# 窓ガラス試験(協定規則第43号(単品))

## 1. 総則

窓ガラス試験(協定規則第43号(単品))の実施にあたっては、「道路運送車両の保安基準の細目を定める告示」(平成14年国土交通省告示第619号)に定める「協定規則第43号の技術的な要件」の規定及び本規定によるものとする。

## 2. 試験条件

協定規則に規定する保管時間、温度並びに相対湿度の確認は、連続温度測定装置等の記録により行う。

3. 測定値の取扱い

測定値の取扱いは、次による。

- (1) 可視光線透過率の測定値は、小数第 1 位までとし次位を四捨五入すること。(ただし、数値処理前の値が、基準値を満たさない場合は、第 2 位を切り捨てる。)
- (2) 各試験における計算は、小数第1位までとし次位を四捨五入すること。

## 4. 試験記録及び成績

試験記録及び成績は、付表の様式に記入する。

なお、付表の様式は日本語又は英語のどちらか一方とすることができる。

- 4.1 当該試験時において該当しない箇所には斜線を引くこと。
- 4.2 記入欄は、順序配列を変えない範囲で伸縮することができ、必要に応じて追加してもよい。
- 4.3 付表中「5.仕様」とは、色 (無色又は着色)、導電体の有無、不透明遮蔽の有無の別をい う。
- 4.4 付表中「6.使用部位」については、前面ガラス、運転者席側面ガラス、後席側面ガラス、 いわゆるクォーターガラス等の別を記入する。
- 4.5 付表中「中心のずれ」とは、衝撃体の落下した点と供試体面の幾何学的中心からの距離をいう。ただし、試験に影響を与えないような室又は囲い内で試験を行う場合は試験前に、 衝撃体の中心と供試体面の幾何学的中心からの距離を測定してもよい。
- 4.6 耐燃焼性試験において、1回目及び2回目の点火後、第2線に達する前に自己消火した 場合は燃焼速度欄に「自己消火」と記入する。
- 4.7 試験毎の適合枚数については、それぞれ○印を付けること。

試験担当者

付表

試験期日

月

日

Attached Table

## 窓ガラスの試験記録及び成績(単品)

Window Glass Test Data Record Form (Device Test) 協定規則第 43 号

試験場所

Regulation No. 43 of the 1958 Agreement of the United Nations Economic Commission for Europe

| Test date Y. M. D. Test                   | Site                | Tested              | by       |         |    |
|---|---------------------|---------------------|----------|---------|----|
| 1. 当該ガラスを装着する自動車の車名・型式                    |                     |                     |          |         |    |
| Make and Type of test vehicle on which th | e glass concerned   | is mounted          |          |         |    |
| 2. ガラスの製作者名                               |                     |                     |          |         |    |
| Name of glass manufacturer                |                     |                     |          |         |    |
| 3. ガラスの種類(プラスチックガラスの場合は、                  | その主な合成樹脂名           | 名を記載する)             |          |         |    |
| Kind of glass (In the case of plastic gla | ss, enter the name  | of the principal p  | lastics) |         |    |
|   |                     |                     |          |         |    |
| 4. ガラスの呼び厚さ                               |                     |                     |          |         |    |
| Nominal Thickness of Glass mm             |                     |                     |          |         |    |
| 5. 仕様                                     |                     |                     |          |         |    |
| Specifications                            |                     |                     |          |         |    |
| 試験仕様 :                                    |                     |                     |          |         |    |
| Specifications of test sample :           |                     |                     |          |         |    |
| 導電体                                       | 有 無                 | 不透明遮蔽               |          | 有       | 無  |
| Conductor of electricity                  | Yes No              | Opaque obscurati    | on       | Yes     | No |
| 6. 使用部位                                   |                     |                     |          |         |    |
| Place where glass is used                 |                     |                     |          |         |    |
| 7. 改訂番号                                   | 補足改訂番号              | <u>1</u> .          |          |         |    |
| Series No. :                              | Supplement          | No. :               |          |         |    |
| 8. 試験結果                                   |                     |                     |          |         |    |
| Test Results                              |                     |                     |          |         |    |
| 8.1 破砕試験                                  |                     |                     |          |         |    |
| Fragmentation test                        |                     |                     |          |         |    |
| 8.1.1 平面又は最小曲率半径 200mm 以上の曲面 <i>0</i>     |                     |                     |          |         |    |
| Flat or single-curved toughened glass     | having a minimum    | radius of curvature | "r" of   | more th | an |
| 200mm.                                    |                     | II W xx x           |          |         |    |
| 7411.0.1047.0                             |                     | 枚数 Number 1         | 2        | 3       | 4  |
| 破片の状態 Fragment conditions                 |                     |                     |          |         |    |
| 破片の個数 (50mm×50mm) (個)                     |                     |                     |          |         |    |
| Number of fragments (50mm×50mm) (pi       |                     |                     |          |         |    |
| 衝撃点 (点 1.) ガラスの幾何学的中心                     |                     | 1                   |          |         |    |
| Point of impact (Point 1) : In geom       | netric center of th | e glass             |          |         |    |
| 破片の個数 (大きさ 3cm²を超えるもの)                    | (個)                 |                     |          |         |    |
| Number of fragments (with an area ex      | _, _,               | es)                 |          |         |    |
| 破片の個数(長さ100mmを超えるもの)                      |                     |                     |          |         |    |
| Number of fragments (with a length e      |                     | eces)               |          |         |    |
| 供試体の周辺に達している細長い破片だ                        |                     |                     |          |         |    |

適合枚数

Number of test specimens complying with the test

length of the fragment concerned (mm)

When angle of elongated-shaped fragment extending to edge of test specimen that is formed with edge of the test specimen exceeds  $45^\circ$  ,

- (1) 3 枚以上
  - 3 pieces or more

8.1.2 最小曲率半径 200mm 未満の曲面の強化ガラス

| Toughened glass | having a | minimum | radius c | of ( | curvature | "r" | of less | than | 200mm |   |
|-----------------|----------|---------|----------|------|-----------|-----|---------|------|-------|---|
|                 |          |         | 1.6 3146 |      |           |     |         |      |       | Т |

| Toughened glass having a minimum radius of curva      | ture | "r" o | f less | than | 200mm |   |   |   |
|---|------|-------|--------|------|-------|---|---|---|
| 枚数 Number   | 1    | 2     | 3      | 4    | 5     | 6 | 7 | 8 |
| 破片の状態 Fragment conditions                             | -    |       | Ŭ      | -    | Ü     | Ŭ | · | Ŭ |
| 破片の個数(50mm×50mm)(個)                                   |      |       |        |      |       |   |   |   |
| Number of fragments (50mm×50mm) (pieces)              |      |       |        |      |       |   |   |   |
| 衝撃点 (点1.) ガラスの幾何学的中心                                  |      |       |        |      |       |   |   |   |
| Point of impact (Point 1) : In geometric center       |      |       |        |      |       |   |   |   |
| of the glass  |      |       |        |      |       |   |   |   |
| 破片の個数(50mm×50mm)(個)                                   |      |       |        |      |       |   |   |   |
| Number of fragments (50mm×50mm) (pieces)              |      |       |        |      |       |   |   |   |
| 衝撃点 (点2.) ペーンの曲率半径が最も小さく                              |      |       |        |      |       |   |   |   |
| なる部分において最も長い中線上で選択                                    |      |       |        |      |       |   |   |   |
| Point of impact (Point 2) : The point shall be        |      |       |        |      |       |   |   |   |
| selected on the largest median in that part of        |      |       |        |      |       |   |   |   |
| the pane where the radius of curvature is             |      |       |        |      |       |   |   |   |
| smallest  |      |       |        |      |       |   |   |   |
| 破片の個数(大きさ 3cm²を超えるもの)(個)                              |      |       |        |      |       |   |   |   |
| Number of fragments (with an area exceeding3cm²)      |      |       |        |      |       |   |   |   |
| (pieces)  |      |       |        |      |       |   |   |   |
| 破片の個数 (長さ 100mm を超えるもの) (個)                           |      |       |        |      |       |   |   |   |
| Number of fragments (with a length exceeding          |      |       |        |      |       |   |   |   |
| 100mm) (pieces)                                       |      |       |        |      |       |   |   |   |
| 供試体の周辺に達している細長い破片が辺に対し                                |      |       |        |      |       |   |   |   |
| 45°以上の場合の長さ (mm)                                      |      |       |        |      |       |   |   |   |
| When angle of elongated-shaped fragment               |      |       |        |      |       |   |   |   |
| extending to edge of test specimen that is formed     |      |       |        |      |       |   |   |   |
| with edge of the test specimen exceeds $45^{\circ}$ , |      |       |        |      |       |   |   |   |
| length of the fragment concerned (mm)                 |      |       |        |      |       |   |   |   |
| 適合枚数  |      |       |        | ·    |       |   |   |   |

# 適合枚数

Number of test specimens complying with the test

- (1) 各衝擊点 3 枚以上
  - 3 pieces or more at each breaking point
- 8.2 227 g の球による試験

227 g ball test

8.2.1 40 $^{\circ}$ 及び-20 $^{\circ}$ の恒温保管を行った合わせガラス及びガラスープラスチックに係る試験(前面ガラス)

Test involving laminated glass and glass-plastic conditioned at a constant temperature of  $40^{\circ}\!\mathrm{C}$  and  $-20^{\circ}\mathrm{C}$ : (Windscreen)

8.2.1.1 40℃の恒温保管時の試験

Test involving test specimen conditioned at a constant temperature of  $40^\circ\!C$ 

試験片保管時の温度 (℃)

Temperature during conditioning of test piece ( $^{\circ}$ C) 試験時の温度 (℃)

Temperature at time of test (°C)  $^{\circ}$ C $^{\sim}$   $^{\circ}$ C

試験時の気圧 (mbar)

Pressure at time of test (mbar) mbar $\sim$ mbar

\_\_\_\_ 試験時の湿度 (%)

| Humidity at time of test (%)          | %~ | ~ | ( | <u>%</u> |   |   |   |   |   |    |
|---------------------------------------|----|---|---|----------|---|---|---|---|---|----|
| 枚数 Number                             | 1  | 2 | 3 | 4        | 5 | 6 | 7 | 8 | 9 | 10 |
| 中心からのずれ (mm)                          |    |   |   |          |   |   |   |   |   |    |
| Deviation from center (mm)            |    |   |   |          |   |   |   |   |   |    |
| 鋼球の貫通状態                               |    |   |   |          |   |   |   |   |   |    |
| Penetrating condition of steel ball   |    |   |   |          |   |   |   |   |   |    |
| はく離破片の総質量 (g)                         |    |   |   |          |   |   |   |   |   |    |
| Total mass of separated fragments (g) |    |   |   |          |   |   |   |   |   |    |

Number of test specimens complying with the test

(1) 8 枚以上

8 pieces or more

8.2.1.2 -20℃の恒温保管時の試験

Test involving test specimen conditioned at a constant temperature of  $-20^{\circ}\mathrm{C}$ 

試験片保管時の温度 (℃)

Temperature during conditioning of test piece (°C)  $^{\circ}$ C $^{\sim}$ 

試験時の温度 (℃)

Temperature at time of test (°C) °C $\sim$  °C

試験時の気圧 (mbar)

Pressure at time of test (mbar) mbar∼ mbar

試験時の湿度(%)

| <u>Humidity at time of test (%)</u>   | %′ | ~ |   | <u>%</u> |   |   |   |   |   |    |
|---------------------------------------|----|---|---|----------|---|---|---|---|---|----|
| 枚数 Number                             | 1  | 2 | 3 | 4        | 5 | 6 | 7 | 8 | 9 | 10 |
| 中心からのずれ (mm)                          |    |   |   |          |   |   |   |   |   |    |
| Deviation from center (mm)            |    |   |   |          |   |   |   |   |   |    |
| 鋼球の貫通状態                               |    |   |   |          |   |   |   |   |   |    |
| Penetrating condition of steel ball   |    |   |   |          |   |   |   |   |   |    |
| はく離破片の総質量 (g)                         |    |   |   |          |   |   |   |   |   |    |
| Total mass of separated Fragments (g) |    |   |   |          |   |   |   |   |   |    |

#### 適合枚数

Number of test specimens complying with the test

(1) 8 枚以上

8 pieces or more

8.2.2 23±2℃の恒温保管を行った合わせガラス及びガラスープラスチックに係る試験、及び強化ガラスに係る試験(前面以外)

Test involving laminated glass and glass-plastic conditioned at a constant temperature of  $23\pm2^{\circ}C$  and tests concerned with the toughened glass (Except for windscreen)

8.2.2.1 合わせガラス及びガラスープラスチック (前面以外)

Laminated glass and glass-plastic (Except for windscreen)

試験片保管時の温度 (℃)

Temperature during conditioning of test piece (°C)  $^{\circ}$ C $^{\circ}$ 

試験時の温度 (℃)

Temperature at time of test (°C)  $^{\circ}$ C $^{\sim}$ 

試験時の気圧 (mbar)

Pressure at time of test (mbar) mbar $\sim$  mbar

試験時の湿度(%)

Humidity at time of test (%) %  $\sim$  %

| 枚数 Number                                       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| 中心からのずれ (mm)                                    |   |   |   |   |   |   |   |   |
| Deviation from center (mm)                      |   |   |   |   |   |   |   |   |
| 中間膜の露出面積(衝撃面に対して反対面 (mm²))                      |   |   |   |   |   |   |   |   |
| Exposed area of interlayer (surface of opposite |   |   |   |   |   |   |   |   |
| the point of impact(mm <sup>2</sup> ))          |   |   |   |   |   |   |   |   |
| 中間膜の露出面積(衝撃面と、衝撃面に対して反対                         |   |   |   |   |   |   |   |   |
| 面の合計 (mm <sup>2</sup> ))                        |   |   |   |   |   |   |   |   |
| Exposed area of interlayer (surface on either   |   |   |   |   |   |   |   |   |
| $side(mm^2))$                                   |   |   |   |   |   |   |   |   |

#### 適合枚数

Number of test specimens complying with the test

(1) 6 枚以上

6 pieces or more

|            |   |                              |       |              |        |                        |       | <del></del> |
|------------|---|------------------------------|-------|--------------|--------|------------------------|-------|-------------|
|            |   |                              |       |              |        |                        |       |             |
| 8. 2. 2. 2 | 2 強化ガラス(前面以外)                             |                              |       |              |        |                        |       |             |
|            | Toughened glass (Except for windso        | ereen)                       |       |              |        |                        |       |             |
|            | 試験片保管時の温度 (℃)                             |                              |       |              |        |                        |       |             |
|            | Temperature during conditioning of        | test piece (°C               | C)    | $^{\circ}$ C | $\sim$ | $^{\circ}\!\mathbb{C}$ |       |             |
|            | 試験時の温度 (℃)                                |                              |       |              |        |                        |       |             |
|            | Temperature at time of test $(^{\circ}C)$ | $^{\circ}\!\mathrm{C}\!\sim$ | ୯     | <u> </u>     |        |                        |       |             |
|            | 試験時の気圧 (mbar)                             |                              |       |              |        |                        |       |             |
|            | Pressure at time of test (mbar)           | mbar~                        |       | mbar         |        |                        |       |             |
|            | 試験時の湿度(%)                                 |                              |       |              |        |                        |       |             |
| _          | Humidity at time of test (%)              | %~                           | %     |              | 1      | 1                      |       |             |
|            |   | 枚数 Number                    | 1     | 2            | 3      | 4                      | 5     | 6           |
|            |   |                              | 1     |              | 0      | 1                      |       | · ·         |
|            | 中心からのずれ (mm)                              |                              |       |              |        |                        |       |             |
|            | Deviation from center (mm)                |                              |       |              |        |                        |       |             |
|            | 供試体の破壊がないこと                               |                              |       |              |        |                        |       |             |
|            | No breaking of test specimen              |                              |       |              |        |                        |       |             |
|            | <b>適合枚数</b>                               |                              |       |              |        |                        |       |             |
| N          | Number of test specimens complying w      | with the test                |       |              |        |                        |       |             |
|            | (1) 5枚以上                                  |                              |       |              |        |                        |       |             |
|            | 5 pieces or more                          |                              |       |              |        |                        |       |             |
| 8 2 3 2    | 20℃及び-18℃の恒温保管を行った硬質~                     | プラスチックペー                     | - ン及び | 飲質プラ         | スチック   | ペーンに                   | ₹係ろ試験 | <b>全</b>    |

8. 2. 3 20℃及び−18℃の恒温保管を行った硬質プラスチックペーン及び軟質プラスチックペーンに係る試験

Test involving Rigid plastic pane and Flexible plastic pane conditioned at a constant temperature of 20℃ and -18℃

8.2.3.1 20±5℃の恒温保管の試験

Test involving test specimen conditioned at a constant temperature of  $20\pm5^{\circ}\!\mathrm{C}$ 試験片保管時の温度 (℃)

| Temperature during conditioning of to | est piece (℃)       | $^{\circ}$ C $\sim$ | $^{\circ}\! \mathbb{C}$ |
|---------------------------------------|---------------------|---------------------|-------------------------|
| 試験片保管時の湿度 (%)                         |                     |                     |                         |
| Humidity during conditioning of test  | piece (%)           | %~                  | %                       |
| 試験時の温度 (℃)                            |                     |                     |                         |
| Temperature at time of test (°C)      | $^{\circ}$ C $\sim$ | $^{\circ}$          |                         |
| 試験時の気圧 (mbar)                         |                     |                     |                         |
| Pressure at time of test (mbar)       | mbar~               | mbar                |                         |
| 試験時の湿度(%)                             |                     |                     |                         |

| ,                                    |   |    |   |   |   |   |   |   |   |    |
|--------------------------------------|---|----|---|---|---|---|---|---|---|----|
| Humidity at time of test (%)         | 0 | %∼ |   | % |   |   |   |   |   |    |
| 枚数 Number                            | 1 | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 落下高さ (m)                             |   |    |   |   |   |   |   |   |   |    |
| Drop height (m)                      | ì |    |   |   |   |   |   |   |   |    |
| 球が供試体を貫通しない。                         |   |    |   |   |   |   |   |   |   |    |
| The ball does not penetrate the test | 1 |    |   |   |   |   |   |   |   |    |
| niece.                               | i |    |   |   |   |   |   |   |   |    |

Number of test specimens complying with the test

- (1) 8 枚以上
  - 8 pieces or more
- (2) 7枚以下(ただし、新たに10枚の供試体について改めて試験を実施した結果、8枚以上満足な結 果を示した場合に限る。)
  - 7 pieces or less (limited to cases where a further test was conducted on 10 new test specimens and more than 8 show satisfactory results)

8.2.3.2 -18±2℃の恒温保管の試験 Test involving plastic glass conditioned at a constant temperature of  $-18\pm2^{\circ}$ C 試験片保管時の温度 (℃) Temperature during conditioning of test piece  $(^{\circ}C)$ 試験時の温度 (℃) Temperature at time of test (°C) °C $\sim$  °C 試験時の気圧 (mbar) Pressure at time of test (mbar) mbar~ 試験時の湿度 (%) Humidity at time of test (%) 枚数 Number 1 2 3 7 8 10 4 5 6 落下高さ (m) Drop height (m) 球が供試体を貫通しない。 The ball does not penetrate the test piece. 適合枚数 Number of test specimens complying with the test (1) 8 枚以上 8 pieces or more (2) 7枚以下(ただし、新たに10枚の供試体について改めて試験を実施した結果、8枚以上満足な結 果を示した場合に限る。) 7 pieces or less (limited to cases where a further test was conducted on 10 new test specimens and more than 8 show satisfactory results) 8.2.4 -18±2℃の恒温保管を行った、前面の硬質プラスチック、合わせ硬質プラスチックペーンに係る試験 Test involving Rigid plastic for windscreen, Laminated - rigid plastic pane conditioned at a constant temperature of  $-18\pm2^{\circ}$ C 試験片保管時の温度 (℃) Temperature during conditioning of test piece (°C) 試験片保管時の湿度(%) Humidity during conditioning of test piece (%) %~ 試験時の温度 (℃) Temperature at time of test ( $^{\circ}$ C)  $^{\circ}$ C  $^{\circ}$ C 試験時の気圧 (mbar) Pressure at time of test (mbar) mbar∼ 試験時の湿度 (%) Humidity at time of test (%) 枚数 Number 1 2 3 10 4 5 6 7 8 9 落下高さ (m) Drop height (m) 球が供試体を貫通しない。供試体が数 個の分離した破片となって破損しな

適合枚数

Number of test specimens complying with the test

(1) 8 枚以上

8 pieces or more

into separate pieces.

The ball does not penetrate the test piece. The test piece does not break

| 8. 2. 5  | 40℃及び-18℃の恒温保管を行った、前                                       | 面の合    | わせ硬          | [質プラ  | ・スチッ                     | クに係          | る試験    |          |          |       |                          |
|----------|--|--------|--------------|---|--------------------------|--------------|--------|----------|----------|-------|--------------------------|
|          | Test involving Laminated - rigid plast                     | ic wir | ndscree      | en conc                                       | ditione                  | data         | consta | nt temp  | eratur   | re of | $40^{\circ}\!\mathrm{C}$ |
|          | And −18°C  |        |              |   |                          |              |        |          |          |       |                          |
| 8. 2. 5. | 1 40±2℃の恒温保管時の試験   |        |              |   |                          |              |        |          | ~        |       |                          |
|          | Test involving test specimen condit<br>試験片保管時の温度 (℃)       | tioned | l at a       | consta  | ant tem                  | peratu       | re of  | 40±2°C   | 3        |       |                          |
|          | Temperature during conditioning of                         | test   | piece        | (°C)  |                          | $^{\circ}$ C | ~      | °(       | <u> </u> |       |                          |
|          | 試験片保管時の湿度(%)   |        | (0)          | `   |                          | 0./          |        | 0/       |          |       |                          |
|          | Humidity during conditioning of test 試験時の温度 ( $^{\circ}$ ) | st pie | ce (%        | <u>,)                                    </u> |                          | <u>%~</u>    |        | <u>%</u> |          |       |                          |
|          | <u>Temperature at time of test (℃)</u><br>試験時の気圧 (mbar)    |        | ℃~           |   | $\underline{\mathbb{C}}$ |              |        |          |          |       |                          |
|          | Pressure at time of test (mbar)                            |        | mbar         | ·~  |                          | mbar         |        |          |          |       |                          |
|          | 試験時の湿度(%)  |        |              |   |                          |              |        |          |          |       |                          |
|          | Humidity at time of test (%)                               | 9/     | %∼           |   | %                        |              | ı      |          |          | ı     | ı                        |
|          | 枚数 Number  | 1      | 2            | 3   | 4                        | 5            | 6      | 7        | 8        | 9     | 10                       |
|          | # 4 ( / )  |        |              |   |                          |              |        | -        |          |       |                          |
|          | 落下高さ(m)  |        |              |   |                          |              |        |          |          |       |                          |
|          | Drop height (m)<br>球が供試体を貫通しない。供試体が数                       |        |              |   |                          |              |        |          |          |       |                          |
|          | 個の分離した破片となって破損しなり  |        |              |   |                          |              |        |          |          |       |                          |
|          |  |        |              |   |                          |              |        |          |          |       |                          |
|          | The ball does not penetrate the test                       |        |              |   |                          |              |        |          |          |       |                          |
|          | piece. The test piece does not break                       |        |              |   |                          |              |        |          |          |       |                          |
|          | into separate pieces.                                      |        |              |   |                          |              |        |          |          |       |                          |
|          | 適合枚数   |        |              |   |                          | 1            |        |          |          |       |                          |
|          | Number of test specimens complying w                       | ith th | e test       |   |                          |              |        |          |          |       |                          |
|          | (1) 8枚以上   |        |              |   |                          |              |        |          |          |       |                          |
|          | 8 pieces or more   |        |              |   |                          |              |        |          |          |       |                          |
| 8. 2. 5. | 2 -18±2℃の恒温保管時の試験  |        |              |   |                          |              |        |          |          |       |                          |
|          | Test involving at a constant temper                        | rature | of -1        | .8±2℃   |                          |              |        |          |          |       |                          |
|          | 試験片保管時の温度 (℃)  |        |              | (0~)  |                          | 0-           |        | 0.       | _        |       |                          |
|          | Temperature during conditioning of                         | test   | piece        | (°C)  |                          | °C-          |        | ິ        | <u> </u> |       |                          |
|          | 試験時の温度 (℃)   |        | $^{\circ}$ C |   | 0                        | С            |        |          |          |       |                          |
|          | <u>Temperature at time of test (℃)</u><br>試験時の気圧 (mbar)    |        | <u> </u>     |   |                          | <u>C</u>     |        |          |          |       |                          |
|          | Pressure at time of test (mbar)                            |        | mbar         | ~   |                          | mbar         |        |          |          |       |                          |
|          | 試験時の湿度(%)  |        | mour         |   |                          | mour         |        |          |          |       |                          |
|          | Humidity at time of test (%)                               | 9      | %∼           |   | %                        |              |        |          |          |       |                          |
|          |  |        |              |   |                          |              |        |          |          |       |                          |
|          | 枚数 Number  | 1      | 2            | 3   | 4                        | 5            | 6      | 7        | 8        | 9     | 10                       |
|          | 落下高さ (m)   |        |              |   |                          |              |        |          |          |       |                          |
|          | Drop height (m)  |        |              |   |                          |              |        |          |          |       |                          |
|          | 球が供試体を貫通しない。供試体が数  |        |              |   |                          |              |        |          |          |       |                          |
|          | 個の分離した破片となって破損しな   |        |              |   |                          |              |        |          |          |       |                          |
|          | <b>V</b> )   |        |              |   |                          |              |        |          |          |       |                          |
|          | The ball does not penetrate the test                       |        |              |   |                          |              |        |          |          |       |                          |

Number of test specimens complying with the test

(1) 8 枚以上

8 pieces or more

into separate pieces.

piece. The test piece does not break

| 8.32,   | 260 g の球による試験                   |        |          |                         |                 |       |  |                     |     |            |          |    |    |
|---------|---------------------------------|--------|----------|-------------------------|-----------------|-------|--|---------------------|-----|------------|----------|----|----|
|         | 260 g ball test                 |        |          |                         |                 |       |  |                     |     |            |          |    |    |
|         | -<br>試験片保管時の温度 (℃)              |        |          |                         |                 |       |  |                     |     |            |          |    |    |
|         | Temperature during conditioni   | ng of  | test p   | oiece                   | $(\mathcal{C})$ |       |  | $^{\circ}$ C $\sim$ |     | $^{\circ}$ | <u> </u> |    |    |
|         | 試験時の温度 (℃)                      |        |          |                         |                 |       |  |                     |     |            | _        |    |    |
|         | Temperature at time of test (   | C)     |          | $^{\circ}$ C $^{\circ}$ | ~               |       | $^{\circ}\!$ |                     |     |            |          |    |    |
|         | 試験時の気圧 (mbar)                   |        |          |                         |                 |       |  |                     |     |            |          |    |    |
|         | Pressure at time of test (mba   | r)     |          | mbar                    | $\sim$          |       | mbar   |                     |     |            |          |    |    |
|         | 試験時の湿度(%)                       |        |          |                         |                 |       |  |                     |     |            |          |    |    |
|         | Humidity at time of test (%)    |        | %        | ,~                      |                 | %     |  |                     |     |            |          |    |    |
|         | 枚数 Number                       | 1      | 2        | 3                       | 4               | 5     | 6  | 7                   | 8   | 9          | 10       | 11 | 12 |
|         | 中心からのずれ (mm)                    |        |          |                         |                 |       |  |                     |     |            |          |    |    |
|         | Deviation from center (mm)      |        |          |                         |                 |       |  |                     |     |            |          |    |    |
|         | 衝撃後 5 秒以内に衝撃鋼球が貫                |        |          |                         |                 |       |  |                     |     |            |          |    |    |
|         | 通しない                            |        |          |                         |                 |       |  |                     |     |            |          |    |    |
|         | Impact steel ball dose not      |        |          |                         |                 |       |  |                     |     |            |          |    |    |
|         | penetrate within 5 seconds      |        |          |                         |                 |       |  |                     |     |            |          |    |    |
|         | after impact                    |        |          |                         |                 |       |  |                     |     |            |          |    |    |
|         | 適合枚数                            |        |          |                         |                 |       |  |                     |     |            |          |    |    |
|         | Number of test specimens comply | ing wi | th the   | e test                  |                 |       |  |                     |     |            |          |    |    |
|         | (1) 11 枚以上                      |        |          |                         |                 |       |  |                     |     |            |          |    |    |
|         | 11 pieces or more               |        |          |                         |                 |       |  |                     |     |            |          |    |    |
|         |                                 |        |          |                         |                 |       |  |                     |     |            |          |    |    |
|         | ッドフォーム試験                        |        |          |                         |                 |       |  |                     |     |            |          |    |    |
|         | ead-form test                   |        | -L- (- ) | . A :                   | ., .,           | - T - | n 11 -   |                     |     |            | ~ 10 ^   |    |    |
| 8. 4. 1 | 合わせガラス、表面にプラスチック                | 7材が    | 陋され;     | た合わ                     | せガラ             | こ及て   | バガラン   | スープ                 | フスラ | トック        | の場合      | •  |    |

8.4.1 合わせガラス、表面にプラスチック材が施された合わせガラス及びガラスープラスチックの場合 Laminated-glass windscreen, Laminated-glass windscreen faced with plastics material and Glass-plastics

供試体保管時の温度 (℃)

Temperature during conditioning of test piece ( $^{\circ}$ C)  $^{\circ}$ C 試験時の温度 ( $^{\circ}$ C)

Temperature at time of test ( $^{\circ}$ C)  $^{\circ}$ C  $^{\circ}$ 試験時の気圧 (mbar)

Pressure at time of test (mbar) mbar mbar 試験時の湿度 ( $^{\circ}$ C)

Humidity at time of test ( $^{\circ}$ C)  $^{\circ}$ C  $^{\circ}$ C

| Humidity at time of test (76) 76 76                            |   |   |   |   |
|--|---|---|---|---|
| 枚数 Number  | 1 | 2 | 3 | 4 |
| 中心からのずれ (mm)   |   |   |   |   |
| Deviation from center (mm)                                     |   |   |   |   |
| 衝撃点に最も近いき裂の距離(mm)  |   |   |   |   |
| Distance of crack nearest to impact Point (mm)                 |   |   |   |   |
| ガラスと中間膜が接着している(ただし、はく離のある場合、その位置                               |   |   |   |   |
| 及び幅 (mm))  |   |   |   |   |
| Glass layer and interlayer remain glued together. (However, if |   |   |   |   |
| separation occurs, position and width (mm))                    |   |   |   |   |
| 中間膜の露出面積 (cm²)   |   |   |   |   |
| Exposed area of interlayer (cm <sup>2</sup> )                  |   |   |   |   |
| 中間膜の裂目の長さ(mm)  |   |   |   |   |
| Length of crack at the interlayer (mm)                         |   |   |   |   |

#### 商合枚数

Number of test specimens complying with the test

(1) 4枚 4 pieces

6

|         |   |                              |         |                         |           | TRIAS . | 29-R043  | (1) |
|---------|---|------------------------------|---------|-------------------------|-----------|---------|----------|-----|
| 8. 4. 2 | プラスチックガラスの場合                              |                              |         |                         |           |         |          |     |
|         | Rigid plastic pane<br>供試体のサイズ             |                              |         |                         |           |         |          |     |
|         | Size of the test specimen (mm)            | ×                            | mm      | or                      | Product   |         |          |     |
|         | 試験時の温度 (℃)                                |                              | 111111  | 01                      | TTOduct   | ,       |          |     |
|         | Temperature at time of test $(^{\circ}C)$ | $^{\circ}\!\mathrm{C}\!\sim$ |         | $^{\circ}\! \mathbb{C}$ |           |         |          |     |
|         | 試験時の気圧 (mbar)                             |                              |         |                         |           |         |          |     |
|         | Pressure at time of test (mbar)           | mbar~                        |         | mbar                    |           |         |          |     |
|         | 試験時の湿度(%)                                 |                              |         |                         |           |         |          |     |
|         | Humidity at time of test (%)              | %~                           | %       |                         |           |         |          |     |
|         | 落下高さ (m)                                  |                              |         |                         |           |         |          |     |
|         | Drop height (m) m                         |                              |         |                         |           |         |          |     |
|         |   | 枚数 Number                    | 1       | 2                       | 3         | 4       | 5        |     |
|         | 供試体またはサンプルに貫通しない、                         | または破壊さ                       |         |                         |           |         |          |     |
|         | れ、完全に分離した複数の大きな破片                         | · ·                          |         |                         |           |         |          |     |
|         | The test piece or sample is not pe        | netrated nor                 |         |                         |           |         |          |     |
|         | shall it break into fully separate        |                              |         |                         |           |         |          |     |
|         | pieces.                                   |                              |         |                         |           |         |          |     |
|         | HIC 値                                     |                              |         |                         |           |         |          |     |
|         | HIC value                                 |                              |         |                         |           |         |          |     |
|         | 適合枚数                                      | Т.                           |         |                         |           |         |          |     |
|         | Number of test specimens complying        | with the test                |         |                         |           |         |          |     |
|         | ・硬質プラスチックペーンの場合                           |                              |         |                         |           |         |          |     |
|         | Rigid plastic pane                        |                              |         |                         |           |         |          |     |
|         | (1) 6枚                                    |                              |         |                         |           |         |          |     |
|         | 6 pieces                                  |                              |         |                         |           |         |          |     |
|         | (2) 5枚(ただし、新たに6枚の供記                       | は体について改め                     | て試験     | を実施し                    | た結果、      | う枚とも混   | 島足な結男    | 見を  |
|         | 示した場合に限る。)                                |                              |         |                         |           |         |          |     |
|         | 5 pieces (limited to cases wh             |                              | test wa | s condu                 | cted on 6 | new tes | t specim | ens |
|         | and all 6 show satisfactory r             |                              |         |                         |           |         |          |     |
|         | ・前面の硬質プラスチック、前面の合物                        | っせ硬質プラスラ                     | チック及    | び合わせ                    | 计前面以外     | の硬質プ    | ラスチッ     | クロ  |

ックの 場合

Rigid plastic windscreen, Laminated - rigid plastic windscreen and Laminated - rigid plastic pane

(1) 6 枚以上

6 pieces or more

8.4.3 多重ガラスユニットの場合

Multiple-glazed units

供試体保管時の温度 (℃)

 $^{\circ}$ C $\sim$ Temperature during conditioning of test piece ( $^{\circ}$ C)  $^{\circ}\!\mathbb{C}$ 試験時の温度 (℃)  $^{\circ}$ C $\sim$  $^{\circ}\!\mathbb{C}$ Temperature at time of test  $(^{\circ}C)$ 試験時の気圧 (mbar) Pressure at time of test (mbar) mbar $\sim$ mbar 試験時の湿度(%) Humidity at time of test (%) %~ %

| 枚数 Number  | 1 | 2 | 3 | 4 | 5 | 6 |
|--|---|---|---|---|---|---|
| 中心からのずれ (mm)   |   |   |   |   |   |   |
| Deviation from center (mm)                               |   |   |   |   |   |   |
| 衝撃点に最も近いき裂の距離(mm)  |   |   |   |   |   |   |
| Distance of crack nearest to impact Point (mm)           |   |   |   |   |   |   |
| ガラスと中間膜が接着している(ただし、はく離のある場合、                             |   |   |   |   |   |   |
| その位置及び幅 (mm))  |   |   |   |   |   |   |
| Glass layer and interlayer remain glued together.        |   |   |   |   |   |   |
| (However, if separation occurs, position and width (mm)) |   |   |   |   |   |   |

| 中間膜の露出面積 (cm²)  |  |  |  |
|---|--|--|--|
| Exposed area of interlayer (cm²)                        |  |  |  |
| 中間膜の裂目の長さ(mm)   |  |  |  |
| Length of crack at the interlayer (mm)                  |  |  |  |
| 供試体またはサンプルに貫通しない、または破壊され、完全                             |  |  |  |
| に分離した複数の大きな破片とならない                                      |  |  |  |
| The test piece or sample is not penetrated nor shall it |  |  |  |
| break into fully separate large                         |  |  |  |
| pieces.   |  |  |  |
| · 商 △ 松 粉   |  |  |  |

Number of test specimens complying with the test

- (1) 6枚(ただし、非対称多重ガラスユニットは、両側でそれぞれ3回のテストを行う。) 6 pieces (three tests on one side and three tests on the other side for the asymmetrical multiple-glazed unit)
- 8.5 耐摩耗性試験

Test of resistance to abrasion

8.5.1 合わせガラス、ガラスープラスチック及び強化ガラス

Test involving Laminated glass, Glass-plastic and Toughened glass 試験片保管時の温度 (℃)

Temperature during conditioning of test piece (°C)  $\mathbb{C}^{\sim}$   $\mathbb{C}$ 試験片保管時の湿度(%) Humidity during conditioning of test piece (%) %~ 試験時の温度 (℃)  $^{\circ}\!\mathbb{C}$ Temperature at time of test (°C) 試験時の気圧 (mbar) Pressure at time of test (mbar) mbar $\sim$ mbar 試験時の湿度(%)

| Humidity at time of test (%)              | %~ | % |   |
|---|----|---|---|
| 枚数 Number                                 | 1  | 2 | 3 |
| ガラス面 Glass face                           | 1  | 2 | ა |
| (1) 前面ガラスとして用いるものの車外面                     |    |   |   |
| の曇価 (%)                                   |    |   |   |
| Haze of vehicle outer face of glass panes |    |   |   |
| used as windscreen (%)                    |    |   |   |
| (2) 前面ガラスとして用いるが、内側の面                     |    |   |   |
| がプラスチック材のものの車内面の曇価                        |    |   |   |
| (%)                                       |    |   |   |
| Haze of vehicle inner face of glass panes |    |   |   |
| with plastic material on its inner        |    |   |   |
| surface used as windscreen (%)            |    |   |   |
| (3) 前面以外のガラスとして用いるものの                     |    |   |   |
| 車外面の曇価(%)                                 |    |   |   |
| Haze of vehicle outer face of glass panes |    |   |   |
| used for other than windscreen (%)        |    |   |   |
| (4) 前面以外のガラスとして用いるが、内                     |    |   |   |
| 側の面がプラスチック材のものの車内面の                       |    |   |   |
| 曇価 (%)                                    |    |   |   |
| Haze of vehicle inner face of glass panes |    |   |   |
| with plastic material on its inner used   |    |   |   |
| for other than windscreen (%)             |    |   |   |

## 適合枚数

Number of test specimens complying with the test

(1) 3枚

3 pieces

## 8.5.2 硬質プラスチックペーン

Rigid plastic pane

試験片保管時の温度 (℃)

Temperature during conditioning of test piece ( $^{\circ}$ C)  $^{\circ}$ C  $^{\circ}$ C 試験片保管時の湿度 (%) Humidity during conditioning of test piece (%) %試験時の温度 (℃) Temperature at time of test  $(^{\circ}C)$   $^{\circ}C^{\sim}$   $^{\circ}C$ 

試験時の気圧 (mbar)

Pressure at time of test (mbar) mbar∼ mbar

試験時の湿度(%)

| Humidity a | at time of test (%) | %~ | <u>%</u> |   |                |                  |    |  |
|------------|---------------------|----|----------|---|----------------|------------------|----|--|
|            | 枚数 Number           |    | 内側       |   |                |                  |    |  |
|            |                     |    | Inside   |   |                | Outside          |    |  |
|            |                     | 1  | 2        | 3 | 1              | 2                | 3  |  |
| 回転数(       | 回転数 (cyc.)          |    |          |   | 500            | (クラス M)          | 又は |  |
| Cycles (   | cyc.)               |    | 100      |   | 1000 (クラス L)   |                  |    |  |
|            |                     |    | 100      |   |                | 500 (class M) or |    |  |
|            |                     |    |          |   | 1000 (class L) |                  |    |  |
| ヘイズ        | 初期(a)               |    |          |   |                |                  |    |  |
| Haze       | Before abrasion (a) |    |          |   |                |                  |    |  |
|            | 摩耗試験後 (b)           |    |          |   |                |                  |    |  |
|            | After abrasion (b)  |    |          |   |                |                  |    |  |
|            | b-a (%)             |    |          |   |                |                  |    |  |
|            |                     |    |          |   |                |                  |    |  |

## 適合枚数

Number of test specimens complying with the test

- (1) 内側、外側それぞれ 3 枚
  - 3 pieces for inside and outside respectively
- (2) 2枚以下(ただし、新たに3枚の供試体について改めて試験を実施した結果、3枚とも満足な結果を 示した場合に限る。)
  - 3 pieces or less (limited to cases where a further test was conducted on 3 new test specimens

and all 3 show satisfactory results)

8.5.3前面の硬質プラスチック、前面の合わせ硬質プラスチック及び合わせ硬質プラスチックペーン

Rigid plastic windscreen, Laminated - rigid plastic windscreen and Laminated rigid plastic pane 車両外側はテーバー試験またはテーバー試験の代替試験(落砂試験、洗車試験及びワイパー試験のセット) のどちらかを行う

Abrasion on the outer surface of the test sample, either the Taber test or as an equivalent alternative the package of Sand drop test, Car-wash test and Wiper test shall apply.

## 8.5.3.1 テーバー試験

Taber test

試験片保管時の温度 (℃)

| Temperature during conditioning of tes    | st piece (C)        | $\mathcal{C}\sim$  | <u></u> |
|---|---------------------|--|---------|
| 試験片保管時の湿度(%)                              |                     |  |         |
| Humidity during conditioning of test p    | oiece (%)           | %~   | %       |
| 試験時の温度 (℃)                                |                     |  |         |
| Temperature at time of test $(^{\circ}C)$ | $^{\circ}$ C $\sim$ | $^{\circ}\!$ |         |
| 試験時の気圧 (mbar)                             |                     |  |         |
| Pressure at time of test (mbar)           | mbar $\sim$         | mbar   |         |
| 試験時の湿度(%)                                 |                     |  |         |
| Humidity at time of test (%)              | %∼                  | 0/0  |         |

|               | 枚数 Number           | 内側  |        |   | 外側                        |              |   |  |
|---------------|---------------------|-----|--------|---|---------------------------|--------------|---|--|
|               |                     |     | Inside |   | Outside                   |              |   |  |
|               |                     | 1   | 2      | 3 | 1                         | 2            | 3 |  |
| 回転数(d         | cyc.)               |     |        |   | 50                        | 00 (クラス M) 又 | は |  |
| Cycles (cyc.) |                     | 100 |        |   | 1000 (L 又は前面)             |              |   |  |
|               |                     |     |        |   | 500 (M) or 1000 (L or WS) |              |   |  |
| ヘイズ           | 初期(a)               |     |        |   |                           |              |   |  |
| Haze          | Before abrasion (a) |     |        |   |                           |              |   |  |
|               | 摩耗試験後(b)            |     |        |   |                           |              |   |  |
|               | After abrasion (b)  |     |        |   |                           |              |   |  |
|               | b-a (%)             |     |        |   |                           |              |   |  |
|               |                     |     |        |   |                           |              |   |  |

Number of test specimens complying with the test

- (1) 内側、外側それぞれ 3 枚
  - 3 pieces for inside and outside respectively
- 8.5.3.2 テーバー試験の代替試験(落砂試験、洗車試験及びワイパー試験のセット)

Equivalent alternative the package of Sand drop test, Car-wash test and Wiper laboratory test

① 落砂試験

Sand drop test

試験片保管時の温度 (℃)

Temperature during conditioning of test piece ( $^{\circ}$ C)  $^{\circ}$ C  $^{\circ}$ 試験片保管時の湿度 ( $^{\circ}$ C)

| F 100 07 1 111 F | 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |                   |    |   |
|------------------|---|-------------------|----|---|
| Humidity         | during conditioning c                   | of test piece (%) | %~ | % |
|                  | 枚数 Number                               | 1                 | 2  | 3 |
| ヘイズ              | 初期(a)                                   |                   |    |   |
| Haze             | Before abrasion (a)                     |                   |    |   |
|                  | 摩耗試験後(b)                                |                   |    |   |
|                  | After abrasion (b)                      |                   |    |   |
|                  | b-a (%)                                 |                   |    |   |
|                  |   |                   |    |   |

## 適合枚数

Number of test specimens complying with the test

(1) 3枚

3 pieces

② 洗車試験

Car-wash test

試験片保管時の温度 (℃)

Humidity during conditioning of test piece (%) %~ %

試験時の温度 (℃)

| <u>Temperatu</u> | re at time of test (°C) $^{\circ}$ C $^{\sim}$ | ${\mathbb C}$ |   |   |
|------------------|--|---------------|---|---|
|                  | 枚数 Number                                      | 1             | 2 | 3 |
| ヘイズ              | 初期平均値(a)                                       |               |   |   |
| Haze             | The average haze before test (a)               |               |   |   |
|                  | 摩耗試験後平均値(b)                                    |               |   |   |
|                  | The average haze after test (b)                |               |   |   |
|                  | b-a (%)  |               |   |   |
|                  |  |               |   |   |

## 適合枚数

Number of test specimens complying with the test

(1) 3枚

3 pieces

| ワイパー試験  |                |                   |     |
|---|----------------|-------------------|-----|
| Wiper laboratory test                                   |                |                   |     |
| 試験片保管時の温度 (℃)   |                |                   |     |
| Temperature during conditioning of test piece (°C)      | ℃~             | <u>°C</u>         |     |
| 試験片保管時の湿度 (%)   |                |                   |     |
| Humidity during conditioning of test piece (%)          | %~             | <u>%</u>          |     |
| 試験時の温度( $^{\circ}$ )                                    |                |                   |     |
| Temperature at time of test (°C) $^{\circ}$ C $^{\sim}$ | $^{\circ}$ C   |                   |     |
| 試験時の気圧 (mbar)   |                |                   |     |
| Pressure at time of test (mbar) mbar∼                   | mbar           |                   |     |
| 試験時の湿度(%)   |                |                   |     |
| Humidity at time of test (%) $\%$ $\sim$ %              |                |                   |     |
| ワイパーブレードのタイプ (CR または特殊)                                 |                |                   |     |
| Type of wiper blade (CR) / (Specific)                   |                |                   |     |
| 注. 特殊タイプの場合は幾何学的特性と化学薬品特性をテス                            | トレポートに記        | !録するものとする。        |     |
| N.B. Geometric and chemical characteristics of specific | c type shall b | e recorded in the | tes |
| report:   |                |                   |     |
|   |                |                   |     |
|   |                |                   |     |
|   |                |                   |     |
|   |                |                   |     |
|   |                |                   |     |

|      | 枚数 Number                                    | 1 | 2 | 3 |
|------|--|---|---|---|
| ヘイズ  | 初期平均值(a)                                     |   |   |   |
| Haze | The average haze of 9 points before test (a) |   |   |   |
|      | 摩耗試験後平均値(b)                                  |   |   |   |
|      | The average haze of 9 points after test (b)  |   |   |   |
|      | b-a (%)                                      |   |   |   |
|      |  |   |   |   |

Number of test specimens complying with the test

(1) 3枚

3 pieces

# 8.6 耐高温試験

Test of resistance to high temperature

試験温度 (℃)

|                  | 枚数 Number  | 1 | 2 | 3 |
|------------------|--|---|---|---|
| 外観<br>Appearance | 加熱後、供試体の縁から 15mm (一定の条件下で 25mm) 又は供試体に生じたき裂から 10mm を超えて泡、その他の欠陥が生じてない After heating, no bubbles, nor other deficiencies occurs at areas beyond 15mm from edge of the test specimen (beyond 25mm under certain conditions) or at areas beyond 10mm from cracks formed on the test specimen. |   |   |   |

#### 適合枚数

Number of test specimens complying with the test

(1) 3枚

3 pieces

## 8.7 耐光性試験

Resistance-to-radiation test

試験片保管時の温度 (℃)

| <u>Temperature</u> di | uring conditioning of test piece ( $^{\circ}$ C) $^{\circ}$ C $^{\sim}$ | $^{\circ}$ C | <u>'</u> |   |
|-----------------------|---|--------------|----------|---|
|                       | 枚数 Number   | 1            | 2        | 3 |
| 光線透過率<br>(%)<br>Light | 紫外線照射前 (a) (%)<br>Before the radiation of ultraviolet rays (a) (%)      |              |          |   |
| transmittance (%)     | 紫外線照射後 (b) (%)<br>After the radiation of ultraviolet rays (b) (%)       |              |          |   |
|                       | b/a×100%  |              |          |   |

## 適合枚数

Number of test specimens complying with the test

(1) 3枚

3 pieces

## 8.8 耐湿性試験

Resistance-to-humidity test

8.8.1 合わせガラス、ガラスープラスチック及び強化ガラス

Test involving laminated glass, glass-plastic and toughened glass

試験片保管時の温度 (℃)

Temperature during conditioning of test piece  $(^{\circ}C)$ 試験片保管時の湿度(%) %~ % Humidity during conditioning of test piece (%)

| mamiait, aai     | ing conditioning of test piece (70) 70  |   |   |   |
|------------------|---|---|---|---|
|                  | 枚数 Number   | 1 | 2 | 3 |
| 外観<br>Appearance | 供試体の縁から 10mm (一定の条件下で 15mm) を超える部分に著しい変化がないこと<br>The test specimen exhibits no conspicuous changes at areas beyond10mm from edge of the test specimen (beyond15mm under certain conditions) |   |   |   |
| N-1- A 11 N//    | •   | • |   |   |

## 適合枚数

Number of test specimens complying with the test

(1) 3枚

3 pieces

## 8.8.2 プラスチックガラス

Plastic glazing

試験片保管時の温度 (℃)

 $^{\circ}$ C $\sim$  $^{\circ}\! C$ Temperature during conditioning of test piece  $(^{\circ}C)$ 試験片保管時の湿度(%)

| Humidity durin | g conditioning of test | piece | (%) |   | 9 | ⁄₀~ |   | % |   |   |    |
|----------------|------------------------|-------|-----|---|---|-----|---|---|---|---|----|
|                | 枚数 Number              | 1     | 2   | 3 | 4 | 5   | 6 | 7 | 8 | 9 | 10 |
| 光線透過率          | 試験前(a)                 |       |     |   |   |     |   |   |   |   |    |
| (%)            | Before the test (a)    |       |     |   |   |     |   |   |   |   |    |
| Light          | 試験後(b)                 |       |     |   |   |     |   |   |   |   |    |
| transmittan    | After the test (b)     |       |     |   |   |     |   |   |   |   |    |
| ce (%)         | b/a×100%               |       |     |   |   |     |   |   |   |   |    |
|                |                        |       |     |   |   |     |   |   |   |   |    |
| 外観             | 著しい変化がないこ              |       |     |   |   |     |   |   |   |   |    |
| Appearance     | と                      |       |     |   |   |     |   |   |   |   |    |
|                | exhibits no            |       |     |   |   |     |   |   |   |   |    |

|            | conspicuous changes   |  |  |  |  |  |
|------------|-----------------------|--|--|--|--|--|
| 耐湿性試験      | 落下高さ (m)              |  |  |  |  |  |
| 後の耐衝撃      | Drop height (m)       |  |  |  |  |  |
| 性試験        | 球が供試体を貫通し             |  |  |  |  |  |
| Impact     | ない。供試体が数個の            |  |  |  |  |  |
| resistance | 分離した破片となっ             |  |  |  |  |  |
| test after | て破損しない                |  |  |  |  |  |
| humidity   | The ball does not     |  |  |  |  |  |
| resistance | penetrate the test    |  |  |  |  |  |
| test       | piece. The test piece |  |  |  |  |  |
|            | does not break into   |  |  |  |  |  |
|            | separate pieces.      |  |  |  |  |  |

Number of test specimens complying with the test

- ・前面の硬質プラスチック、前面の合わせ硬質プラスチック及び合わせ硬質プラスチックペーンの場合 Rigid plastic windscreen, Laminated - rigid plastic windscreen and Laminated - rigid plastic pane
- (1) 10 枚 (但し、227g 落球試験は8枚以上で合格) 10 pieces (Concerning 227 g ball test, 8 pieces or more passed)
- ・硬質プラスチックペーンの場合

Rigid plastic pane

- (1) 10 枚 (但し、227g 落球試験は8枚以上で合格、リテストあり)
  - 10 pieces (Concerning 227 g ball test, 8 pieces or more passed)
- (2) 7枚以下 (但し、新たに10枚の供試体について改めて試験を実施した結果、227g 落球試験で8枚以上満足な結果を示した場合に限る。)

7 pieces or less (limited to cases where a further test was conducted on 10 new test specimens and more than 8 show satisfactory results of 227 g ball test)

#### 8.9 光透過性試験

Light-transmission test

|                         | 枚数 Number | 1 | 2 | 3 |
|-------------------------|-----------|---|---|---|
| 光線透過率(%)                |           |   |   |   |
| Light transmittance (%) |           |   |   |   |

#### 適合枚数

Number of test specimens complying with the test

・合わせガラス、ガラスープラスチック、強化ガラス、前面の硬質プラスチック、前面の合わせ硬質プラスチック及び合わせ硬質プラスチックペーンの場合

Laminated glass, Glass - plastics, Toughened glass, Rigid plastic windscreen, Laminated - rigid plastic windscreen and Laminated - rigid plastic pane

- (1) 3枚
  - 3 pieces
- ・硬質プラスチックペーン及び軟質プラスチックペーンの場合

Rigid plastic pane and Flexible plastic pane

- (1) 3枚
  - 3 pieces
- (2) 2枚(ただし、新たに3枚の供試体について改めて試験を実施した結果、3枚とも満足な結果を示した場合に限る。)

2 pieces (limited to cases where a further test was conducted on 3 new test specimens and all 3 show satisfactory results)

## 8.10 光学的ゆがみ試験

Optical-distortion test

|   | 透視ひずみの最大値<br>Maximum value of optical distortion |   |   |   |  |
|---|--|---|---|---|--|
| 枚数 Number<br>試験領域 Test zone                   | 1  | 2 | 3 | 4 |  |
| 試験領域 A (分)<br>Test zone A (minute)            |  |   |   |   |  |
| 試験領域 狭域 B (分)<br>Test zone reduced B (minute) |  |   |   |   |  |
| 試験領域 I (分)<br>Test zone I (minute)            |  |   |   |   |  |
| 試験領域 I' (分)<br>Test zone I' (minute)          |  |   |   |   |  |

## 適合枚数

Number of test specimens complying with the test

(1) 4枚 4 pieces

# 8.11 二重像分離試験

Secondary-image-separation test

|                              | 一次像と2次像の分離の最大値<br>Maximum value of separation of |  |  |  |  |
|------------------------------|--|--|--|--|--|
| 枚数 Number<br>試験領域 Test zone  | primary and secondary imag                       |  |  |  |  |
| 試験領域 A (分)                   |  |  |  |  |  |
| Test zone A (minute)         |  |  |  |  |  |
| 試験領域を狭域B(分)                  |  |  |  |  |  |
| Test zone reduced B (minute) |  |  |  |  |  |
| 試験領域 I (分)                   |  |  |  |  |  |
| Test zone I (minute)         |  |  |  |  |  |
| 試験領域 I'(分)                   |  |  |  |  |  |
| Test zone I' (minute)        |  |  |  |  |  |

## 適合枚数

Number of test specimens complying with the test

(1) 4枚 4 pieces

# 8.12 耐化学薬品性試験 (ガラスープラスチック及びプラスチックガラス)

Test of resistance to chemicals (Glass-plastics and Plastic glazing)

## 8.12.1 浸漬試験

 $Immersion\ test$ 

試験片保管時の温度 (℃)

| Temperature during conditioning of te | est piece (℃)       | $^{\circ}$ C $\sim$  | $^{\circ}$ |
|---------------------------------------|---------------------|--|------------|
| 試験片保管時の湿度(%)                          |                     |  | _          |
| Humidity during conditioning of test  | piece (%)           | %∼   | %          |
| 試験時の温度 (℃)                            |                     |  |            |
| Temperature at time of test (°C)      | $^{\circ}$ C $\sim$ | $^{\circ}\!$ |            |
| 試験時の湿度(%)                             |                     |  |            |
| Humidity at time of test (%)          | %∼                  | %  |            |

①薬品の種類 : 研磨剤入りではない石鹸溶液

|      | _  |           |   |              |      |          |
|------|----|-----------|---|--------------|------|----------|
| Kind | of | chemicals | : | Non-abrasive | soap | solution |

|            | 枚数 Number  | 1 | 2 | 3 | 4 |
|------------|--|---|---|---|---|
| 外観         | 軟化、粘着、ひび割れ又は明確な透明度の損失がないこ                            |   |   |   |   |
| Appearance | ٤  |   |   |   |   |
|            | softening, adhesion, crack or thing without the loss |   |   |   |   |
|            | of clear transparency                                |   |   |   |   |

②薬品の種類 : 窓洗浄溶剤

<u>Kind of chemicals</u>: Window-cleaning-solution

|            | 枚数 Number  | 1 | 2 | 3 | 4 |
|------------|--|---|---|---|---|
| 外観         | 軟化、粘着、ひび割れ又は明確な透明度の損失がないこ                            |   |   |   |   |
| Appearance | ک  |   |   |   |   |
|            | softening, adhesion, crack or thing without the loss |   |   |   |   |
|            | of clear transparency                                |   |   |   |   |

③薬品の種類: 不稀釈変性アルコール

Kind of chemicals: Undiluted denatured alcohol

|                  | 枚数 Number  | 1 | 2 | 3 | 4 |
|------------------|--|---|---|---|---|
| 外観<br>Appearance | 軟化、粘着、ひび割れ又は明確な透明度の損失がないこと   |   |   |   |   |
|                  | Softening, adhesion, crack or thing without the loss of clear transparency |   |   |   |   |

④薬品の種類 : ガソリンまたは同等の基準ガソリン

<u>Kind of chemicals: Petrol or equivalent reference petrol</u>

| 外観軟化、粘着、ひび割れ又は明確な透明度の損失がないこ   | 枚数 Number   | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| Appearance & Softening, adhesion, crack or thing without the loss of clear transparency | と<br>Softening, adhesion, crack or thing without the loss |   |   |   |   |

注. 使用するガソリンの組成は、テストレポートに記録するものとする。

N.B. The composition of the petrol used shall be recorded in the test report

⑤薬品の種類 : 灯油

Kind of chemicals : Reference kerosene

| Kind of chemic | als : Reference kerosene   |   |   |   |   |
|----------------|--|---|---|---|---|
|                | 枚数 Number  | 1 | 2 | 3 | 4 |
| 外観             | 軟化、粘着、ひび割れ又は明確な透明度の損失がないこと   |   |   |   |   |
| Appearance     | Softening, adhesion, crack or thing without the loss of clear transparency |   |   |   |   |

## 適合枚数

Number of test specimens complying with the test

- ・ガラスープラスチック及び表面にプラスチック材が施された安全ガラスの場合
- ${\tt Glass-plastics} \ \ {\tt and} \ \ {\tt Safety} \ \ {\tt glazing} \ \ {\tt faced} \ \ {\tt with} \ \ {\tt plastics} \ \ {\tt material}$
- (1) 3 枚以上
  - 3 pieces or more
- ・硬質プラスチックペーン及び軟質プラスチックペーンの場合

Rigid plastic pane and Flexible plastic pane

- (1) 4枚全て
  - All 4 pieces
- (2) 3 枚(ただし、新たに 4 枚の供試体について改めて試験を実施した結果、4 枚とも満足な結果を示した場合に限る。)
  - 3 pieces (limited to cases where a further test was conducted on 4 new test specimens

and all 4 show satisfactory results)

- ・前面の硬質プラスチック、前面の合わせ硬質プラスチック及び合わせ硬質プラスチックペーンの場合 Rigid plastic windscreen, Laminated - rigid plastic windscreen and Laminated - rigid plastic pane
- (1) 3 枚以上

3 pieces or more

ただし、4枚中1枚にはコーティング面へ碁盤目状の切り込み (8.17.1) を入れてから浸漬試験を 実施すること (合わせ硬質プラスチックペーンはクラスLのみ)

One of four samples shall be cross-cut according to 8.17.1 before immersion test. (Only class

L of Laminated - rigid plastic pane shall be cross-cut.)

## 8.12.2 荷重下での試験(軟質プラスチック以外のプラスチックガラス)

The test under load (Plastic glazing except for Flexible plastic pane)

試験片保管時の温度 (℃)

Temperature during conditioning of test piece  $(^{\circ})$   $^{\circ}$   $^{\circ}$   $^{\circ}$  試験片保管時の湿度  $(^{\circ})$  Humidity during conditioning of test piece  $(^{\circ})$   $^{\circ}$   $^{\circ}$  試験時の温度  $(^{\circ})$   $^{\circ}$   $^{\circ}$   $^{\circ}$  試験時の湿度  $(^{\circ})$ 

Humidity at time of test (%)%~①薬品の種類: 研磨剤入りではない石鹸溶液

Kind of chemicals: Non-abrasive soap solution

|                  |  | 枚数 Number     | 1 | 2 | 3 | 4 |
|------------------|--|---------------|---|---|---|---|
| 外観<br>Appearance | 軟化、粘着、ひび割れ又は明確な透明度の<br>損失がないこと   | 内側<br>Inside  |   |   |   |   |
|                  | softening , adhesion , crack or thing without the loss of clear transparency | 外側<br>Outside |   |   |   |   |

②薬品の種類 : 窓洗浄溶剤

Kind of chemicals : Window-cleaning-solution

|                  |  | 枚数 Number     | 1 | 2 | 3 | 4 |
|------------------|--|---------------|---|---|---|---|
| 外観<br>Appearance | 軟化、粘着、ひび割れ又は明確な透明度の 損失がないこと  | 内側<br>Inside  |   |   |   |   |
|                  | softening , adhesion , crack or thing without the loss of clear transparency | 外側<br>Outside |   |   |   |   |

③薬品の種類 : 不稀釈変性アルコール

Kind of chemicals: Undiluted denatured alcohol

|                  |  | 枚数 Number     | 1 | 2 | 3 | 4 |
|------------------|--|---------------|---|---|---|---|
| 外観<br>Appearance | 軟化、粘着、ひび割れ又は明確な透明度の<br>損失がないこと   | 内側<br>Inside  |   |   |   |   |
|                  | Softening , adhesion , crack or thing without the loss of clear transparency | 外側<br>Outside |   |   |   |   |

④薬品の種類 : ガソリンまたは同等の基準ガソリン

| Kind of    | chemicals: Petrol or equivalent reference | petrol 枚数 |   |   |   |   |
|------------|---|-----------|---|---|---|---|
|            |   | Number    | 1 | 2 | 3 | 4 |
|            |   |           |   |   |   |   |
| 外観         | 軟化、粘着、ひび割れ又は明確な透明度の                       | 内側        |   |   |   |   |
| Appearance | 損失がないこと                                   | Inside    |   |   |   |   |
|            | Softening, adhesion, crack or thing       |           |   |   |   |   |
|            | without the loss of clear transparency    | 外側        |   |   |   |   |
|            | without the ross of clear transparency    | Outside   |   |   |   |   |

注. 使用するガソリンの組成は、テストレポートに記録するものとする。

N.B. The composition of the petrol used shall be recorded in the test report

⑤薬品の種類 : 灯油 Kind of chemicals : Reference kerosene 枚数 Number 1 2 3 4 外観 軟化、粘着、ひび割れ又は明確な透明度の損 内側 Appearance 失がないこと Inside Softening, adhesion, crack or thing 外側 without the loss of clear transparency Outside

#### 適合枚数

Number of test specimens complying with the test

・硬質プラスチックペーン及び軟質プラスチックペーンの場合

Rigid plastic pane and Flexible plastic pane

(1) 4枚全て

All 4 pieces

- (2) 3枚(ただし、新たに4枚の供試体について改めて試験を実施した結果、4枚とも満足な結果を示した場合に限る。)
  - 3 pieces (limited to cases where a further test was conducted on 4 new test specimens and all 4 show satisfactory results)
- ・前面の硬質プラスチック、前面の合わせ硬質プラスチック及び合わせ硬質プラスチックペーンの場合 Rigid plastic windscreen, Laminated - rigid plastic windscreen and Laminated - rigid plastic pane
  - (1) 3枚

3 pieces

8.13 耐燃挙動(耐火性)試験

Burning behavior (fire resistance) test

試験片保管時の湿度(%)

Humidity during conditioning of test piece (%) %~ % 試験片保管時の温度 ( $^{\circ}$ C)
Temperature during conditioning of test piece ( $^{\circ}$ C)  $^{\circ}$ C 試験時の温度 ( $^{\circ}$ C)

Temperature at time of test  $(^{\circ}C)$  $^{\circ}$ C 枚数 Number 1 2 3 5 測定値 Measured value 試験片の長さ (mm) The length of a specimen (mm) 試験片の幅 (mm) Width of a specimen (mm) 試験片の厚み (mm) Thickness of a specimen (mm) 燃焼距離 : s (mm) Burnt distance : s (mm) 燃焼時間: t(秒) Burning time : t (sec)

| 燃焼速度 B : s/t×60 (mm/分)            |  |  |  |
|-----------------------------------|--|--|--|
| Burning speed B : s/t×60 (mm/min) |  |  |  |

Number of test specimens complying with the test

- ・ガラスープラスチック及び表面にプラスチック材が施された安全ガラスの場合
- Glass-plastics and Safety glazing faced with plastics material
- (1) 5枚とも燃焼速度Bが90 mm/分以下
  - Burning speed B of 5 pieces shall be less than 90 mm/min
- ・硬質プラスチックペーン及び軟質プラスチックペーンの場合

Rigid plastic pane and Flexible plastic pane

- (1) 5枚とも燃焼速度Bが110 mm/分以下
  - Burning speed B of 5 pieces less than 110 mm/min
- (2) 4枚(ただし、新たに5枚の供試体について改めて試験を実施した結果、5枚とも満足な結果を示した場合に限る。)
  - 4 pieces (limited to cases where a further test was conducted on 5 new test specimens and all 5 show satisfactory results)
- ・前面の硬質プラスチックガラス、前面の合わせ硬質プラスチック及び合わせプラスチックペーンの場合 Rigid plastic windscreen, Laminated - rigid plastic windscreen and Laminated - rigid plastic pane
  - (1) 5 枚全ての燃焼速度 B が 110 mm/分以下 Burning speed B of all 5 pieces shall be less than 110 mm/min

#### 8.14 耐候性シミュレーション試験

Resistance to simulated weathering test

|               | 枚数 Number  | 1 | 2 | 3 |
|---------------|--|---|---|---|
| 光線透過率         | 耐候性シミュレーション試験前(a)(%)                                     |   |   |   |
| (%)           | Before the weathering simulated test (a) (%)             |   |   |   |
| Light         | 耐候性シミュレーション試験後(b)(%)                                     |   |   |   |
| transmittance | After the weathering simulated test (b) (%)              |   |   |   |
| (%)           | b/a×100%   |   |   |   |
| 外観            | 泡、色、曇価、顕著な変質がないこと  |   |   |   |
| Appearance    | No bubbles , No colour , Haze , Noticeable decomposition |   |   |   |
|               |  |   |   |   |

#### 適合枚数

Number of test specimens complying with the test

・硬質プラスチックペーン及び軟質プラスチックペーンの場合

Rigid plastic pane and Flexible plastic pane

- (1) 3枚
  - 3 pieces
- (2) 2 枚以下(ただし、新たに3枚の供試体について改めて試験を実施した結果、3枚とも満足な結果を示した場合に限る。)
  - 2 pieces or less (limited to cases where a further test was conducted on 3 new test specimens
  - and all 3 show satisfactory results)
- ・前面の硬質プラスチック、前面の合わせ硬質プラスチック及び合わせ硬質プラスチックペーンの場合 Rigid plastic windscreen, Laminated - rigid plastic windscreen and Laminated - rigid plastic pane
- (1) 3枚
  - 3 pieces
- 8.15 耐温度変化試験(ガラスープラスチック、表面にプラスチック材が施された安全ガラス及び前面の合わせ 硬質プラスチック)

Resistance-to-temperature-changes test (Glass - plastics, safety glazing faced with plastics material and Laminated - rigid plastic windscreen)

低温保管時の温度 (℃)

Temperature during low-temperature conditioning ( $^{\circ}$ C)  $^{\circ}$ C  $^{\circ}$ C

常温保管時の温度又は保管時の試験片の温度 (℃)

Temperature during normal-temperature conditioning or temperature of test piece during conditioning (°C)  $^{\circ}$ C $\sim$ 

高温保管時の温度 (℃)

| <u>Temperature du</u> | ring high-temperature conditioning (°C)      | $\mathbb{C}^{\sim}$    | $^{\circ}$ |   |
|-----------------------|--|------------------------|------------|---|
|                       |  | 枚数 Number              | 1          | 9 |
| 試験後の状態 Co             | nditions after test                          |                        | 1          | 2 |
| 外観                    | ひび割れ・曇り・剥離もしくはその他著しい多                        | st化が見られないこと            |            |   |
| Appearance            | The test specimen exhibits no cracks, opacit | y, separation or other |            |   |
|                       | conspicuous deterioration.                   |                        |            |   |

## 適合枚数

Number of test specimens complying with the test

2枚 (1)

2 pieces

## 8.16 弾力性テスト及び折り曲げ試験

Flexibility test and fold test

試験時の温度 (℃)

 $^{\circ}\!\mathbb{C}$  $^{\circ}$ C $\sim$ Temperature at time of test  $(^{\circ}C)$ 試験時の湿度(%)

%~ % Humidity at time of test (%)

| Humidity at time of test (%)      | $\frac{\%}{\%}$                 |   |
|-----------------------------------|---------------------------------|---|
|                                   | 枚数 Number                       | 1 |
| 弾力性テスト                            | 内側を上にして測定                       |   |
| Flexibility test                  | 硬質プラスチック≦50mm                   |   |
| 垂直偏差(mm)                          | Measured in the top inside      |   |
| Vertical deviation (mm)           | Rigid plastics≦50mm             |   |
|                                   | 外側を上にして測定                       |   |
|                                   | 硬質プラスチック≦50mm                   |   |
|                                   | Measured in the top outside     |   |
|                                   | Rigid plastics≦50m              |   |
| 180°折り曲げ試験(垂直偏差>                  | 折り曲げ点に破砕状の損傷がない                 |   |
| 50mm の場合に実施)                      | The material shall not show any |   |
| 180 deg. fold test (conducted if  | fracture-like damages at the    |   |
| the vertical deviation exceeds 50 | point of buckling               |   |
| mm)                               |                                 |   |

カテゴリー 硬質プラスチック 軟質プラスチック Categories Rigid plastics Flexible plastics

## 8.17 碁盤目テスト

Cross-cut test

サンプルは耐候性シミュレーションテスト実施後のサンプルの3枚の内、1枚について実施する。

The cross-cut test shall be carried out on one of the test pieces from paragraph 8.14 Resistance to simulated weathering test

|                                 |     |   | 枚     | 数 N | umber |   |     | 1 |     |   |     |
|---------------------------------|-----|---|-------|-----|-------|---|-----|---|-----|---|-----|
| 碁盤目面積中の剥出面積(%)                  |     |   | 外側    |     |       |   |     |   |     |   |     |
| Exposed area of the grid area ( | (%) |   | Outsi | de  |       |   |     |   |     |   |     |
|                                 |     |   | 内側    |     |       |   |     |   |     |   |     |
|                                 |     |   | Insid | е   |       |   |     |   |     |   |     |
| グレード                            |     |   |       |     |       |   |     |   |     |   |     |
| Cut value Grade G               | it0 | • | Gt1   | •   | Gt2   | • | Gt3 | • | Gt4 | • | Gt5 |

備考

| Remarks |  |  |
|---------|--|--|
|         |  |  |
|         |  |  |