



PILKINGTON
NSG Group Flat Glass Business

Dear Dr. Preußner,
dear Mr. Fontaine,
dear members of the informal group,

NSG Group would like to give the following comments on the results of the taber round robin test and the work ahead:

The windscreen is the glazing location in a vehicle that is required to withstand severe impacts from stones, sand, abrasion caused by the wipers and ice scrapers. This location cannot be compared with any other in a vehicle. It is easy to verify this significant attack by assessing a vehicle after 2 or 3 years (or even less) in service. The degree of damage is influenced by mileage and road conditions and can easily be recognized by the naked eye.

In contrast, body glass, rooflights etc. normally remain in reasonably good condition after years in service, without any notable damage. These glazings are subjected to much less demanding conditions when in service on the vehicle.

Regarding the specific test results.

- Glass results and deviations achieved in 11 laboratories are in line with our expectation and experience. Windscreens in service do verify this. The taber abrasion test seems to mirror reality adequately.
- The results show coated plastic materials cannot withstand the test sufficiently. Although 7 labs have found in case of PC haze values below 5%, 4 labs have found much higher values. The test procedure(s) applied have to be checked carefully as they may have a strong influence on the outcome of the taber abrasion test.
- However, haze of more than 20% does indicate a complete failure of the glazing system (substrate/coating) and mean values and deviations are meaningless to make any conclusion on the worthiness of the test method. Moreover the variability in the plastics results may be an indication that the material itself has a high degree of variability.
- Not to comply with the taber test does not mean it is the wrong test, indeed it has been accepted by the plastics industry for many years when applied to glazings other than windscreens.
- In parallel to the informal group on plastic windscreens Japan has proposed to ISO TC22/SC11 to get another supplier of wheels approved. First results published show these are less aggressive than current taber wheels and closer to the taber wheels we all used in the past. The informal group should take the work in ISO into consideration. Maybe another round robin together with ISO could be appropriate. The informal group should have a focus on the test procedures applied. Any clarification and adjustment needed to improve the application of the taber test should be taken into account.
- The original plan for the round robin had been to include the plasma type coatings for polycarbonate. In the event these were not tested. It is not clear why?

We strongly recommend to keep the taber as the standard test for checking all glazing materials, clearly state what the correct test procedures are and to take the work in ISO into consideration as well.

Many thanks for your attention and consideration.

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