

Subject 586

October 20, 2017

SUMMARY OF TOPICS

The following topics for the Standard for High-Efficiency, Particulate, Air Filter Units, UL 586, are being recirculated:

COMMENTS DUE: DECEMBER 4th, 2017

For your convenience in review, proposed additions to the previously proposed requirements dated 2017-07-21 are shown underlined and proposed deletions are shown ~~lined-out~~.

1. Revision to Replace Trade Name References with Chemical Name

Responses to comments have been posted within the 586 Proposal Review Work Area dated 2017-07-21. No changes have been made to the previously proposed revision. Note that the purpose of a recirculation of comments only is intended solely to provide STP members the opportunity to review the comments and responses, and to either reconsider their vote or cast a first-time vote. New comments on the previously proposed revision for this Topic will not be provided with a specific response. Any additionally desired changes should be submitted as a new proposal request via CSDS.

2. Clarification of Testing Procedures for Heated Air Test and Spot Flame Test

RATIONALE

Responses to comments have been posted within the 586 Proposal Review Work Area dated 2017-07-21.

PROPOSAL

8.2.1 These aerosol penetration tests and the Spot Flame Test, Section 9, are to be conducted in a horizontal duct 27 by 27 inches (686 by 686 mm) in cross section and 13-1/2 feet (4.12 m) long. The duct is to be made of stainless steel reinforced with angle iron. One end of the duct is to be tapered and attached to the discharge of a constant-speed blower that, in turn, has an adjustable air-intake opening preceded by a calibrated venture or similar flow meter.

8.2.2 Instrumentation for measuring the resistance (pressure differential across the test specimen) and ~~temperature~~ is to be provided.

~~8.2.7 The upstream section of the duct is to be equipped with facilities for heating the air to be passed through the filter unit as required for the heated air test described in 8.4.2.~~

~~8.2.9 Equipment is to be provided for conditioning test samples in atmospheres of 50 ±5 and 90 ±5 percent relative humidity at 77°F (25°C) and at normal atmospheric pressure, and for reducing the temperature of test samples to 27 ±4°F (minus 3 ±2°C).~~

8.3.2 Each sample is to be mounted in the test duct described in 8.2.1 and the air flow is to be adjusted to the manufacturer's air-flow rating. The aerosol portable generator^a is to be used to introduce aerosol particles into the inlet of the calibrated venturi flow meter. The aerosol penetration is to be measured downstream of the unit by means of the forward light-scattering cell and percent penetration indicator. The test is to be conducted at room temperature [$70 \pm 10^\circ\text{F}$ ($25 \pm 6^\circ\text{C}$)].

8.4.1 When tested as specified in 8.4.2 - 8.4.4 and ~~8.4.3~~, the percent aerosol penetration through a filter unit shall be not more than 3.0.

8.4.2 Each sample (see 8.1.2) is to be installed in the test duct referenced in 8.4.3 and subjected to the flow of heated air for 5 minutes. The average temperature of the heated air is to be $700 \pm 50^\circ\text{F}$ ($371 \pm 27^\circ\text{C}$), as measured at each a minimum of six points distributed equally across the filter face. No individual temperature measurement should be less than 600°F (316°C) or greater than 800°F (427°C). The rate of air flow ~~as measured by the calibrated venturi flow meter~~ is to be not less than 40 percent of the manufacturer's air-flow rating.

8.4.3 The test duct shall be of any arrangement that can provide the airflow and temperature referenced in 8.4.2. The airflow shall be adjusted before the heat is applied. If gas is burned to heat the air, the flames shall not impinge on the filter face. After the samples have cooled, the test specified in 8.3.2 is to be repeated.

8.4.4 After the samples have cooled, the test specified in 8.3.2 is to be repeated.

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