EI 1590

Specifications and qualification procedures for aviation fuel microfilters

Fourth edition

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SPECIFICATIONS AND QUALIFICATION PROCEDURES FOR AVIATION FUEL MICROFILTERS

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FOREWORD

This publication provides mechanical requirements for outside-to-inside flow format microfilters (of 150 mm (6 in.), 125 mm (5 in.), 100 mm (4 in.) or 50 mm (2 in.) nominal diameter) for use in aviation fuel ground handling operations, and laboratory/test rig procedures/protocols for use in the qualification testing of a design or model of microfilter.

This edition was developed to:

– Include in scope the laboratory qualification of a 125 mm (5 in.) nominal diameter element.
– Add a new clause on sustainability.
– Recognise Copperas® Red Iron Oxide R9998T as a replacement for Copperas® Red Iron Oxide R9998.
– Clarify that the one micron rating applies to any microfilter claimed to be of a smaller micron rating (amend references to 1µm to 'up to 1µm'). There is no micron rating of less than one micron referenced in EI 1590.
– Update materials compatibility testing by reference to EI 1589 *Materials compatibility testing for aviation fuel filter elements and fuel sensing devices*.
– Include the option for the base fuel used for testing to meet a national standard for kerosine-based jet fuel (rather than ASTM D1655 or Def Stan 91-091) by agreement with the user.
– Clarify that a microfilter element model that is qualified in a test vessel in accordance with EI 1590 may be deployed in either a vessel that conforms with EI 1596 (a multiple element system) or one that conforms with the requirements of EI 1587 *Recommended practice for single cartridge filtration units for aviation fuel*, Annex A (for single cartridge housings).
– Clarify that there may be read across from a 2,0 µm to a 3,0 µm rating qualification (the same test dust is required to be used for both qualifications).

This is the fourth edition of this publication, which supersedes the previous edition. With the publication of the fourth edition, the third edition is hereby formally withdrawn from publication. The qualification testing requirements that were included in all previous editions of this publication have not been significantly amended in this fourth edition. Therefore, existing qualifications to all previous editions are recognised as also meeting the requirements of this fourth edition.

These specifications are for the convenience of purchasers in ordering, and manufacturers in fabricating, microfilter elements. They are not in any way intended to prohibit either the purchase or manufacture of microfilter elements meeting other requirements.

Any manufacturer that markets a microfilter as being 'qualified to EI 1590' shall meet fully all of the requirements of this publication.

This publication uses the Système International d'Unités (International System of Units, or SI). In this system, the decimal point is a comma (,). In writing numbers of greater than three digits, thousands are demarcated by the use of a space, rather than a comma. US Customary Units are also given in parentheses after the SI unit.

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