

Discussion on sand drop test

PSA

Key points :

- + Sand drop test is one of the test which enable to simulate mechanisms of reality as impact stone
- + the test method already exists (ECE/R22) and has experience for motorcycle (visors)
- + Light diffusion is measured before and after test to know the delta

> *What is the good specification for organic windshield ?*

Recall of the sand drop test results

In the 3rd meeting of IGPG, a “Table of Equivalence” for comparison of different abrasion test methods, summarizing the Round Robin results, was set up:

Test method	Glass		PC + AS4700 (2-layer wet coat)		PMMA + Perma Resist 608 (mono-layer w.c.)	
	Δ haze (%)	Max Δ haze (P=95%) (%)	Δ haze (%)	Max Δ haze (P=95%) (%)	Δ haze (%)	Max Δ haze (P=95%) (%)
Taber	1,17	Ref.: 2,00 (Exp: 1,95)	10,52	37,58	15,57	37,08
Sand drop	3,38	4,78	3,06	4,39	5,01	8,04
Amtec-Kistler	0,19	0,63	0,74	1,83	3,04	6,67

Proposal: The safety glass pane shall be considered satisfactory if the initial haze, measured according to Annex 3, paragraph 4, does not exceed 1%, and, ~~with respect to abrasion resistance,~~ the increase of haze as a result of abrasion of the test piece does not exceed 5%.

Sand drop test realized by UTAC

Automotive Glass Samples W					PC + AS4700 Samples X Samples Y				
Initial Haze	Final Haze	Δ Haze	Max Δ final haze (P=95%)	Max Δ haze (P=95%)	Initial Haze	Final Haze	Δ Haze	Max Δ final haze (P=95%)	Max Δ haze (P=95%)
0,09	0,58	0,48	0,81	0,60	0,63	2,96	2,33	3,91	3,20
					0,17	1,32	1,15	1,98	1,75

- ✓ Two samples with the same coating give two different results. The quality of the coating has an effect on the final results.
- ✓ What is the influence of the type of the glass on the final Haze?