**GORE® SKYFLEX®**
Aerospace Materials

# HELICOPTER APPLICATION GUIDE

*Together, improving life*

# GORE® SKYFLEX® Aerospace Materials

Proven by several decades of successful applications, GORE® SKYFLEX® Aerospace Materials provide lightweight, non-curing seals on panels, fairings, and floorboards while protecting surfaces 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 Materials are engineered from expanded polytetrafluoroethylene (ePTFE). They are available as form-in-place (FIP) tapes and die-cut gaskets, including options resistant to fuels, oils, and hydraulic fluids.

To prevent chafing damage caused by the abrasion of the aircraft's panels against airframe structure, Gore's ePTFE tape installed between panel and structure provides a durable, low-friction barrier to absorb effects of airframe vibration.

## Easy Installation in Less Time

GORE® SKYFLEX® Aerospace Materials are significantly easier to install than polysulfide FIP seals. They eliminate cure time for sealing and protective materials, significantly reducing manufacturing cycles and direct maintenance time. These materials do not require special equipment or training to install. In addition, their unique construction enables them to maintain their protective performance over multiple open/close cycles, which translates to fewer replacements and re-work of seals and significant savings in personnel time during production and maintenance.

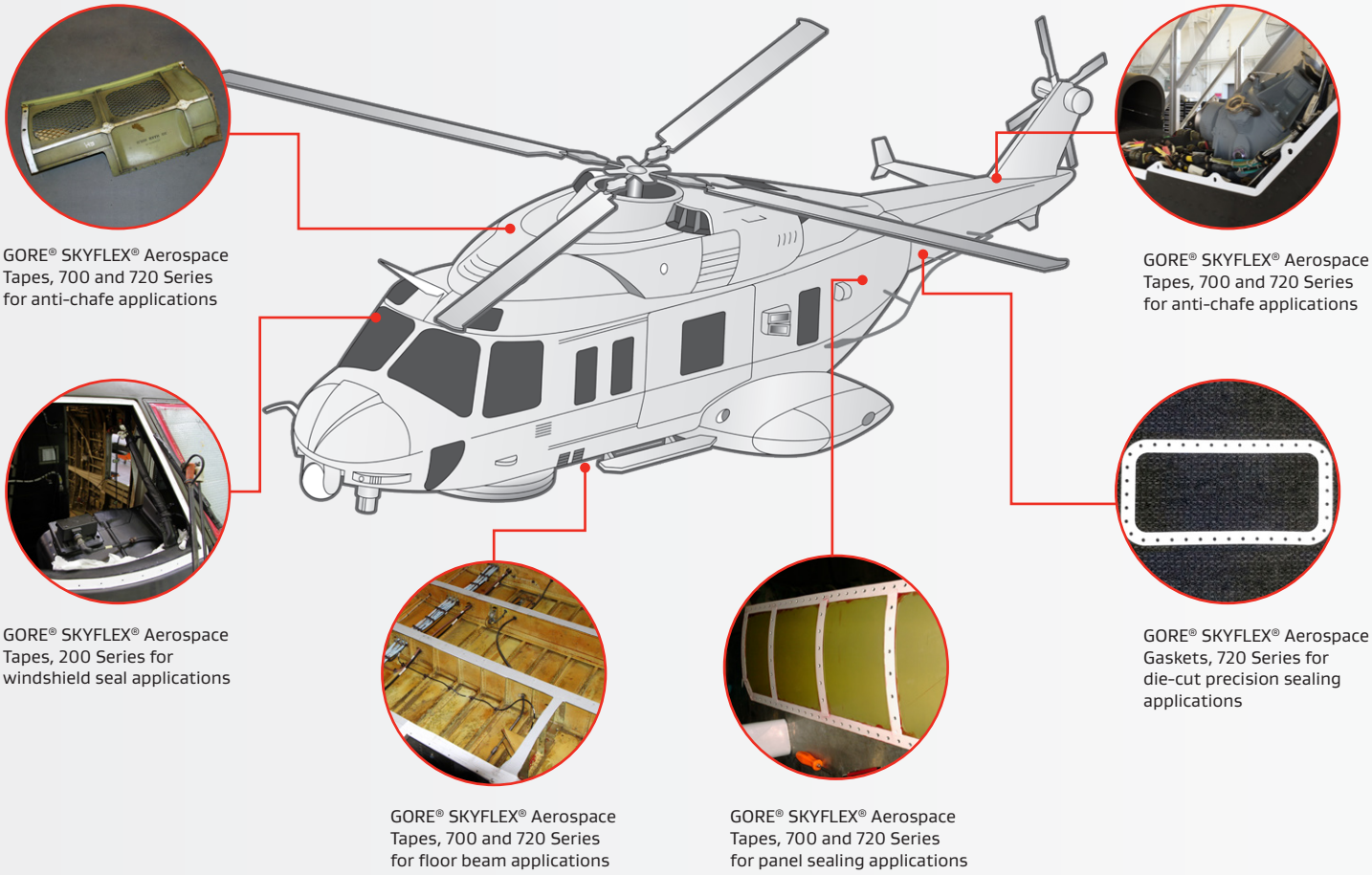
Unlike traditional two-component materials, Gore's materials require no mixing, masking or clean-up after installation. In addition, the non-hazardous material reduces environmental impact, disposal costs, and improves safety for installation personnel.


**GORE® SKYFLEX® Aerospace Materials**

- 700 and 720 Series tapes are effective at sealing access panels and **protecting against abrasion and aviation fluids.**
- Die-cut gaskets provide **precision sealing** for fuel and environmental sealing applications.
- 110 Series tape seals windshields and panels with no cure time, enabling **quick installation and replacement.**

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 **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.



GORE® SKYFLEX® Aerospace Tapes, 700 and 720 Series for anti-chafe applications

GORE® SKYFLEX® Aerospace Tapes, 700 and 720 Series for anti-chafe applications

GORE® SKYFLEX® Aerospace Tapes, 200 Series for windshield seal applications

GORE® SKYFLEX® Aerospace Gaskets, 720 Series for die-cut precision sealing applications

GORE® SKYFLEX® Aerospace Tapes, 700 and 720 Series for floor beam applications

GORE® SKYFLEX® Aerospace Tapes, 700 and 720 Series for panel sealing applications

## Benefits

- **Easy installation** from single-component material
- **No curing** reduces manufacturing cycles and maintenance downtime
- **Less replacement and re-work** of seals by maintaining performance over multiple open/close cycles
- **Improved sealing** of irregular surfaces with highly conformable materials
- **Durable protection** against mechanical forces, extreme temperatures, fluids, and other environmental hazards
- **Low environmental impact** from non-hazardous waste

Suggested areas for applications are presented in Table 1. For more information or assistance in selecting the right materials for your application, contact a Gore representative at **gore.com/aerospace-defense-contact.**

## Typical Applications

- Access, fuel & dry-bay panels
- Floorboards/cargo & passenger
- Structure/cargo & passenger
- Engine cowlings
- External fuel tanks
- Fairings
- Fuel bladder cavities
- Helicopter tail booms
- Wing D-Nose
- Lighting assemblies

**Table 1: Comparison of GORE® SKYFLEX® Aerospace Materials**

| | Material Sets | | | | | | |
|---|---|---|---|---|---|---|---|
| **Properties** | **100 Series** | **110 Series** | **200 Series** | **500 Series** | **520 Series** | **700 Series** | **720 Series** |
| **Purpose** | | | | | | | |
| Abrasion/Anti-Chafe Protection | + | + | + | ++ | ++ | ++ | ++ |
| Corrosion Protection[a] | + | + | + | + | + | + | + |
| Environmental Sealing | + | + | + | + | + | + | + |
| Gap-Filling | + | + | + | + | + | + | + |
| Jet Fuel Sealing | | | | | ++ (Gasket only) | | ++ (Gasket preferred) |
| **Application** | | | | | | | |
| Low Compressive Forces | ++ | ++ | ++ | + | + | + | + |
| High Compressive Forces | + | + | + | ++ | ++ | ++ | ++ |
| Vibration | + | + | + | ++ | ++ | ++ | ++ |
| Frequent Opening/Access | + | + | + | ++ | ++ | ++ | ++ |
| Aviation Fluid Exposure[b] | + | + | + | + | + | + | + |
| Jet Fuel Sealing[c] | | | | | ++ | | ++ |
| **Best Uses** | Big gaps, low compressive forces | Big gaps, very low compressive forces | Gap-filling | Large Gaskets | Large Fuel Gaskets | Most appliciations, especially high vibration or repeated access | Areas with repeated exposure to hydro-carbons |
| **Forms** | Flat Tape | Ribbed tape | Flat Tape | Gasket | Gasket | Flat Tape/ Gasket | Flat Tape/ Gasket |

a. Protection of applied corrosion-inhibiting compounds on surface from scratching, protection of surface from standing fluids, and isolation of dissimilar materials (galvanic).

b. Tested per AMS3255 Fluid Stability Requirements.

c. Tested per AMS3255 Liquid Sealability Requirements.



**W. L. Gore & Associates, Inc.**
gore.com

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