

Preparing Stored Aircraft for **Return to Service**

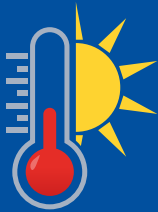
Aerospace Transparencies



Preparing Stored Aircraft for **Return to Service**

Aircraft operators looking to return their aircraft to service are recommended to inspect their windows.

Aircraft storage conditions can accelerate the aging of the windows as a result of the prolonged exposure to:



High Temperatures



UV Rays



Water Accumulation

PPG offers hump seal-repair and PPG SURFACE SEAL[®] re-application kits, as well as remote window evaluation that will help operators reduce the likelihood of an unscheduled window replacement.





Hump Seal Repair

Why do it?

The outboard moisture seal, commonly called a hump seal, protects windows against moisture ingress, which can cause delamination, interlayer degradation and windshield heating system damage.

Subjected to the effects of UV exposure and high-temperatures often encountered as the aircraft are parked for extended periods in the tarmac, the hump seal can degrade over time.

While not a structural issue, operating a window with a compromised moisture seal will reduce the service life of the window. As result, the moisture seal should be regularly inspected and maintained during operation as well as after a prolonged aircraft storage.

What is required?

Access to the cockpit windows under good lighting conditions to evaluate the conditions of the moisture seal.

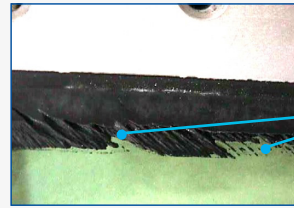
Standalone repair kits can be procured ensuring all necessary and approved consumables.

How much time does it take?

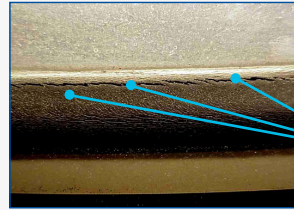
Inspection time: under 5 minutes per part once access to the aircraft exterior is obtained.

Repair time: under 2 hours of repair time with a cure time within 6-8 hours depending on environmental conditions.

Visual Reference Chart



Moisture seal erosion



Moisture seal cracking

Standalone Hump Seal Repair Kits

Aircraft	Kit Number	Applicable PPG Transparency
Airbus		
A318/319/320/321	HSKAIRBUS	NP165331-X
A300/310/330/340	HSKAIRBUS	NP175201-X
ATR		
42/72	HSKATR	NP158801-X
Boeing		
707/727/737	HSKBOEINGNB	5-89354-XXXX 141A4800-X
747	HSKBOEINGWB	60B10028-XX
757/767	HSKBOEINGWB	141T4801-XX
777	HSKBOEINGWB	141W7400-X 141W7400-XX
787	HSKBOEING787	190800-XX
Bombardier		
CRJ100/200/ 700/900/1000	HSKCRJ/DASH8	NP-139321-XX NP-139322-XX
Dash 8/Q-Series	HSKCRJ/DASH8	NP 157901-XX 802600-XX
Embraer		
120, 135/140/145	HSKEMB	NP-151311-XX
170/175/190/195	HSKEMB	NP-187301-XX

(full list of kit numbers available upon request)

 **More Information**

 **Application Video**

on-site training / questions
aerowindowsupport@ppg.com



Surface Seal

? Why do it?

Some of our cockpit windshields are coated with Surface Seal (PPG's hydrophobic solution), to enhance the pilot's visibility during wet conditions.

Subjected to the effects of rain and UV exposure often encountered as aircraft are parked for extended periods in the tarmac, the water shedding properties of Surface Seal can degrade overtime.

To ensure optimum visibility during wet conditions, it is recommended for aircraft operators to regularly assess the water-shedding properties of the cockpit windows to determine when reapplication of *Surface Seal* is needed.

📋 What is required?

Access to the window under good lighting conditions to evaluate the water-shedding properties of the window outer glass ply.

With the use of a water spray and regular water, the maintenance operator can assess the water shedding properties of the window as per the graphic on the right.

Standalone repair and consumable replenishing kits can be procured ensuring all necessary and approved consumables are available during the repair procedure.

🕒 How much time does it take?

Inspection time:

under 5 minutes per part once access to the aircraft exterior has been obtained.

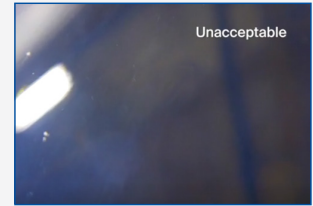
Application time:

Apply & Fly: under 30 minutes.

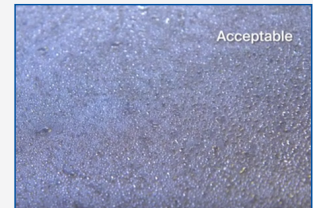
Standard: under 2 hours per window with a maximum cure time of 8 hours

Visual Reference Chart

Unacceptable,
re-application is
required



Surface Seal
re-application
should be
scheduled



Optimum



Standard Application Kit

Description	
Commercial aircraft window size	DSS 4020
General aviation window	DSS 4040G
Quick application kit	DSS 4200

➔ **More Information**

➔ **Application Video**

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Remote Window Evaluation – Optimum Replacement Interval

Why do it?

A significant number of windows are removed through an unscheduled maintenance operation, which typically results in

- In-flight diversion or cancellation
- Extended aircraft down-time

PPG can determine the optimum replacement interval for a specific window and in doing so help the aircraft operator.

- Reduce the likelihood of AOG event
- Optimize the spares inventory for a given fleet
- Turn the window replacement into a planned maintenance event

What is required?

The inspection is done remotely, so operators are only required to submit via email a minimum of 3 photos of each window that is to be evaluated.

- An image of the placard clearly identifying the serial and part number
- A picture of the overall window taken from the exterior to depict any issues on the frame, humpseal and/or state of the transparency
- A picture of the overall window taken from the cockpit interior to depict any issues on the bus-bar, connectors and/or state of the transparency
- Close up pictures of any issues of concern

How much time does it take?

Response within 48 hours

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Issue date: 08/21
Lit: 4798