

December 19, 2008

Product Recall Bulletin

Subject: Facet International - Model FG-230-4 End Cap Adhesion Failure

Action

A) Users of Facet FG-230-4 filter monitors should check the date of manufacture of their elements in stock.

B) Elements with manufacture dates of July, August and September 2007 should not be used but returned to the supplier for free replacements.

C) Filter vessels with Facet FG-230-4 elements in service with the dates of manufacture in (B) above should be opened and inspected. All elements with these manufacture dates should be replaced. If the date of manufacture of Facet elements in service is not known, this information can be provided by Facet's local customer service. If the date of manufacture can not be determined by Facet customer service, the vessel should be opened and inspected. Filter vessels with Facet elements outside the range of manufacture dates in (B) above need not be opened and inspected.

Any elements in opened vessels that show signs such as

- (i) unraveling tape (see photo 1) or
- (ii) separated outer sock (see photo 2) or
- (iii) loosened end caps (see photo 3)

should be replaced along with all the other elements in the vessel.

D) All replacement elements should have a date of manufacture of October 2007 or later.

Background

In November 2008, during a routine inspection at an airport operated by Shell Aviation in Brazil, defective Facet monitors, Model FG-230-4, were discovered in a number of their trucks and dispensers. On-site pictures (see photos 1, 2 and 3 below) indicated that several layers of media had separated and pulled back from both end caps leaving approximately one inch voids at each end.

Investigations at airports and laboratory testing by Facet International in conjunction with Shell Aviation revealed three defective lot dates: **07/24/07**, **08/10/07** and **08/13/07**.

Facet International also audited historical manufacturing documentation both internally and with suppliers and to date has not identified an obvious, direct link between the service failure and the manufacturing process. In addition, laboratory tests on nine random lots of existing inventory were conducted to validate quality and could not reproduce the service failure.

Analysis of the defective sample elements returned from the field showed that the outer layer of sock, bulk fiberglass, and first absorbent layer pulled from the end cap. In each case, the final absorbent layers and fine fiberglass filtration layer were intact in the end cap adhesive but the media layers that had pulled from the end cap showed only minimal amounts of residual adhesive.

These findings have led Facet to conclude that the most likely cause for the defective elements is insufficient adhesive in the end caps. As a result, all elements manufactured during the same months as those identified with manufacturing defects are being recalled and free replacements offered.

Facet International is committed to manufacturing and supplying first class filtration products for aviation use and in order to prevent future manufacturing defects is implementing improved procedures such as:

- Additional 12% volume of adhesive in each end cap
- Doubling of the frequency of quality checks of adhesive volume
- Addition of end cap pull / pry test to elements from each lot
- End cap cross sectional analysis test performed on each lot



Photograph 1



Photograph 2



Photograph 3

Sales & Manufacturing Locations

North America

E-mail: facetusa@facetusa.com

Toll Free: 800.223.9910

Tel: 918.272.8700

Fax: 918.272.8787

Postal Address:

Facet International
9910 East 56th Street North
Tulsa, OK 74117 USA

Facet International Operations Around The Globe

Facet Industrial B.V.

Damsluisweg 40A

1332 ED Almere

Loods 11

THE NETHERLANDS

Tel: +31 (36) 532 0004

Fax: +31 (36) 532 1640

E-mail: holland@facetinternational.com

Facet Industrial U.K., Ltd.

Treforest Industrial Estate

Pontypridd, Mid Glamorgan

South Wales CF37 5YL

UNITED KINGDOM

Tel: +44 (1443) 844 141

Fax: +44 (1443) 844 282

E-mail: uk@facetinternational.com

Facet France S.A.R.L.

22, Avenue des Nations

Z.I. Paris Nord II, P.B. 60055

95972 Roissy CDG Cedex

FRANCE

Tel: +33 (1) 4863 8081

Fax: +33 (1) 4863 2083

E-mail: france@facetinternational.com

Facet Ibérica, S.A.

Avda. da Ponte, 16

Poligono Industrial de Sabon

15142 Arteijo, La Coruna

SPAIN

Tel: +34 981 601 400

Fax: +34 981 601 000

E-mail: spain@facetinternational.com

Facet Italiana S.p.A.

Corso IV Novembre 58

10070 Cafasse (Torino)

ITALY

Tel: +39 0123 340111

Fax: +39 0123 417665

E-mail: italy@facetinternational.com

Facet Deutschland GmbH

Am Selder 39

D-47906 Kempen

GERMANY

Tel: +49 (2152) 14 81 0

Fax: +49 (2152) 14 81 10

E-mail: germany@facetinternational.com