

Kind Attn: Shri Pinaki Gupta
The Director and Head
Scientist – E
Central Marks Department-II
Bureau of Indian Standards
New Delhi 110002

Date: May 10, 2023

Copy to: Shri Mohit Garg (SCIENTIST-B)
CHD 10 (Glass, Glassware and Laboratory ware Sectional Committee)
CHD (Chemical Department), Bureau of Indian Standards.

Subject: Clarification regarding Sample quantity requirement for Fragmentation Test as per clause no. 5.2.3 of IS 2553: Part 1: 2018 Safety Glass (Part-1 Architectural, Building & General Use).

Respected Sir,

This is with reference to the above cited subject.

We, Aleph Accreditation & Testing Centre P Ltd' Standardization Cell based out of A-166, F/F KR Bose Marg, Mayur Vihar-I, New Delhi- 91 are a Standard Advisory Body.

We would like to report our concern and seeking your kind advise over the requirement of the sample for a particular test i.e.: **Fragmentation test** mentioned in clause no. 5.2.3 of IS 2553 (Part 1): 2018.

Kindly consider the facts in sequential order as follows:

1. As per IS 2553 (Part 1), Table 12, (iv) Fragmentation Test, the number of samples required is two (2) and Acceptance Criteria states that "All samples shall pass. In case of any single failure, draw another 2 samples from the lot and repeat the test. None of these 2 samples shall fail."
2. Also, as per the Scheme of Inspection and Testing mentioned in the Product Manual of IS 2553: (Part 1): 2018 (vide. document no.: PM/ 2553 (Part 1)/ 2 November 2022), Table 1(Level of Control) states that, the no. of sample required is two (2) samples and remarks state that "All samples shall pass. In case of any single failure, draw another 2 samples from the lot and repeat the test. None of these 2 samples shall fail."
3. As per IS 2553 (Part 1):2018, the total sample requirement is **four (4)** to complete the fragmentation test.

4. Furthermore IS 2553 (Part 1) clause no. 5.2.3 referring IS 17004 for testing of Fragmentation test and states that "It shall pass the test when tested as per 6.1 of IS 17004".
5. Moving to refer standard IS 17004, Clause 6.1.2 Area and Number of Test Specimens states that, "The minimum area of the test specimen shall be 0.36 m² without any holes, notched or cut-outs. **Five (5) specimens shall be tested**"

Also, In relation to this IS 17004, Clause no. 6.1.4.1 Minimum values from the particle count states that "In order to classify the glass as a thermally toughened safety glass, the particle count of **each test specimen shall not be less than the value prescribed in table 2**"

Therefore, **as per IS 17004 all the 5 samples sent for testing should be tested for fragmentation test and all the samples should pass**, but IS 2553 (Part 1) and SIT states that only two samples must be tested and if they meet the criteria then no addition testing is required and no further sample shall be drawn.

In light of above circumstances, we would like to request you to guide us on what criteria for testing should be followed, whether we should follow the sampling guidelines as per main standard i.e: IS 2553 (Part 1) which required only total 4 (2+2) samples OR as per referred standard as per IS 17004 which requires to test each 5 samples.

As the subject matter is quite crucial, we had discussed this with BIS recognized laboratories ie ICAT and ARAI however there is no clear understanding on it, therefore your valuable guidance is highly requested in this regard.

Thanking you.

Sincerely



Yogesh KT (Director)

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