

### **Proposal for amendments to GTR No. 6**

#### **A. Proposal:**

*Part B, paragraphs 3.3.7 and 3.1.6., amend to read:*

“3.3.7. Uniformly toughened-glass : means glazing consisting of a single layer of glass which has been subjected to special treatment to increase its mechanical strength **before toughened glass** and to condition its fragmentation after shattering.

*Paragraph 6.3.4.1., amend to read:*

“6.3.4.1 The test piece shall be 300 x 300 mm flat sample, specially made or cut from the flattest part of a windscreen or pane. **The test piece shall be as defined in paragraph 7.2. in the case that the following toughened glass of vehicles is exposed to the inside of vehicle:**  
**(a) Sunroofs and panoramic sunroofs**  
**(b) The roof of vehicle**

*Annex 7, Insert new paragraph 7.2., to read:*

“7.2 Annex 7.2. Procedures for determining test pieces for toughened glass

7.2.1 Test pieces shall be determined as follows:

7.2.1.1 Determination of test pieces which does not have opaque obscuration area

7.2.1.1.1 Test pieces shall be 300 x 300 mm flat samples which is specially manufactured not to have any opaque obscuration area, if paragraphs 7.2.1.1.2. and 7.2.1.1.3.of this annex are met.

7.2.1.1.2 For mounting the glass to vehicle, toughened glass shall incorporate opaque obscuration area no longer than (00) mm from the edge of ~~the designed glass outline~~ **the finished product outline.**

7.2.1.1.3 If two different sheets of toughened glass adjoin each other’s edge of ~~designed glass outline~~ **the finished product outline**, the total width of opaque obscuration area shall be no longer than (000) mm.

7.2.1.2 Determination of opaque obscuration test pieces

7.2.1.2.1 If a finished product does not comply with the requirements of paragraphs 7.2.1.1.2. and 7.2.1.1.3, test pieces shall be 300 x 300 mm flat samples, specially manufactured to have opaque obscuration area printed inside.

#### **B. Justification:**

1. One of the important characteristics of toughened glass is the mechanical strength against external impact that is stronger compared to that of before toughened glass (annealed glass). If mechanical strength of toughened glass is weaker than annealed glass (or that of before toughened glass), it means that the toughened glass has not met its characteristics. Thus, it has defined the characteristics of toughened glass of which strength is increased compared to annealed glass.

2. The 2013 defect investigation results of the Republic of Korea confirmed that opaque obscuration areas (ceramic printed areas) are particularly vulnerable to its mechanical strength and do not meet the requirement under UN GTR 6. An opaque obscuration is an important element that affects the mechanical strength of a finished product. However, there is no alternative technology that can currently replace the opaque obscuration areas (ceramic printed areas), and if opaque obscuration area (ceramic printed area) is necessary for fixing toughened glass to vehicle, the size of an opaque obscuration area (ceramic printed area) should be limited to the minimum for safe driving and consumer protection. If toughened glass suddenly shatters into pieces while driving and falls into the vehicle, it may negatively affect driving. Accordingly, it will be necessary to decide the type of test piece for 227g ball drop test depending on an opaque obscuration area (ceramic printed area) in the case that the toughened glass installed at the roof of vehicle(including sunroof and panoramic sunroof) are exposed to the internal space of vehicle.

(a) In the case of conducting the ball drop test with a test piece that does not have any opaque obscuration areas

- Conduct test with a 300 x 300 mm test piece of which opaque obscuration area is not included, if a finished product meets the limited allowable areas of opaque obscuration stated in paragraphs 7.2.1.1.2 and 7.2.1.1.3.
- Paragraph 7.2.1.1.2 means to exclude opaque obscuration from a test sample if the maximum width from the edge of ~~design glass outline~~ **the finished product outline** to the boundary of opaque obscuration area is less than (00) mm.
- If two sheets of toughened glass adjoin each other like panoramic sunroof, the boarder of the two sheets becomes the center of panoramic sunroof; therefore, paragraph 7.2.1.1.3 means to clearly limit the total widths (000 mm) of the both opaque obscuration areas join together.

(b) In the case of conducting the ball drop test with opaque obscuration printed test pieces

- 7.2.1.2.1 means that conducting test with a300 x 300 mm test sample of which opaque obscuration is printed inside if the opaque obscuration area of a finished product does not comply with the limited area permitted in paragraphs 7.2.1.1.2 and 7.2.1.1.3.