Color Program Testing Instructions

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General Testing Instructions

- Caution! Handle all specimens by outside edges only. Do not get fingerprints on the surfaces to be measured.
- Check and operate instrument according to manufacturer's instructions.
- Position center of specimen on aperture opening and measure carefully. Repeat for all specimens.
- Specimens should be kept flat while measured. The specimens may be cut if necessary to fit a smaller sample holder.
- Do NOT measure the marked (labeled) white side of the specimen; measure the reverse side.
- Back each specimen with the other specimen for that analysis when making color measurements.
- It is recommended that integrating sphere instruments take measurements in the "specular component *included*" mode.
- Submit your results on the Portal (www.cts-portal.com) by the data due date.
- If the portal is not feasible, results may be submitted by Fax or by Mail.

Specific Testing Instructions

408 Color & Color Difference – 45/0
409 Color & Color Difference – Sphere
411 Spectrophotometric Analysis – Sphere
440 Gloss 60°
442 Gloss 85°

408 – Color & Color Difference - CIE L*, a*, b* 111. D65, 10° Observer – 45/0
409 – Color & Color Difference - CIE L*, a*, b* 111. D65, 10° Observer – Sphere

1. ASTM Methods:
    a. **Colorimeters, both geometries:** follow most recent version of ASTM E 1347, "Standard Test Method for Color and Color-Difference Measurement by Tristimulus (Filter) Colorimetry".
    b. **Spectrophotometers, sphere geometry:** follow most recent version of ASTM E 1331, "Standard Test Method for Reflectance Factor and Color by Spectrophotometry Using Hemispherical Geometry".
    c. **Spectrophotometers, 45/0 geometry:** follow most recent version of ASTM E 1349, "Standard Test Method for Reflectance Factor and Color by Spectrophotometry Using Bidirectional Geometry".
2. Measure each specimen twice, rotating the specimen 90° for the second reading.

411 – Spectrophotometric Analysis – Sphere

1. Follow the appropriate ASTM Standard Test Method for your instrument, as specified above for Analysis 409.

2. Measure the specimen and report reflectance data at 20 nm intervals between 400 and 700nm.

3. Measure the specimen twice, rotating the specimen 90° for the second reading.

440 – Gloss – 60°
442 – Gloss – 85°

1. Follow most recent version of ASTM D 523, "Standard Test Method for Specular Gloss".

2. Perform the test immediately after opening the sealed moisture-free barrier bag containing the specimens.

3. Measure the specimens with the light beam parallel to the long direction of the test piece.

4. Measure each specimen twice, rotating the specimen 180° for the second reading.

5. Measure 2 specimens per sample.