

Subject 790

June 22, 2018

SUMMARY OF TOPICS

The following changes in requirements to the Standard for Safety For Standard Test Methods for Fire Tests of Roof Coverings, UL 790, are being proposed:

1. Addition of Appendix A - Additional Procedure for Calibration of Apparatus

STP BALLOTS AND ALL COMMENTS DUE: August 6, 2018

UL's goal is to have no interest category comprise more than one-third of the STP membership balance. To improve the current balance for STP 790, UL is looking for participants in all interest categories except Producer and General. Definitions for these interest categories are available on the Standards STP Internet site:

<http://ulstandards.ul.com/develop-standards/participation/interest-categories/>

If you are interested in applying for STP 790 membership or are aware of potential candidates for this STP, please contact the STP Project Manager, Mary.Huras@ul.com.

For your convenience in review, proposed additions to existing requirements are shown underlined and proposed deletions are shown ~~lined-out~~.

1. Revision to Flame Calibration Procedure and Addition of Appendix A

RATIONALE

Proposal submitted by: Dwayne Sloan, UL LLC

In addition to the flame temperature calibration procedure of Section 5.5, it has been found that additional calibration in accordance with this Appendix A is useful for setting specific gas flow targets for an individual laboratory.

Use of this instrumented board has reduced time in achieving gas flow targets, and has improved repeatability and reproducibility of the test.

PROPOSAL

(NEW APPENDIX A)

APPENDIX A – (INFORMATIVE) – ADDITIONAL PROCEDURE FOR CALIBRATION OF APPARATUS

A1 General

A1.1 In addition to the flame temperature calibration procedure of Section 5.5, it has been found that additional calibration in accordance with Appendix A is useful for setting specific gas flow targets for an individual laboratory.

A2 Calibration Deck

A2.1 A 3 ft, 4 inch by 4 ft, 4 inch (1 m by 1.3 m) calcium silicate board calibration deck is used. The board is permitted to be divided into sections to prevent cracking from temperature differential expansion. When divided, the seams are to be butted together, and the seams should occur over steel framework.

A2.2 The board is instrumented with the required No. 14 B & S gauge (1.63 mm) Type K wire thermocouple located as shown by Section 5.5.3 as well as locations T1 through T6 as shown in Figure A1.1. The tip of the thermocouples is 1 inch (25 mm) above the board surface. The board is also instrumented with heat flux gauges located at locations H1 through H7 as shown in Figure A1.1.

FIGURE A1.1 (NEW)

Please note that the proposed new figure can be viewed in CSDS by clicking on "Supporting Documentation" under the Quick View tab on the right-hand side of the work area. A pop-up window with the supporting documentation should appear. Select the magnifying glass icon to bring up the figure.

A3 Calibration Procedure

A3.1 Position the instrumented calibration deck on the framework at an incline of 5 inch per horizontal ft (0.416:1).

A3.2 Adjust the air current described in Section 5.4 and adjust the gas flow to produce a 2 min average flame temperature of $1400 \pm 50^{\circ}\text{F}$ ($760 \pm 28^{\circ}\text{C}$) for Classes A and B and $1300 \pm 50^{\circ}\text{F}$ ($704 \pm 28^{\circ}\text{C}$) for Class C tests. Allow the response of the thermocouple to the test flame to stabilize before the 2 min average flame temperature is measured. Base the 2 min average on temperatures recorded at 10 s intervals.

A3.3 Position the top surface of the leading edge of the calibration deck or the test sample flush with the top edge of the simulated eave within a tolerance of $-0 + \frac{1}{2}$ inch (13 mm).

A3.4 When these calibration conditions are met, the flame should be approximately 3 ft (0.9 m) wide at the bottom edge and in the center of the width of the calibration deck and the flame shall gradually narrow to approximately a 6 inch (0.15 m) width in the center of and at the top edge of the calibration deck. This described fire exposure pattern applied to the deck during flame calibration is shown in Fig. 1, Item h. Intermittent flashes of flame extending another 1 to 2 ft (0.3 to 0.6 m) beyond the top edge of the calibration deck shall be permitted.