

GORE® SKYFLEX®
Aerospace Materials



KC-135 APPLICATION GUIDE

Together, improving life



Increased Aircraft Availability with No-Cure Materials

Proven by more than 30 years of successful applications, GORE® SKYFLEX® Aerospace Materials are lightweight materials which provide a no-cure seal for panels, fairings, and floorboards and surface protection against vibration damage. They remain flexible and compliant over multiple open/close cycles, providing durable protection against corrosion and the ingress of water, fuels, and oils.

GORE® SKYFLEX® Aerospace Tapes include a proprietary material used in their construction — expanded polytetrafluoroethylene (ePTFE) specifically designed for use in a hydrocarbon-rich environment. They provide the same benefits as other series of GORE® SKYFLEX® Aerospace Tapes plus resistance to fuel, oil, and hydraulic fluid. These durable materials are available in a form-in-place tape or die cut gasket.

For more information or assistance in selecting the right sealant for your application, contact your Gore representative.

Benefits

- Reduced aircraft downtime with materials that require no curing
- Durable protection against extreme temperatures, fluids, and other environmental hazards
- No degradation when exposed to UV
- Improved sealing of gaps and irregular surfaces with highly conformable materials
- Reduced maintenance time by maintaining seals over multiple open/close cycles during production and maintenance
- Low environmental impact from non-hazardous waste
- Easy installation from single-component material



Technical Orders

GORE® SKYFLEX® Aerospace Materials are approved for use in the following KC-135 Technical Orders:

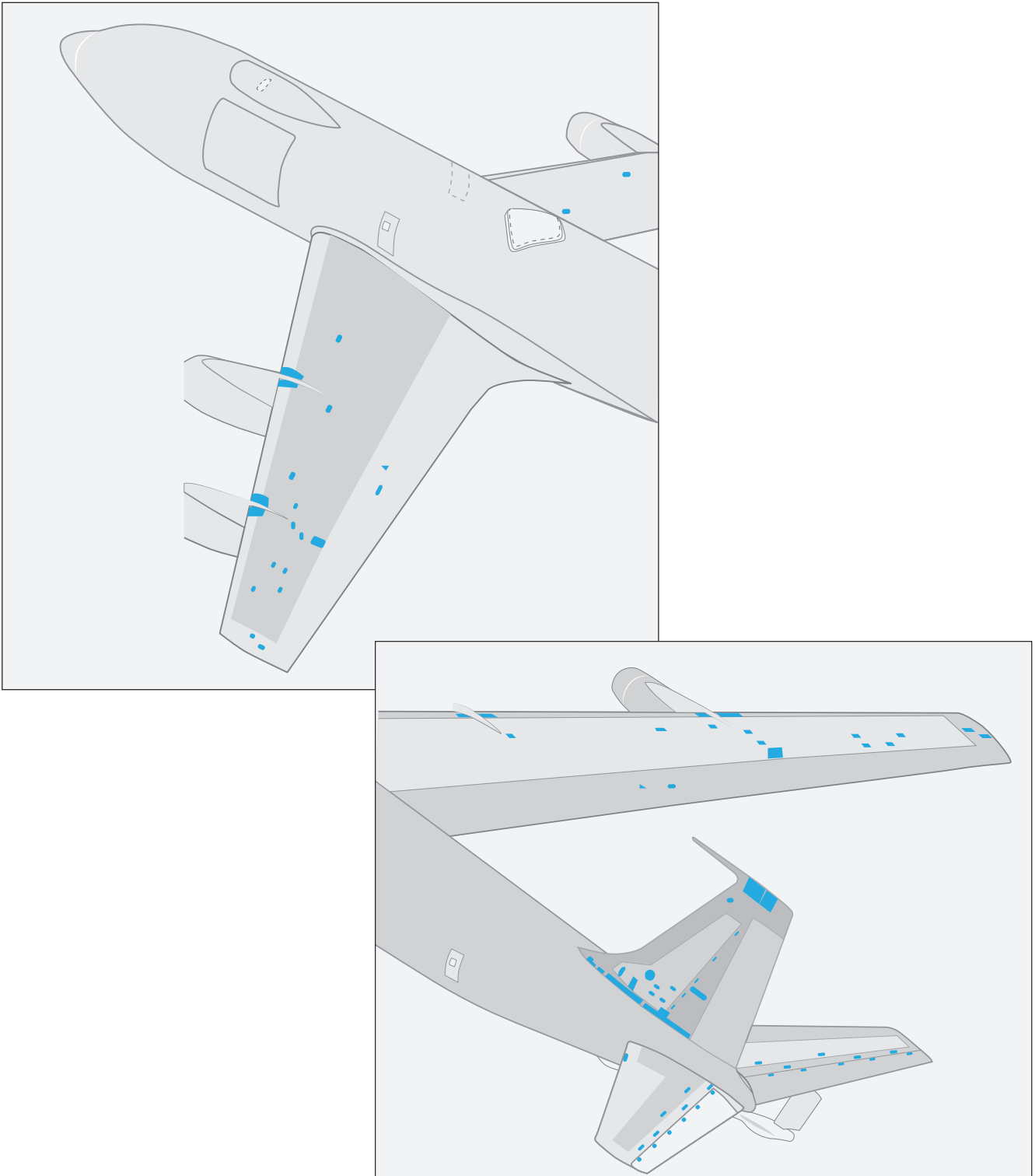
- TO 1-1-691 Aircraft Weapons System Cleaning and Corrosion Control
- 1C-135-3-1
- 1C-135-4

The examples presented in this document were applied using Gore's best practices for installing GORE® SKYFLEX® Aerospace Materials. In addition, instructional videos are available at www.gore.com/skyflex.

Note: This document is only a guide, and procedures in the current version of the technical orders supersede examples presented in this document.



Figure 1: Access Panel Locations (Source: T.O. 1 C-135(K)A-3-1)



GORE® SKYFLEX® Aerospace Materials

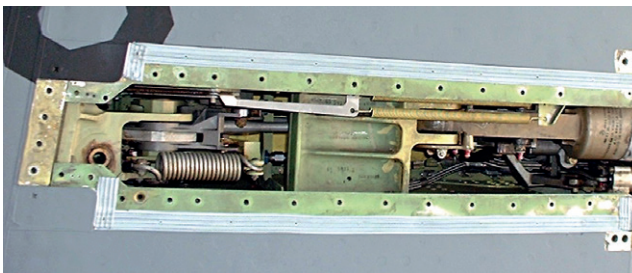
KC-135 Application Examples

Figure 2: Q Spring and Control Quadrant Access Panels



GORE® SKYFLEX® Aerospace Tapes, 110 Series (NSN 5330-01-368-7208, quantity: approx. 17 ft) installed on the vertical stabilizer. Fastener holes were pre-punched, and installation was completed. Multiple open/close cycles are possible after installation.

Figure 3: Rudder Tab Control Access Panel



GORE® SKYFLEX® Aerospace Tapes, 110 Series (NSN 5330-01-368-7208) installed.

Figure 4: Fin-to-Body Fairing Panels



Panels were cleaned prior to sealant installation. GORE® SKYFLEX® Aerospace Tapes, 110 Series (NSN 5330-01-368-7208) was used to seal the panel mating surface.

Figure 5: Landing Light Cover



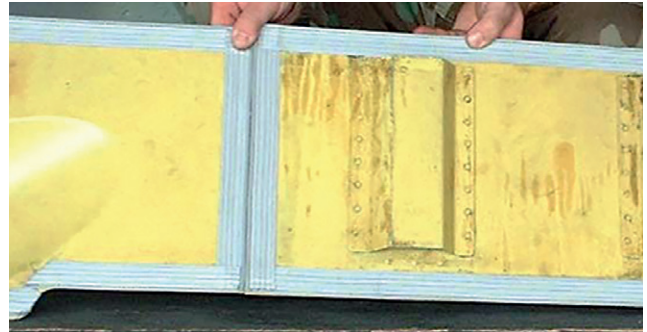
Using GORE® SKYFLEX® Aerospace Tapes, 110 Series (NSN 5330-01-368-7208, quantity: approx. 7 ft) on the cover enables the cover to be easily removed and reinstalled with no cure required.

Figure 8: Wing Production Break Covers



Frequent removal of an environmentally-sealed panel makes it a good candidate for GORE® SKYFLEX® Aerospace Tapes, 110 Series (NSN 5330-01-368-7208, quantity: approx. 10 ft). Panel can be reinstalled without tape replacement.

Figure 8: Wing Production Break Covers



Sealing the covers with GORE® SKYFLEX® Aerospace Tapes, 110 Series (NSN 5330-01-368-7208, quantity: approx. 20 ft) makes removal much easier while reducing corrosion problems in this critical and hard-to-repair area.

Figure 7: Beavertail Panel



The wider sealing surface of the panel takes 11 ft of GORE® SKYFLEX® Aerospace Tapes, 110 Series (NSN 5330-01-368-7208) for a reliable seal.

Inspection of Previously Installed Sealant

The sealant must be inspected whenever the access panel is removed. If the sealant has been damaged, sealing ability may be degraded. To prevent this, GORE® SKYFLEX® Aerospace Tapes must be inspected for large nicks, cuts, gouges, and delamination/separation prior to reuse. The structure should also be inspected for corrosion before the panel is reinstalled.

Prior to reuse, gently wipe the surface of the GORE® SKYFLEX® Aerospace Tapes with a clean cloth or rag to remove any dust, dirt, or other foreign matter. While wiping, inspect the sealant for mechanical damage, such as large nicks, cuts or gouges. Also check for delamination/separation from the sealing surface.

See Table 1 if problems or irregularities are detected to determine the appropriate action.

Table 1: Irregularities

Damage	Repair Required	Repair NOT Required
Nicks, cuts gouges	6.4 millimeters (0.25 inches) in size or larger OR any damage at a fastener hole	Less than 6.4 millimeters (0.25 inches) in size
Delamination/Separation	Sealant tape does not stay aligned on sealing surface or corrosion is observed	Adhesive near delamination area still holds sealant over required surface
Discoloration	Sealant is saturated with fuel/hydraulic oil (repair oil leak) and will not stay in place	Sealant is discolored due to compression stress around fasteners or other areas

Table 2: Material Requirements

Location	Panel Number	Panel	Gore Part Number	NSN	Qty Req'd (ft)	No. of Panels	Total Qty (ft)
Top of wing		OTBD Aileron Pushrod Access	GSC-21-95241-011	5330-01-368-7208	10	2	20
		Beavertail Panel	GSC-21-95201-0111	8030-01-367-7357	8	2	16
		Beavertail Panel	GSC-21-95241-011	5330-01-368-7208	3	2	6
	3123-01/4123-01	Production Break Cover	GSC-21-95241-011	5330-01-368-7208	20	2	40
		OTBD Aileron Access	GSC-21-95241-011	5330-01-368-7208	7	2	14
		Landing Gear Torque Box Access	GSC-21-95241-011	5330-01-368-7208	2	4	8
Lower wing		Landing Light Window Panels	GSC-21-95312-010	8030-01-467-6025	7	4	28
		Landing Light Cover	GSC-21-95241-011	5330-01-368-7208	7	2	14
Wing Totals			GSC-21-95201-0111	8030-01-367-7357	8	2	16
			GSC-21-95241-011	5330-01-368-7208			102
			GSC-21-95312-010	8030-01-467-6025			28
Vertical Fin		Rudder PCU Access	GSC-21-95241-011	5330-01-368-7208	5	1	5
	9113-03/9113-04	Rudder Gap Panels	GSC-21-95241-011	5330-01-368-7208	5	2	10
	9212-01/9213-14	Q Spring and Control Quadrant	GSC-21-95241-011	5330-01-368-7208	17	1	17
	9123-04	Rudder Tab Inspection Access	GSC-21-95241-011	5330-01-368-7208	4	1	4
	9213-142/141	Quadrant Inspection Doors	GSC-21-95241-011	5330-01-368-7208	2	2	4
	9223-02/03	Fin Inspection Doors	GSC-21-95241-011	5330-01-368-7208	20	2	40
	9222-01/02	Fin Inspection Doors	GSC-21-95241-011	5330-01-368-7208	19	2	38
Vertical Fin Total			GSC-21-95241-011	5330-01-368-7208			118
Fuselage		Jack Pad Access Panels	GSC-21-95241-011	5330-01-368-7208	3	3	9
		Tail Section Access Panels	GSC-21-95241-011	5330-01-368-7208	10	1	10
	1232-02 to 06	Wing-to-Fuselage Fairings	GSC-21-95241-011	5330-01-368-7208	8	10	80
Fuselage Totals			GSC-21-95241-011	5330-01-368-7208			99
Horizontal Stab	7121-01 to 02	Stab Inspection Doors	GSC-21-95241-011	5330-01-368-7208	3	2	6
	7122-01 to 02	Stab Inspection Doors	GSC-21-95241-011	5330-01-368-7208	3	2	6
	7123-01 to 02	Stab Inspection Doors	GSC-21-95241-011	5330-01-368-7208	3	2	6
	7111-01	Stab Inspection Doors	GSC-21-95241-011	5330-01-368-7208	3	1	3
	8121-01 to 02	Stab Inspection Doors	GSC-21-95241-011	5330-01-368-7208	3	2	6
	8122-01 to 02	Stab Inspection Doors	GSC-21-95241-011	5330-01-368-7208	3	2	6
	8123-01 to 02	Stab Inspection Doors	GSC-21-95241-011	5330-01-368-7208	3	2	6
	8111-01	Stab Inspection Doors	GSC-21-95241-011	5330-01-368-7208	3	1	3
		As required	GSC-21-95070-011	5330-01-367-7356			
Horizontal Stab Total			GSC-21-95241-011	5330-01-368-7208			42

Note: All quantities are approximate. Verification of quantity may be needed before ordering.

Table 3: Part Numbers

National / NATO Number	CAGE Code	Gore Part Number	Gore Series	Description	Width	Thickness	Color	Adhesive
5330-01-367-7356	1UH12, 17217	GSC-21-95070-011 GUA 1002-1	110	Compensation tape for gap filling	0.28"	0.020"	Gray	Full width
8030-01-367-7357	1UH12	GSC-21-95201-0111	110	Ribbed sealant tape	1.61"	0.020"	Gray	1" wide
5330-01-368-7208	1UH12	GSC-21-95241-011	110	Ribbed sealant tape	1.10"	0.020"	Gray	Full width
8030-01-467-6025	1UH12	GSC-21-95312-010	110	Ribbed sealant tape	1.00"	0.011"	Gray	Full width

NOTICE — USE RESTRICTIONS APPLY. Not for use in food, drug, cosmetic or medical device manufacturing, processing, or packaging operations.

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