



Aviation Material Compatibility Evaluation

Lufthansa Technik operates a one-stop shop for MRO Laboratory Services covering analytical investigations across all aviation materials and substances. The Aviation Material Compatibility Evaluation is designed to confirm the compatibility of substances prior to field use.

In the course of aircraft operation and MRO activities aircraft come into contact with multiple substances, such as cleaning agents and lubricants. These agents and operational substances therefore have to be tested for harmful effects when applied to specific aviation materials and to ensure that they comply with aircraft specifications.

Manufacturers and users of alternative agents require such products to be tested prior to application in the field. Lufthansa Technik's Central Laboratories offer comprehensive evaluations to confirm the compatibility of substances and agents for surface treatment, cleaning or machining. With a broad variety of tailored evaluation programs available from Lufthansa Technik, producers, suppliers and users can check, test and demonstrate that the agents in question do not impair or compromise the airworthiness of the aircraft and its components.

Multiple test procedures are used to examine the interdependencies between typical aviation materials and the substances to be tested. Lufthansa Technik's Central Laboratories are able to conduct these tests in its chemical and metallographic laboratories in compliance with specific Lufthansa, Boeing, Airbus, ASTM and other standards. To avoid expensive fleet-wide damage and safety-relevant risks and minimize aircraft downtime we recommend that you evaluate your operational agents and substances upfront. An overview of the test programs available for substances whose compatibility can be tested is provided on the back.



Aircraft exterior wet cleaning



Surface contact of cleaning agent



SEM analysis of material surface after exposure



Various aircraft interior equipment to be cleaned

Contact

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Substances & Fluids ¹	Specifications
<p>1. Aviation cleaning agent tests</p> <p>The procedures are designed for each type of aviation cleaning agent:</p> <ul style="list-style-type: none"> • Aircraft interior • Special agents for synthetics and leather • Aircraft exterior • Solvents, alkaline, acidic and neutral cleaners (wipe on, immersion, spray application) • Other special agents 	<p>Compatibility examination includes the following tests, amongst others:</p> <ul style="list-style-type: none"> • Stress corrosion cracking • Total immersion corrosion • Hydrogen embrittlement • Evaporation residue • Effects on coated and painted surfaces
<p>2. Cooling fluid and lubricant tests</p> <p>Evaluation of the compatibility of:</p> <ul style="list-style-type: none"> • Water-soluble lubricants • Non water-soluble lubricants • Machining fluids • Cutting oils 	<p>Compatibility examination includes the following tests, amongst others:</p> <ul style="list-style-type: none"> • Hydrogen embrittlement • Intergranular attack • Sandwich corrosion • Long-term aging at elevated temperature
<p>3. Other aviation substances</p> <p>Lufthansa Technik is able to test and evaluate special substances, such as</p> <ul style="list-style-type: none"> • Disinsectants • Desinfection media • Any aviation substance 	<p>On request</p>

1) Test duration depends on product and test range (max. ~2 months)

How-to guide	Shipping address:	Substance labelling:
<p>If your task or material compatibility test requirement is not listed please contact our expert team. Together we will find an approach that addresses your specific needs. If appropriate, we can also extend the investigations by calling in Lufthansa Technik's Inflammability Test Center and/or Aircraft Fluid Laboratory.</p> <p>Please send your samples firmly sealed and sufficiently labeled.</p>	<p>Lufthansa Technik AG Laboratory Services Material Compatibility Evaluation Department HAM TQ/M Building 250, Room 232/Bhf. 36 Weg beim Jäger 193 22335 Hamburg, Germany</p>	<ul style="list-style-type: none"> • Customer/operator/part number • Material description/composition • Manufacturer/supplier • Sample ID/batch-, article- and test numbers • Special test requests (if appropriate) <p>Supplementary:</p> <ul style="list-style-type: none"> • Purchase Order • Contact information incl. e-mail address • Reference number (if appropriate) • Technical Data Sheet (TDS) • Material Safety Data Sheet (MSDS)