|--|

17 - 05 - 2024

LX Glas Corp., Director of R&D Center

Accredited by KOLAS, Republic of KOREA



- The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
- The above test report can not be used for any advertisement & lawsuit and for other purpose than submitted.
- The above test certificate is the accredited test result by Korea Laboratory Accreditation Scheme, which signed the ILAC-MRA.

5. Test Results (Continued) :

| Test Item | Symbol (Unit) | ISO 9050 :2003 | KS L 2514 :2011 |
|-------------------------------|---------------|----------------|-----------------|
| * Total Solar Energy Rejected | TSER (%) | 71.8 | 64.1 |

* Film side(attached 3 mm Clear Glass) : Inside

* This laboratory is not accredited for the test results marked *.

| Test Item | Symbol (Unit) | Spectrum average | Factor Application | | | |
|--------------------------------------|---------------|------------------|--------------------|-----------------|------------------|-----------------|
| | | | ISO 9050 :2003 | KS L 2016 :2014 | JIS A 5759 :2016 | KS L 2514 :2011 |
| ** Transmittance (780 nm ~ 2 500 nm) | TIR (%) | 2.5 | 3.5 | 3.7 | 3.5 | 3.5 |

** Film side(attached 3 mm Clear Glass) : Inside

** This laboratory is not accredited for the test results marked **.

6. Specification of Sample :

| Sample Type | Film attached Glass | Adhesive Strength | Exist |
|-------------------------------|---------------------|-------------------|------------------|
| Film Side (Outside -> Inside) | Side 2 | Substrate | 3 mm Clear Glass |

7. Picture of Sample :



* The result is regarding the sample which is the 3 mm clear glass attaching the film

' End '