

# SOA-E-601 Surface Appearance Change of Extractors

## 1. Scope

- 1.1. This test method provides an evaluation of surface appearance change in carpet as a direct result of the extraction process.
- 1.2. This test method applies to all extractors tested in the SOA program.
- 1.3. This test method applies to both commercial and residential extractors.

## 2. Safety

- 2.1. This practice does not purport to address all the safety concerns, if any, associated with its use. It is the responsibility of the user of this practice to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

## 3. References

- 3.1. ASTM D7330 Standard Test Method for Assessment of Surface Appearance Change in Pile Floor Coverings Using Standard Reference Scales
- 3.2. CRI Reference Scale – CRI-1 Saxony Cut Pile Half-steps (Residential Testing)
- 3.3. CRI Reference Scale – CRI-4 Commercial Cut Pile Half-steps (Commercial Testing)

## 4. Apparatus and Materials

- 4.1. Conveyor with a minimum bed length of 10 feet and stroke of 5 feet and minimum bed width of 35 inches. Conveyor must be capable of maintaining specified test speed both forward and reverse. Conveyor must be equipped with brackets to hold the test equipment stationary, exert no horizontal or vertical force.
- 4.2. Carpet mounting platform comprised of the same material as test carpet with a 12 inch by 12 inch cut-out to be mounted on the conveyor.
- 4.3. Tachometer used to measure conveyor speed in feet/second
- 4.4. CRI Reference Scale – (CRI-1 and CRI-4)
- 4.5. Illumination System – Capable of providing a minimum of 1200 ± 300 lux of north sky light or cool white fluorescent light source.
- 4.6. Distilled water for use with Extractor
- 4.7. Voltage Meter Regulator

## 5. Test Specimen

- 5.1. Test Carpet Description: Residential Cut Pile or Commercial Cut Pile (usage types as specified on the COC) (See SOA Test Carpet Specifications)
- 5.2. Cut two cut carpets 12 inches by 12 inches. Mark pile direction on both carpets.
- 5.3. Mark the specimens with the test identification number.
- 5.4. Condition prepared samples in test room a minimum of 16 hours prior to testing and no more than 72 hours.

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### 6. Test Format

- 6.1. Condition Test Extractor (unless previously conditioned in prior testing)
  - 6.1.1. Energize test extractor in a stationary position at the rated voltage +/- 1% for 30 minutes.
- 6.2. Weigh sample.
- 6.3. Mount test carpet sample on conveyor. Present test carpet with pile lay towards the extractor. (Retain additional carpet sample to be used as control for grading.)
- 6.4. Fill extractor with distilled water.
- 6.5. Install extractor on the conveyor.
  - 6.5.1. Position extractor on the carpet 4-6 inches in front of the carpet test specimen.
  - 6.5.2. Ensure the extractor/wand head contacts the carpet.
  - 6.5.3. If extractor has multiple settings for use, refer to the COC for specific settings to be used in testing.
- 6.6. Extraction Cycle on Test Carpet
  - 6.6.1. Determine number of cleaning cycles based on usage type specified on the COC (Residential or Commercial.) (A cleaning cycle is defined by a number of wet passes and a number of dry passes. The total number of passes in a cleaning cycle is 4 passes. Follow specifications for number of wet passes and number of dry passes within a cleaning cycle as stated on the COC.)
    - 6.6.1.1. Residential Usage Type - 6 cleaning cycles.
    - 6.6.1.2. Commercial Usage Type - 11 cleaning cycles.
  - 6.6.2. Set speed on conveyor at 1.0 foot per second.
  - 6.6.3. Complete required passes until one cleaning cycle is achieved. Make sure that each pass begins and ends on the mount and not on the test carpet.
  - 6.6.4. Rotate test carpet 90 degrees after each cleaning cycle until number of specified cycles is achieved.
  - 6.6.5. Remove test carpet.
  - 6.6.6. Allow samples to dry. Verify weight of test carpet is less than 1% greater than test carpet prior to cleaning cycle.
  - 6.6.7. Return extractor to starting position, de-energize and remove test sample.
- 6.7. Condition test carpet and control carpet in test room a minimum of 16 hours prior to evaluation and no more than 24 hours.

### 7. Evaluation



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- 7.1. Grade test carpet compared to control carpet using the CRI Surface Appearance Reference Scales under specified light source. Ensure that test carpet and control carpet pile lay is in the same direction.
- 7.2. Step 7.1 above is completed by three different trained technicians according to ASTM D7330.

### 8. Report

- 8.1. The identifying information for the extractor (Manufacturer, product name and model, COC number, serial number and description of any attachments and spray tips used)
- 8.2. Record date carpet was cleaned.
- 8.3. Record extractor test speed and test voltage.
- 8.4. Record the number of wet passes and dry passes in a cleaning cycle.
- 8.5. Record weight before and after each cleaning cycle.
- 8.6. Record the total number of cleaning cycles.
- 8.7. Record the settings used during testing.
- 8.8. Record each grade assigned from each of the three raters.
- 8.9. Record average grade.
- 8.10. Report any deviations from this test method.