



Manufacturer's Information

Test No. 15-546: Paint Analysis

Each sample set consisted of three items with layered paint and primer: two known samples (Items 1 and 2) and one questioned sample (Item 3) were cut from painted pine wood plank substrates. Items 2 and 3 came from a plank with the same primer and topcoat. Item 1 was prepared with the same primer, but a different topcoat from what was used for Items 2 and 3. Participants were instructed to examine the questioned sample and determine if it could have originated from the same source as either of the known paint samples.

SAMPLE PREPARATION-

All planks used for this test were selected based on their limited defects and were wiped down to remove dust before painting. For the following preparations, each primer coat was allowed to dry a minimum of 6 hours and each topcoat was allowed to dry overnight before applying the next coat.

ITEM 1 (ELIMINATION): The known Item 1 samples were prepared by applying two coats of primer (Behr Premium Plus® exterior water-based Multisurface Primer and Sealer, 436, white) to several pine wood planks (each 6' x 3" x 1"). Then two layers of topcoat (Glidden High Gloss Acrylic Latex Paint, Base 3, GL7113, Red Delicious (color code-00YR 08/409)) were applied. The questioned Item 1 planks were cut into one inch wide strips using a miter saw. One 1" piece was packaged into a glassine bag and then a pre-labeled Item 1 envelope.

ITEMS 2 and 3 (IDENTIFICATION): Items 2 and 3 were prepared by applying two coats of primer (Behr Premium Plus® exterior water-based Multisurface Primer and Sealer, 436, white) to several pine wood planks (each 6' x 3" x 1"). Then two layers of topcoat (Glidden High Gloss Trim Door & Furniture Oil Paint, GL302, National Red) were applied. The planks were cut into one inch wide pieces using a miter saw and kept in their original order after cutting. One 1" piece was packaged into a glassine bag and then a pre-labeled Item 2 envelope. For the matching Item 3 sample, a 1" piece was chosen approximately every three inches and several paint chips were scored and chiseled out using a utility knife. Two ¼" x ¼" pieces were packaged into a glassine bag and then a pre-labeled Item 3 coin envelope. Items 2 and 3 were taken in close spatial proximity to one another, within three inches, and were kept together as an identification group and packaged into the sample sets as described below.

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

VERIFICATION-

The expected association and elimination results were confirmed by predistribution laboratories, who used the following combined list of techniques: Stereomicroscopy, fluorescence, polarized light, solubility/chemical, Pyrolysis GC, FTIR, XRS/XRF, and microspectrophotography.