

TECHNICAL DATA

WINDSHIELDS AND WINDOWS

Alenia Aermacchi C-27J Spartan, G222



PPG Aerospace has a successful history as the transparency supplier for the advanced C-27J tactical twin-turboprop airlifter that began with its predecessor, the G222 twin-turboprop medium-transport aircraft. PPG designed and built a complete transparency system for the G222, including anti-icing and antifogging system electrical controllers.

Windshields and Windows

Features	Benefits
Original-Equipment Supplier From Program Inception	<ul style="list-style-type: none"> Proven reliability Latest design and upgrades Worldwide customer and technical support

Windshields

Features	Benefits
<i>Herculite</i> ® II Chemically Strengthened Glass Core and Inboard Plies	<ul style="list-style-type: none"> High strength-to-weight ratio Lightweight window Superior optical quality Chemical, abrasion and scratch resistance

<i>Herculite</i> Aerospace Glass	<ul style="list-style-type: none"> Chemical, abrasion and scratch resistance Superior optical quality High load-carrying capabilities Resists foreign object damage Resists thermal shock
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<i>Nesatron</i> ® Anti-ice Heating System	<ul style="list-style-type: none"> Full-coverage, uniform heating Superior optics
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Precast Silicone Rubber Gasket	<ul style="list-style-type: none"> Bonded to inside and outside window edge Easier installation for less aircraft downtime Chemical resistant Extended, severe-cyclic service Successful performance across environmental temperatures
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No. 3 Copilot Window

Features	Benefits
Aerospace-Qualified Stretched-Acrylic Laminate	<ul style="list-style-type: none"> Lightweight Superior environmental durability

No. 2 Side Triangular Windows

Features	Benefits
<i>Herculite</i> ® II Chemically Strengthened Glass	<ul style="list-style-type: none"> High strength-to-weight ratio Lightweight window Superior optical quality Chemical, abrasion and scratch resistance

<i>Nesatron</i> ® Antifog Heating System	<ul style="list-style-type: none"> Full-coverage heating Superior optics Excellent heating uniformity
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Precast Silicone Rubber Gasket	<ul style="list-style-type: none"> Bonded to inside and outside window edge Easier installation for less aircraft downtime Chemical resistant Extended, severe-cyclic service Successful performance across environmental temperatures
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No. 3 Pilot Window

Features	Benefits
Acrylic-Glass Laminate	<ul style="list-style-type: none"> Inboard glass ply affords medium for heating system Stretched-acrylic outboard ply affords strength and light weight Combines material properties for optimum environmental performance

<i>NESA</i> ® Antifog Heating System	<ul style="list-style-type: none"> Full-coverage heating Superior optics
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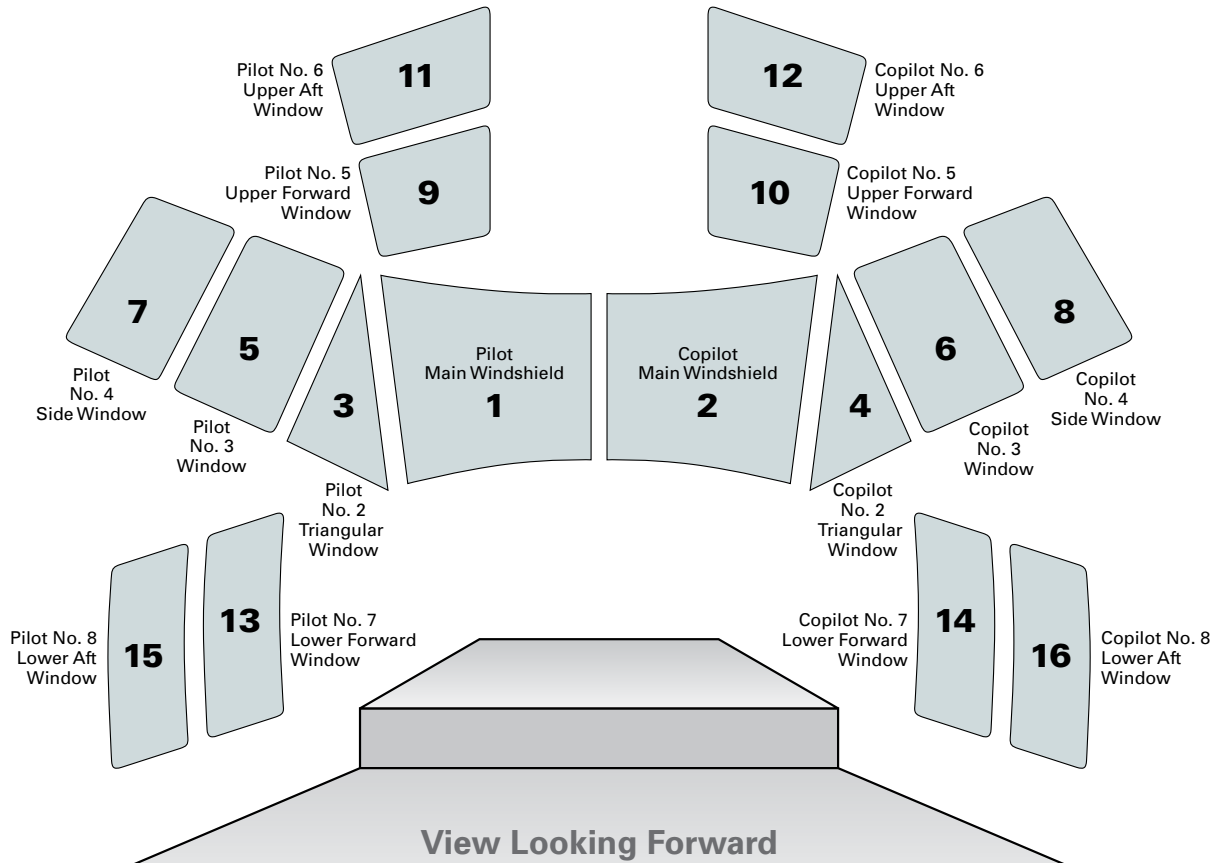
No. 4, 5, 6, 7 and 8 Windows

Features	Benefits
Aerospace-Qualified Stretched-Acrylic Laminate	<ul style="list-style-type: none"> Lightweight Superior environmental durability

Precast Silicone Rubber Gasket	<ul style="list-style-type: none"> Bonded to inside and outside window edge Easier installation for less aircraft downtime Chemical resistant Extended, severe-cyclic service Successful performance across environmental temperatures
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ALENIA AERMACCHI C-27J SPARTAN, G222

Window Configuration

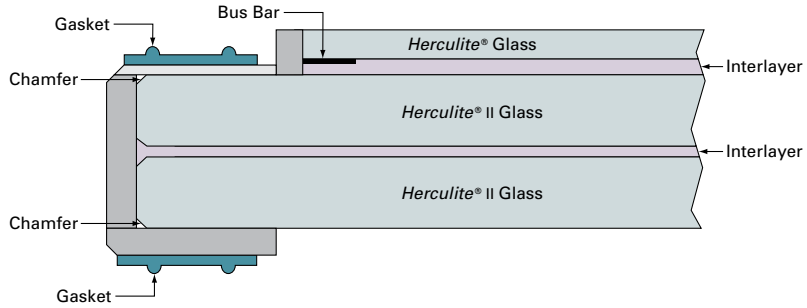


Part Numbers

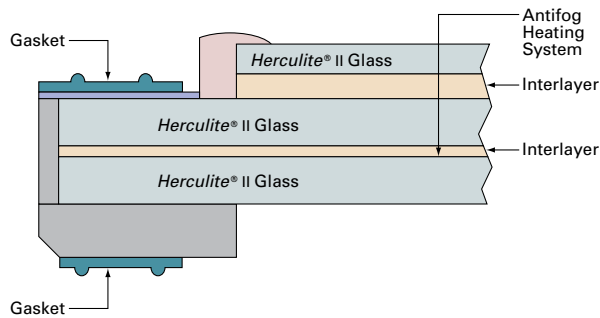
No.	Description	OEM Part Number	Outboard Gasket	Inboard Gasket
1	Left-Hand Pilot No. 1 Main Windshield	NP-1091-01-9	22-17-9389	22-17-9389
2	Right-Hand Copilot No. 1 Main Windshield	NP-1091-01-10	22-17-9389	22-17-9389
3	Left-Hand Pilot No. 2 Triangular Window	NP-109132-5	22-17-9390	22-17-9390
4	Right-Hand Copilot No. 2 Triangular Window	NP-109132-6	22-17-9390	22-17-9390
5	Left-Hand Pilot No. 3 Window	NP-1091-03-1		
6	Right-Hand Copilot No. 3 Window	NP-1091-03-2		
7	Left-Hand Pilot No. 4 Side Window	NP-1091-04-3	22-17-9391	22-17-9391
8	Right-Hand Copilot No. 4 Side Window	NP-1091-04-4	22-17-9391	22-17-9391
9	Left-Hand Pilot No. 5 Upper Forward Window	NP-109115-3	22-17-9397-1	22-17-9401-1
10	Right-Hand Copilot No. 5 Upper Forward Window	NP-109115-4	22-17-9397-2	22-17-9401-2
11	Left-Hand Pilot No. 6 Upper Aft Window	NP-1091-06-13	22-17-9398-1	22-17-9402-1
12	Right-Hand Copilot No. 6 Upper Aft Window	NP-1091-06-24	22-17-9398-2	22-17-9402-2
13	Left-Hand Pilot No. 7 Lower Forward Window	NP-1091-07-13	22-17-9399-1	22-17-9403-1
14	Right-Hand Copilot No. 7 Lower Forward Window	NP-1091-07-24	22-17-9399-2	22-17-9403-2
15	Left-Hand Pilot No. 8 Lower Aft Window	NP-1091-08-13	22-17-9400-1	22-17-9404-1
16	Right-Hand Copilot No. 8 Lower Aft Window	NP-1091-08-24	22-17-9400-2	22-17-9404-2
	Left-Hand Pilot Observer Window	NP-109125-1		
	Right-Hand Copilot Observer Window	NP-109125-2		
	Cabin Window, Outer	NP-1091-09		
	Cabin Window, Inner	NP-1091-10		
	Cabin Window, Outer	NP-1091-11		
	Cabin Window, Inner	NP-1091-12		

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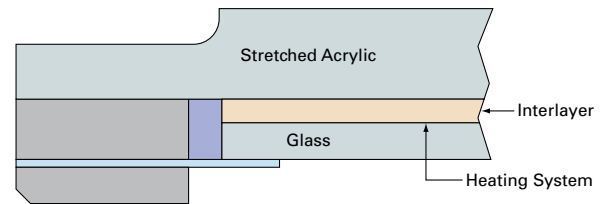
Windshields



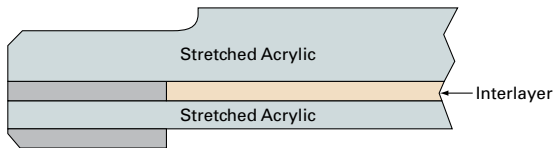
No. 2 Side Triangular Windows



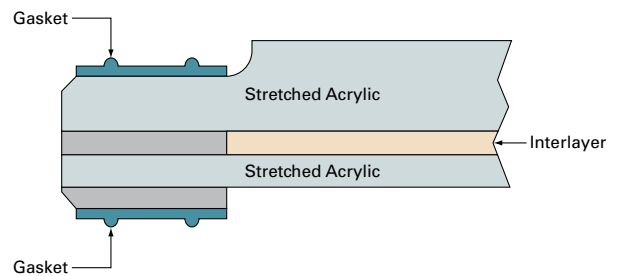
No. 3 Pilot Window



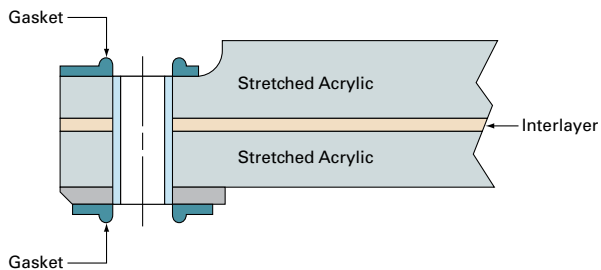
No. 3 Copilot Window



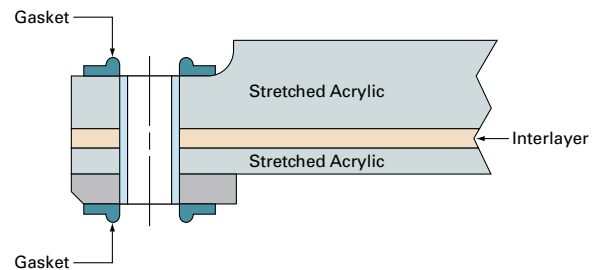
No. 4 Windows



No. 5 Windows

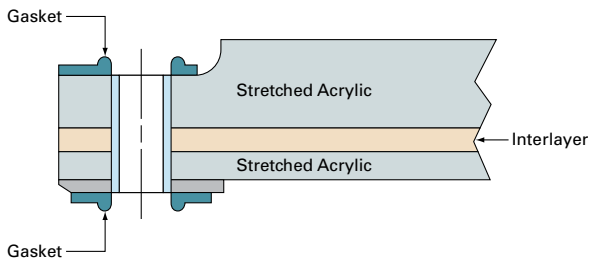


No. 6 Windows

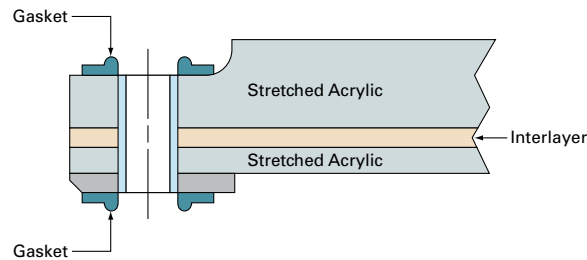


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No. 7 Windows



No. 8 Windows



Over the years, PPG has incorporated new transparency technology into the designs and today manufactures leading-edge windshields and windows for the C-27J. The flight-deck windshields and windows, except for the No. 3 windows, now have precast silicone rubber gaskets bonded to the inside and outside peripheral edge, affording quicker, easier installation with less aircraft downtime. Widely used in aviation, silicone rubber seals are the material of choice for this application, and the new design has successfully passed qualification testing. PPG also offers silicone rubber gaskets that can be installed on earlier transparency designs.

Military Transparencies Leader

A leading and experienced manufacturer of windshields, canopies, windows, blast barriers and specialty transparencies for military applications, PPG has a broad range of capabilities to design and produce advanced-technology transparencies that meet the demanding requirements of military air and surface operations.

PPG offers a variety of transparent structural materials tailored to aerospace applications.

HERCULITE® aerospace glass offers impact and thermal shock resistance as well as high load-carrying capabilities. *Herculite II* aerospace glass provides superior strength and durability. Special-composition glasses afford enhanced optical properties such as high light transmittance especially in the near infrared (IR) range, enabling PPG to produce windshields compatible with today's sophisticated night vision systems.

Plastic substrate materials currently in production include acrylic that is strong and lightweight, and polycarbonate that has superior impact resistance and a high strength-to-weight ratio. PPG also is developing exciting, new

transparent structural materials with superior structural properties that have the potential to replace both acrylic and polycarbonate.

PPG proprietary interlayers bond the plies together and provide ballistic properties, bird-impact resistance and pressure "fail-safe" capability.

Proprietary electrical heating systems provide anti-ice/antifog protection.

PPG advanced coatings and technologies help protect transparencies and aircrews from various operational or environmental threats, and provide low-observable performance, solar heat reduction, laser protection, and electromagnetic pulse (EMP) and electromagnetic interference (EMI) shielding. Such technologies are designed to be compatible with night vision systems and other optical requirements.

PPG transparencies have flown and participated in numerous air and surface military missions. The company is a leader in its transparency technical capabilities and infrastructure, OEM and operator support, and ability to supply parts worldwide on a timely and affordable basis.

Ordering Information

Orders may be placed through PPG Aerospace's worldwide network of application support centers (ASCs). For the ASC nearest you, visit www.ppgaerospace.com.

In North America, call toll-free +1 (800) AEROMIX.

Pricing, warranty and delivery details are available from your PPG Aerospace sales representative.



PPG Industries, Inc.
1719 US Highway 72 East
Huntsville, Alabama 35811 USA
Telephone +1 (256) 851-7001

Sierracin/Sylmar Corp.
12780 San Fernando Road
Sylmar, California 91342 USA
Telephone +1 (818) 362-6711

Ampaspace S.r.L.
Via Delle Tre Venezie, 10
26010 Casaleto Vaprio (CR), Italy
Telephone +39 0373 272 011



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