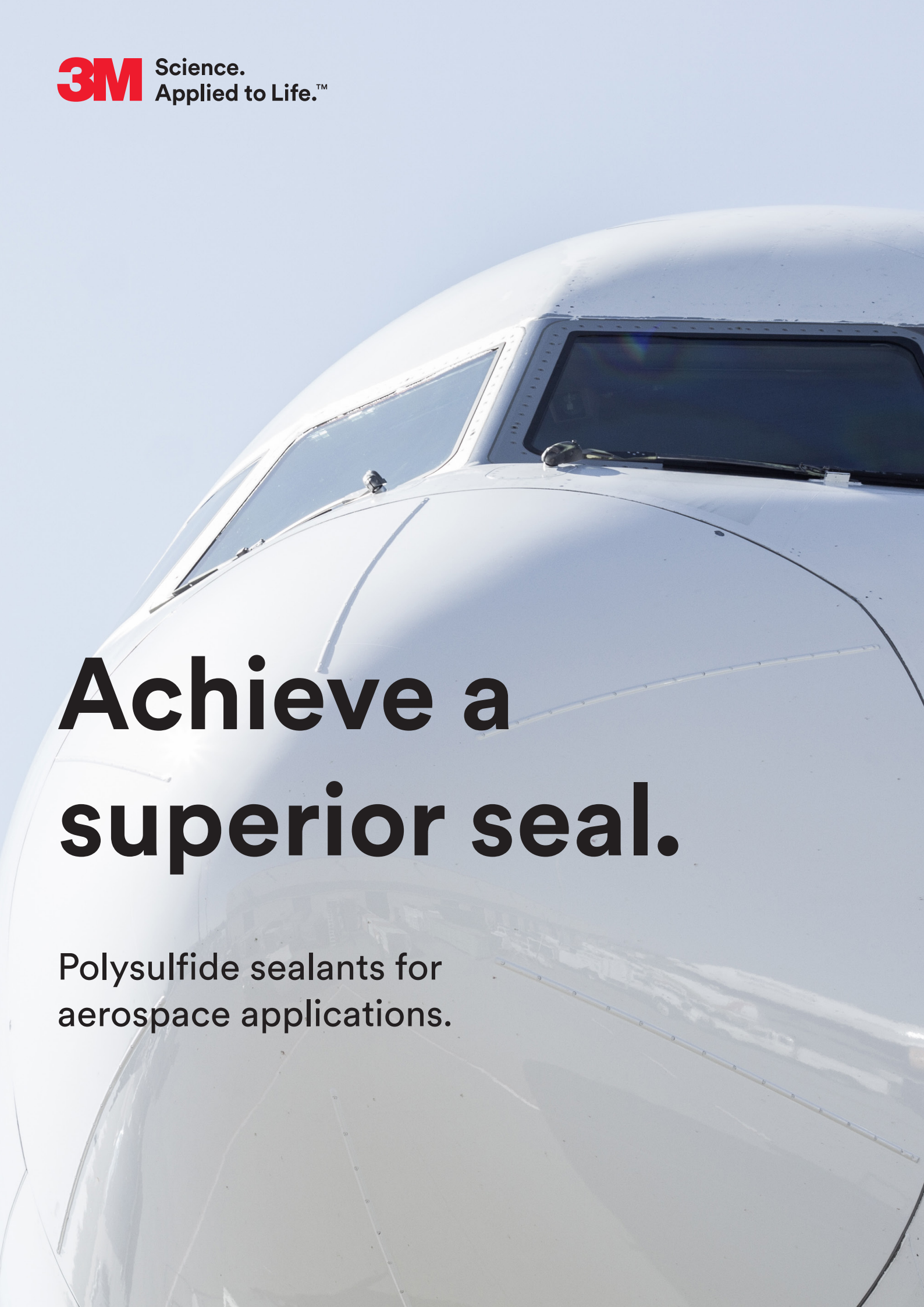
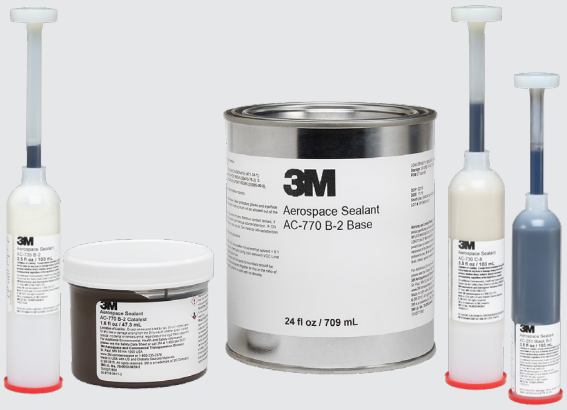
3M Science. Applied to Life.™



Achieve a superior seal.

Polysulfide sealants for aerospace applications.

Polysulfide sealants



In a world where your timelines are tighter and your budgets are smaller, finding ways to reduce costs and improve productivity, without sacrificing quality, is a huge challenge. At 3M, we provide a range of polysulfide sealants that are lightweight, fast curing and high performance, enabling streamlined production and reduced fuel consumption.

Sealant part number configuration

Product number	Class	Application time (hours)
AC-251	B	2
AC-350	A	1

Sealant classification

Class	Usage and application
A	Used for sealing fasteners. Brush applied.
B	Used for fillet and injection seals. Most are non-flowing and usually applied with a sealant cartridge applicator.
C	Used for fay surface seals. Applied using a roller or a sealant cartridge applicator.

Common applications

Application	Description
Fay surface seal	Seal used between two mating surfaces such as a lap joint.
Fillet seal	Seal applied to edge of two mating surfaces, then smoothed to a radius.
Fastener sealing	Sealing of screws, nuts, bolts etc.
Butt joint seal	Seal between two abutting edges on mold-line.
Mold-line fairing	Seal used to fair-out mismatch on mold-line.
Form-in-place (FIP) seal	Seal used around access panel doors.

Definition of terms

Application time:
The length of time that the mixed compound remains at a consistency suitable for brushing, rolling or extruding. Application time is always measured at a standard temperature of 77 °F (25 °C) with a relative humidity level of 50%. In general, for every 18 °F (10 °C) rise in temperature, the application time is halved; for every 18 °F (10 °C) drop, it is doubled. High humidity levels during the mixing process will shorten application time.

Tack-free time:
The length of time after which a mixed sealant will no longer transfer to low density polyethylene film.

Cure time:
The length of time it takes for the sealant to reach 30A hardness. It depends on three factors: remaining application life, temperature, & relative humidity.

Adhesion promoters

3M's range of adhesion promoters are engineered to promote the adhesion of polysulfide sealants to particular surface types. These robust adhesion promoters enable faster initial adhesion build rate to help reduce your process time. Our one component formulas require no mixing for easy application.

Product ID	Type	Product attributes
AC-137	Solvent-based	Intended for use on polycarbonate, acrylic and glass substrates (as well as metal and organic substrates)
AC-160	Water-based	Promotes the bonding of polysulfide sealants to metal and organic substrates

Products

Integral fuel tank polysulfide sealants

These two-component, manganese dioxide curing polysulfide sealants are resistant to common commercial and military jet fuels used in the aerospace industry. In service, these high-performance sealants maintain bond strength on multiple metal, composite, and coated substrates after exposure to elevated temperatures and common aircraft fluids.

Product name	Class	Specific Gravity	Minimum application time	Tack free time (hours)	Cure time (hours)	Non-volatile content (%)
AC-350	A-1	1.4	1 hour	5	8	89
	A-2	1.4	2 hours	8	12	89
	B-1/4	1.4	15 mins	2-3	< 3	99
	B-1/2	1.4	30 mins	3-4	< 4	99
	B-2	1.4	2 hours	7-8	< 8	99
	B-4	1.4	4 hours	28-32	< 32	99
AC-380	B-1/2	1.1	30 mins	5	5	97
	B-2	1.1	2 hours	8-10	8-10	97

Cabin pressurization | Fuselage polysulfide sealants

These sealants provide an effective barrier against corrosion on aluminum and between dissimilar metals. They maintain flexibility at low temperatures and are resistant to common commercial and military jet fuels.

Product name	Class	Specific Gravity	Minimum application time	Tack free time (hours)	Cure time	Non-volatile content (%)	Non-chromate corrosion inhibitive
AC-730	B-1/2	1.5	30 mins	4	< 6 hours	99	✔
	B-2	1.5	2 hours	16	< 24 hours	99	✔
	C-8(24)	1.5	8 hours	< 72	5 days (120 hours)	90	✔
AC-735	B-1/2	1.1	30 mins	5	7 hours	98	✔
	B-2	1.1	2 hours	10	12 hours	98	✔
AC-770	B-2	1.1	2 hours	7-8	9-11 hours	98.5	

Canopy and windshield sealants

These specialized sealants were formulated for sealing acrylic, glass, and polycarbonate aircraft canopies and windshields. True black in color, they are resistant to weathering and UV exposure.

Product name	Class	Specific Gravity	Minimum application time	Tack free time (hours)	Cure time (hours)	Non-volatile content (%)
AC-251	B-1/2	1.6	30 mins	4	4	98
	B-1	1.6	1 hour	5	7	98
	B-2	1.6	2 hours	8	9	98

Nozzles and tools

3M offers precision molded polyethylene nozzles that are compatible with standard sealant cartridges and may be cut to desired orifice size and angle. Roll-on nozzles and a cut roller include a durable nylon nap made specifically to apply sealants over large surface areas. The multi-purpose red plastic scraper and smoothing tool is designed for aerospace applications.

Standard Nozzles
Assorted sizes

Roll-on Nozzles
1 inch (2.5 cm) and
2 inch (5 cm) width

Cut Roller
4 inch (10 cm) width

Celcon® Scraper
5.8 in x 0.75 in
(15 cm x 1.9 cm)

Products

Mixers

Injection Kit Mixers help to thoroughly mix sealants for a consistent end result. From portable benchtop units to fully automated machines, 3M has a mixer to suit your unique needs.

Mixer 885
Excellent for low volume mixing

Mixer 900
Heavy-duty for shop environments

AC-6500
Digital interface with 10 programmable mixing cycles

Products sold into aerospace are intended to be sold under an OEM specification or FAA PMA.

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Automotive and Aerospace Solutions Division

3M Center
St. Paul, MN 55144-1000
www.3M.com/Aerospace

3M United Kingdom PLC
3M Centre, Cain Road
Bracknell, Berkshire RG12 8HT
Tel: 0870 6080 060
www.3m.co.uk/3M/en_GB/aerospace-emea/