



## G3 Maintenance Cleaner & Contact Cleaner Conform to Boeing Spec

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Techspray's popular aerosol cleaners G3 Maintenance Cleaner (part #1630-16S) and G3 Contact Cleaner (1632-16S) have both been qualified under Boeing specification D6-17487 rev. P. Tests were performed by outside laboratory SMI, Inc. Boeing D6-17487 is a series of tests that demonstrate the products are safe to use on plane surfaces.

Techspray's G3 solvents were developed with patented technology to replace ozone depleting solvents containing CFC's and HCFC's. G3 cleaners are a blend of solvents that provide powerful cleaning and many other advantages:

- Non-ozone depleting
- Non-flammable
- Low toxicity

G3 Maintenance Cleaner and G3 Contact Cleaner have much lower toxicity than n-Propyl Bromide (nPB), Trichloroethylene (TCE), and Perchloroethylene (Perc), common industrial solvents. Instead of a time weighted average of exposure (TWA – amount of exposure a user can safely be exposed to in an 8-hour period) of 10-25 ppm (parts per million), G3 allows exposure of over 400 ppm! The effects of over exposure of nPB, TCE or Perc are a long list including cancers, reproductive damage, liver damage, etc. (for more information, refer to Techspray whitepaper "Toxic Chemicals Used for Industrial Cleaning" -- [http://www.techspray.com/whitepapers.php?lang=1&document\\_category\\_id=5](http://www.techspray.com/whitepapers.php?lang=1&document_category_id=5).)

### **Boeing D6-17487 Test Standard**

Boeing D6-17487 rev. P includes a battery of tests that demonstrate a solvent is safe for aircraft use:

- Sandwich corrosion test
- Paint softening test
- Hydrogen embrittlement test
- Stress crazing test

Sandwich corrosion test is in accordance with ASTM F1110 testing method. Per ASTM, this method serves the following purpose:

"... used to determine whether aircraft structural aluminum alloys are liable to be corroded or damaged by application of the test material during routine maintenance operations... Interpretation of the sandwich corrosion test results is based on a comparison of the appearance of faying surfaces of three sets of coupons."

(source: <http://www.astm.org/Standards/F1110.htm>)

Paint softening test is in accordance with ASTM F502:

"...effects of cleaning solutions and chemical maintenance materials on painted aircraft surfaces. ... Plate and sheet specimens of aluminum alloy shall be examined under concentrated and diluted test solutions."

(source: <http://www.astm.org/Standards/F502.htm>)

Hydrogen embrittlement test is in accordance with ASTM F519:

"... detect possible hydrogen embrittlement of steel parts during manufacture by verifying strict controls during production operations such as surface preparation, pretreatments, and plating/coating."

(source: <http://www.astm.org/Standards/F519.htm>)

Stress crazing test is based on ASTM F945 with a few modifications. The purpose of the test per ASTM:

"Because of the tendency of prestressed titanium alloy parts to crack if heated while in contact with certain chemical reagents, it is necessary to ensure that cleaning and maintenance materials will not initiate stress corrosion of titanium alloys under controlled conditions."

(source: <http://www.astm.org/Standards/F945.htm>)

**Techspray's G3 Cleaners Proven Aircraft Safe**

Techspray's G3 cleaners have passed Boeing D6-17487 in its entirety. G3 Maintenance Cleaner and G3 Contact Cleaner have been proven safe for aircraft use, are powerful cleaners, non-flammable, and safer for the environment and personnel than past solvent cleaners.

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*Techspray is a formulator and manufacturer of precision cleaners for industrial and electronic applications. More information of Techspray's alternative cleaners, such as G3, can be found at [www.techspray.com](http://www.techspray.com).*