



Manufacturer's Information

Test No. 10-548: Glass Analysis

Each sample set consisted of four samples of glass fragments and particles. Items 1 and 3 were from the same pane of replacement driver's side window glass manufactured as PGW Dot # 904 AS2 M504. Item 2 was from a pane of replacement driver's side window glass manufactured as VPM Dot # 476 AS2. Item 4 was from a pane of replacement driver's side window glass manufactured as LOF Dot # 15 M100. Examiners were instructed to examine the questioned glass particles and determine if either could have originated from the same source as the known recovered glass fragments. All three glass panes had the same part number; however, they were produced in different facilities. The glass was purchased from a local windshield replacement and automotive glass vendor.

SAMPLE PREPARATION-

The three glass panes used for this test were wiped down, checked for defects and one section taped off for use. Differing items were processed and packaged separately from each other to prevent cross-contamination.

ITEM 2 (ELIMINATION): For the known Item 2 samples, two glass fragments were broken into approximately 4mm x 4mm pieces and packaged in a glassine bag and then a pre-labeled Item 2 coin envelope. Item 2 was packaged into the sample set as described below.

ITEM 4 (ELIMINATION): For the questioned Item 4 samples, two glass particles (smaller than those used for Items 1 and 2) were broken and packaged in a glassine bag and then a pre-labeled Item 4 coin envelope. Item 4 was packaged into the sample set as described below.

ITEMS 1 and 3 (IDENTIFICATION): For the known Item 1 samples, two glass fragments were broken into approximately 4mm x 4mm pieces and packaged into a glassine bag and then a pre-labeled Item 1 coin envelope. For the questioned Item 3 samples, two glass particles (approximately the same size as those used in Item 4) were broken and packaged in a glassine bag and then a pre-labeled Item 3 coin envelope. Items 1 and 3 were taken in close spatial proximity to one another, within 10 inches, and were kept together as an identification group and packaged into the sample set as described below.

SAMPLE SET ASSEMBLY: For each sample set, an Item 1 and Item 3 from the same identification group were placed in a pre-labeled envelope along with Items 2 and 4. The sample pack was sealed with invisible tape. This process was repeated until all of the sample sets were prepared. Once verification was completed, all sample packs were further sealed with a piece of evidence tape and initialed "CTS".

The average refractive indices for the glass as reported by preliminary testing and predistribution laboratories are as follows: Item 1 RI = 1.52188, Item 2 RI = 1.51948, Item 3 RI = 1.52187 and Item 4 RI = 1.52113.

VERIFICATION-

All three predistribution laboratories reported the expected eliminations. Two of these reported the expected association for Items 1 and 3. The third laboratory was inconclusive for Item 3 having originated from Item 1, writing in their additional comments that slight differences in RI, density, and elemental ratios between Item 1 and Item 3 were observed. This laboratory was unable to associate Items 1 and 3 because only one fragment of glass for Item 1 was provided citing that the significance of these slight differences could not be determined. CTS remedied the problem by adding an additional fragment of glass to the Item 1 and Item 2 envelopes. The methods employed by the predistribution laboratories included Refractive Index (RI) nD, RI nF, RI nC, Color, Density, Elemental Analysis, UV Fluorescence Long and Short, Stereomicroscopy, and Thickness.

The information presented here is that received from the sample manufacturer. It presents details of the design specification for the test samples and/or details of how they were prepared. This information does not necessarily represent the answers that should or could be obtained from an examination of the sample. Final interpretation of the results should be deferred until the summary report is available.