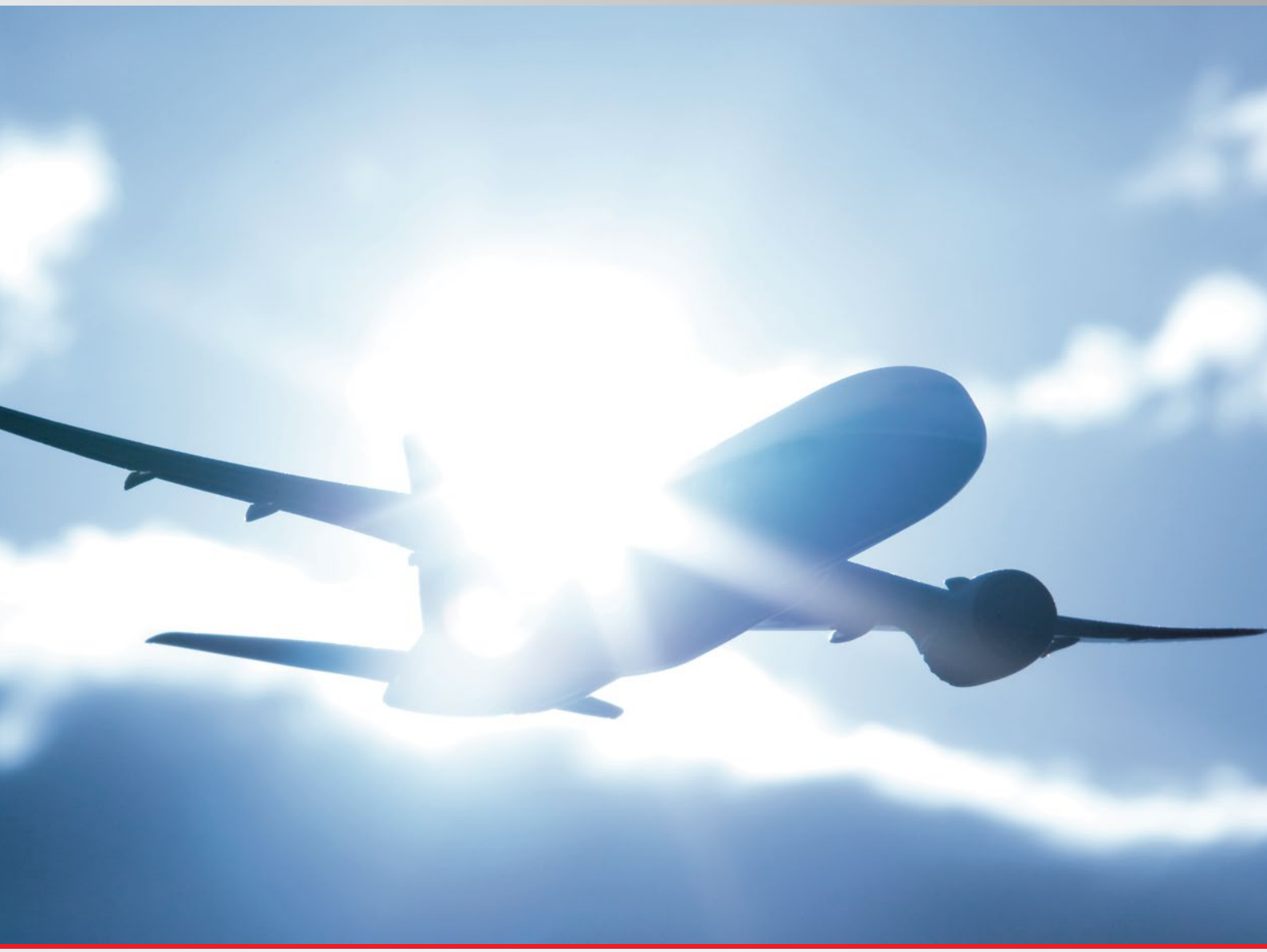
LOCTITE®

Structural Adhesives

Aerospace Product Selector Guide



Henkel Excellence is our Passion

Structural Adhesives

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With over four decades of experience:

LOCTITE film adhesives

Film adhesives: the basics

Film adhesives are pre-catalyzed adhesives offered in sheet form for metal, composite bonding, and honeycomb applications. Film adhesives are offered in defined areal weights in roll or sheet form.

Advanced level: LOCTITE film adhesives

Our broad portfolio of film adhesives includes advanced technologies to address today and tomorrow's most demanding applications. Being a long-term partner for aircraft manufacturers globally, Henkel provides sustainable film adhesive solutions that enhance performance and safety of aircraft as well as the manufacturer's production efficiency.

Why choose LOCTITE film adhesives?

- Enables large part manufacture
- Better toughness
- Durable bonding
- Bond line thickness control
- Handling and reliability
- Long shop life

LOCTITE film adhesives:

Facts at a glance

LOCTITE film adhesives key features

- Pre-catalyzed, no mixing or measuring needed
- Mix of epoxy resin and curing agent cast into a film.
- Typical thickness ranges from 5 mils to 15 mils (0.1 – 0.4 mm)
- Enables up to 15 days to assemble aircraft parts
- Controlled flow, ability to reticulate
- Usually supplied with a scrim for bond line control, toughness and handling
- Allows precise placement of adhesive on part
- Allows precise amount of adhesive to be placed on part
- Bonds various substrates

Key factors to consider when choosing the right LOCTITE film adhesive:

- Environmental and temperature resistance
- Cure time and temperature
- Fracture toughness
- Lightning strike protection

Qualified to major aerospace specifications:

LOCTITE metal & honeycomb bonding products

Fully developed metal & honeycomb solutions

How to identify a technically advanced metal & honeycomb bonding solution? Just ask if it offers very low weight, high fatigue resistance, maximum durability and significant production costs savings. If it does, this is a LOCTITE solution.

In the honeycomb and metal assembly segment, Henkel offers metal bonding films for original construction and repair qualified to all major aerospace specifications. LOCTITE films are one component, heat curing thin film adhesives. Materials are specifically designed for maximum durability, high strength and toughness with temperature resistance designed for their operating environment

The LOCTITE portfolio of metal bonding films is broad and addresses many needs of customer applications. LOCTITE has products covering service temperatures from 250 ºF / 121 ºC to 550 ºF / 288 ºC and will bond to chemically treated metallic substrates.

Why choose LOCTITE metal & honeycomb solutions?

- Improved toughness
- Excellent resistance to high temperatures
- Good tack and drape
- Good reticulation
- Excellent adhesion to aluminum and composite substrates

LOCTITE metal & honeycomb bonding: Facts at a glance

LOCTITE metal and honeycomb film key features

- Pre-catalyzed, no mixing or measuring
- Typical thicknesses range from 5 mils to 15 mils (0.1 – 0.4 mm)
- More durable bonds
- Controlled flow
- Ability to reticulate
- Long out time

Key factors to consider when choosing the right LOCTITE product for metal & honeycomb bonding

- Substrate preparation
- Operating temperature requirements
- Operating environment
- Part size and shape
- Bond joint design
- Strength requirements (peel or shear)

Metal & Honeycomb Bonding

Application	Metal & Honeycomb Bonding	•	•	•
Characteristics	250 °F / 121 °C Service	•	•	
	300 °F / 149 °C Service			
	350 °F / 177 °C Service			•
	550 °F / 288 °C Service			
	Cure Temperature (°F / °C)	250 °F / 121 °C	250 °F / 121 °C	350 °F / 177 °C
	Cure Time	90 Minutes	90 Minutes	60 Minutes
	Storage Temperature (°F / °C)	0 °F / -18 °C	0 °F / -18 °C	0 °F / -18 °C
	Out-time (Days @ 77 °F / 25 °C) – FILM	20 Days	20 Days	15 Days
	Out-time (Days @ 90 °F / 32 °C) – FILM	10 Days	10 Days	10 Days
Mechanical Properties	Bell Peel 77 °F (lb / in) 25 °C (N / 25 mm)	54 lbs / in 240 N / 25 mm	–	13 lb / in 58 N / 25 mm
	T Peel 77 °F (lb / in) 25 °C (N / 25 mm)	37 lbs / in 165 N / 25 mm	35 lbs / in 156 N / 25 mm	–
	TENSILE LAP SHEAR -67 °F (psi) / -55 °C (MPa)	5,500 psi / 37.9 MPa	5,500 psi / 38.0 MPa	3,900 psi / 27.0 MPa
	TENSILE LAP SHEAR 77 °F (psi) / 25 °C (MPa)	6,000 psi / 41.3 MPa	5,850 psi / 40.3 MPa	4,800 psi / 33.1 MPa
	TENSILE LAP SHEAR 180 °F (psi) / 82 °C (MPa)	4,000 psi / 27.6 MPa	3,700 psi / 25.5 MPa	–
	TENSILE LAP SHEAR Elevated Temperature (psi / MPa)	250 °F / 121 °C: 2,000 psi / 13.8 MPa	250 °F / 121 °C: 1,300 psi / 9.0 MPa	350 °F / 177 °C: 2,800 psi / 19 MPa
	Honeycomb Climbing Drum Peel @ 77 °F (in·lb/in) / 25° (m·N/m)	60 in.lb / 3 in 80 m.N / m	60 in.lb / 3 in 89 m.N / m	12 in.lb / 3 in 50 m.N / m
	Flatwise Tension @ 77 °F / 25 °C (psi / MPa)	1,400 psi / 9.6 MPa	1,100 psi / 7.6 MPa	1,000 psi / 6.9 MPa
Bulk Properties	Tg Dry (°F / °C)	248 °F / 120 °C	240 °F / 116 °C	392 °F / 200 °C
	Tg Wet (°F / °C)	210 °F / 99 °C	200 °F / 93 °C	300 °F / 150 °C
	Tensile Strength (dogbone) @ 77 °F (psi) / 25 °C (MPa)	7,500 psi / 51.7 MPa	7,500 psi / 51.7 MPa	–
	Tensile Modulus @ 77 °F (ksi) / 25 °C (MPa)	345 ksi / 2,377 MPa	346 ksi / 2,377 MPa	–
	Elongation @ 77 °F / 25 °C (% at break)	7.5 %	7.5 %	–
	Compressive Strength @ 77 °F (psi) / 25 °C (MPa)	11,500 psi / 79.3 MPa	11,500 psi / 79.3 MPa	–
	Compressive Modulus @ 77 °F (ksi) / 25 °C (MPa)	310 ksi / 2,136 MPa	310 ksi / 2,136 MPa	–
Product	New Product Name	**LOCTITE EA 9628 AERO**	**LOCTITE EA 9628H AERO**	**LOCTITE EA 9658 AERO**
	Known As	Hysol® EA 9628™	Hysol® EA 9628H™	Hysol® EA 9658™
Availability	Packaging	Roll	Roll	Roll
Description		**LOCTITE EA 9628 AERO** • Good Toughness • 250 °F/ 121 °C Cure • Bonds Many Materials • Excellent Durability	**LOCTITE EA 9628H AERO** • Excellent Durability • 250 °F/ 121 °C Cure • Applications Include Helicopter Blade Bonding • Good Toughness • Product is preferred for helicopter blade construction because of the product flow characteristics and its ability to be cured in an out of autoclave process	**LOCTITE EA 9658 AERO** • Increased toughness with high temperature performance • Designed for composite, metal or honeycomb • State of the art flow control to minimize hole blockage and excess flash/flow • Thermally stable • Offered with a companion low VOC water based corrosion inhibiting primer, LOCTITE EA 9258.1 AERO

Metal & Honeycomb Bonding

Application	Metal & Honeycomb Bonding	•	•	•		•	•
Characteristics	250 °F / 121 °C Service		•			•	
	300 °F / 149 °C Service			•			•
	350 °F / 177 °C Service						
	550 °F / 288 °C Service	•					
	Cure Temperature (°F / °C)	350 °F / 177 °C + 475 °F / 121 °C	250 °F / 121 °C	250 °F / 121 °C or 350 °F / 177 °C		225 – 275 °F / 107 – 129 °C	250 °F / 121 °C or 350 °F / 177 °C
	Cure Time	60 Minutes / 120 Minutes	60 Minutes	60 – 120 Minutes		60 – 90 Minutes	60 – 120 Minutes
	Storage Temperature (°F / °C)	0 °F / -18 °C	0 °F / -18 °C	0 °F / -18 °C		0 °F / -18 °C	0 °F / -18 °C
	Out-time (Days @ 77 °F / 25 °C) – FILM	30 Days	14 Days	90 Days		60 Days	30 Days
	Out-time (Days @ 90 °F / 32 °C) – FILM	15 Days	10 Days	45 Days		30 Days	30 Days
Mechanical Properties	Bell Peel 77 °F (lb / in) 25 °C (N / 25 mm)	–	87 lbs / in 387 N / 25 mm	20 lbs / in 89.6 N / 25 mm		75 lbs / in 334 N / 25 mm	20 lbs / in 89 N / 25 mm
	T Peel 77 °F (lb / in) 25 °C (N / 25 mm)	–	–	–		–	–
	TENSILE LAP SHEAR -67 °F (psi) / -55 °C (MPa)	2,000 psi / 13.8 MPa	6,350 psi / 43.8 Mpa	4,400 psi / 30.3 MPa		7,000 psi / 48.3 MPa	3,600 psi / 26.2 Mpa
	TENSILE LAP SHEAR 77 °F (psi) / 25 °C (MPa)	2,000 psi / 13.8 MPa	6,100 psi / 42.0 MPa	5,000 psi / 34.5 Mpa		6,000 psi / 41.3 MPa	4,500 psi / 31.0 MPa
	TENSILE LAP SHEAR 180 °F (psi) / 82 °C (MPa)	–	3,900 psi / 26.9 MPa	4,500 psi / 31.0 MPa		4,507 psi / 31.1 Mpa	–
	TENSILE LAP SHEAR Elevated Temperature (psi / MPa)	350 °F / 177 °C: 2,400 psi / 16.5 MPa	250 °F / 121 °C: 2,100 psi / 14.5 MPa	300 °F / 149 °C: 3,400 psi / 23.4 Mpa		250 °F / 121 °C: 2,000 psi / 12.8 MPa	270 °F / 132 °C: 1,300 psi / 9.0 MPa
	Honeycomb Climbing Drum Peel @ 77 °F (in·lb/in) / 25° (m·N/m)	–	18 in.lb / in 80 N.m / m	18 in.lb / 3 in 82 m.N / m		78 lbs / in 116 m.N / m	27 in.lb / 3in 40 m.N / m
	Flatwise Tension @ 77 °F / 25 °C (psi / MPa)	–	925 psi /6.4 MPa	1,200 psi / 8.3 MPa		1298 psi / 9.0 MPa	1,070 psi / 7.4 MPa
Bulk Properties	Tg Dry (°F / °C)	568 °F / 298 °C	240 °F / 115 °C	302 °F / 150 °C		253 °F / 123 °C	293 °F / 145 °C
	Tg Wet (°F / °C)	410 °F / 210 °C	200 °F / 95 °C	203 °F / 95 °C		200 °F / 93 °C	190 °F / 88 °C
	Tensile Strength (dogbone) @ 77 °F (psi) / 25 °C (MPa)	–	–	11,000 psi / 76 MPa		6,839 psi / 47.3 MPa	–
	Tensile Modulus @ 77 °F (ksi) / 25 °C (MPa)	–	–	450 ksi / 3,100 MPa		277.3 ksi / 1,912 MPa	–
	Elongation @ 77 °F / 25 °C (% at break)	–	–	3.00 – 4.00 %		16.00 %	–
	Compressive Strength @ 77 °F (psi) / 25 °C (MPa)	–	–	–		–	–
	Compressive Modulus @ 77 °F (ksi) / 25 °C (MPa)	–	–	–		–	–
Product	New Product Name	**LOCTITE EA 9673 AERO**	**LOCTITE EA 9690 AERO**	**LOCTITE EA 9695 AERO**		**LOCTITE EA 9696 AERO**	**LOCTITE EA 7000 AERO**
	Known As	Hysol® EA 9673™ (BMi)	Hysol® EA 9690™	Hysol® EA 9695™		Hysol® EA 9696™	Hysol® PL 7000™ NEW!
Availability	Packaging	Roll	Roll	Roll		Roll	Roll
Description		**LOCTITE EA 9673 AERO** • Service to 550 °F / 288 °C • No Volatiles During Cure • Bismalimide based chemistry	**LOCTITE EA 9690 AERO** • Low Flow • Exceptional Peel Strength • Available with Knit or Non-Woven Mat • Excellent Performance with Low Pressure Cures	**LOCTITE EA 9695 AERO** • X-ray Opaque • Excellent Environmental Resistance • Reticulatable • Good Pre and Post Bond Moisture Resistance • Low Flow • Allows 250 °F / 121 °C or 350 °F / 177 °C Cure • Co-Cure with Composites • Long Out time Facilitates Shop Floor Usage and Repair Applications		**LOCTITE EA 9696 AERO** • Excellent Environmental Resistance • High Toughness Maintaining Service Temperature • Balanced Flow • Allows from 225 °F to 265 °F / 107 °C to 129 °C Cure • Long Out-time Facilitates Shop Floor Usage and Repair Applications • Reticulatable	**LOCTITE EA 7000 AERO** • Dual temperature cure capabilities • Epoxy film adhesive for composite bonding applications • Excellent performance properties in composite bonding • Excellent results on composite surfaces • Excellent fracture toughness (G1c)

Notes

When structural integrity matters:

LOCTITE composite bonding and repair film adhesives

Concerning critical aircraft components, some questions might come up

In order to preserve the structural integrity of critical aircraft components, manufacturers need the right adhesives to bond composite sub-components with excellent chemical resistance and extraordinary mechanical performance.

Henkel gives a strong answer: LOCTITE composite bonding adhesives

LOCTITE products for composite bonding fulfill all these requirements and allow engineers to create efficient structures. No fasteners are needed. They offer lower adherent thickness, let you take advantage of stiffness properties of composites and provide a separation of dissimilar materials.

Why choose LOCTITE composite bonding adhesives?

› Good environmental resistance
› Improved toughness
› Bond line thickness control
› Good tack and drape
› Excellent adhesion to composite substrates

LOCTITE composite bonding adhesives: **Facts at a glance**

LOCTITE composite bonding adhesives key features:

› High temperature service
› Compatibility with aerospace prepreg systems
› Good wetting of composite surfaces
› High mechanical performance
› Toughness tailorable to requirements
› Variations in form: thickness or weight
› Excellent chemical resistance

Key factors to consider when choosing the right LOCTITE composite bonding adhesive

› Service temperature
› Shelf life / out-time
› Cure temperature
› Glass transition temperature (Tg)
› Toughness

Composite Bonding

Application	Composite	•	•	•
Characteristics	250 °F / 121 °C Service	•	•	
	300 °F / 149 °C Service			
	350 °F / 177 °C Service			•
	550 °F / 288 °C Service			
	Cure Temperature (°F / °C)	250 °F / 121 °C	250 °F / 121 °C	350 °F / 177 °C
	Cure Time	90 Minutes	90 Minutes	60 Minutes
	Storage Temperature (°F / °C)	0 °F / -18 °C	0 °F / -18 °C	0 °F / -18 °C
	Out-time (Days @ 77 °F / 25 °C) – FILM	20 Days	20 Days	15 Days
	Out-time (Days @ 90 °F / 32 °C) – FILM	10 Days	10 Days	10 Days
Mechanical Properties	Bell Peel 77 °F (lb / in) 25 °C (N / 25 mm)	54 lbs / in 240 N / 25 mm	–	13 lb / in 58 N / 25 mm
	T Peel 77 °F (lb / in) 25 °C (N / 25 mm)	37 lbs / in 165 N / 25 mm	35 lbs / in 156 N / 25 mm	–
	TENSILE LAP SHEAR -67 °F (psi) / -55 °C (MPa)	5,500 psi / 37.9 MPa	5,500 psi / 38.0 MPa	3,900 psi / 27.0 MPa
	TENSILE LAP SHEAR 77 °F (psi) / 25 °C (MPa)	6,000 psi / 41.3 MPa	5,850 psi / 40.3 MPa	4,800 psi / 33.1 MPa
	TENSILE LAP SHEAR 180 °F (psi) / 82 °C (MPa)	4,000 psi / 27.6 MPa	3,700 psi / 25.5 MPa	–
	TENSILE LAP SHEAR Elevated Temperature (psi / MPa)	250 °F / 121 °C: 2,000 psi / 13.8 MPa	250 °F / 121 °C: 1,300 psi / 9.0 MPa	350 °F / 177 °C: 2,800 psi / 19 MPa
	Honeycomb Climbing Drum Peel @ 77 °F (in·lb/in) / 25° (m·N/m)	60 in.lb / 3 in 80 m.N / m	60 in.lb / 3 in 89 m.N / m	12 in.lb / 3 in 50 m.N / m
	Flatwise Tension @ 77 °F / 25 °C (psi / MPa)	1,400 psi / 9.6 MPa	1,100 psi / 7.6 MPa	1,000 psi / 6.9 MPa
Bulk Properties	Tg Dry (°F / °C)	248 °F / 120 °C	240 °F / 116 °C	392 °F / 200 °C
	Tg Wet (°F / °C)	210 °F / 99 °C	200 °F / 93 °C	300 °F / 150 °C
	Tensile Strength (dogbone) @ 77 °F (psi) / 25 °C (MPa)	7,500 psi / 51.7 MPa	7,500 psi / 51.7 MPa	–
	Tensile Modulus @ 77 °F (ksi) / 25 °C (MPa)	345 ksi / 2,377 MPa	346 ksi / 2,377 MPa	–
	Elongation @ 77 °F / 25 °C (% at break)	7.5 %	7.5 %	–
	Compressive Strength @ 77 °F (psi) / 25 °C (MPa)	11,500 psi / 79.3 MPa	11,500 psi / 79.3 MPa	–
	Compressive Modulus @ 77 °F (ksi) / 25 °C (MPa)	310 ksi / 2,136 MPa	310 ksi / 2,136 MPa	–
Product	New Product Name	**LOCTITE EA 9628 AERO**	**LOCTITE EA 9628H AERO**	**LOCTITE EA 9658 AERO**
	Known As	Hysol® EA 9628™	Hysol® EA 9628H™	Hysol® EA 9658™
Availability	Packaging	Roll	Roll	Roll
Description		**LOCTITE EA 9628 AERO** • Good Toughness • 250 °F/ 121 °C Cure • Bonds Many Materials • Excellent Durability	**LOCTITE EA 9628H AERO** • Excellent Durability • 250 °F/ 121 °C Cure • Applications Include Helicopter Blade Bonding • Good Toughness • Product is preferred for helicopter blade construction because of the product flow characteristics and its ability to be cured in an out of autoclave process	**LOCTITE EA 9658 AERO** • Increased toughness with high temperature performance • Designed for composite, metal or honeycomb • State of the art flow control to minimize hole blockage and excess flash/flow • Thermally stable • Offered with a companion low VOC water based corrosion inhibiting primer, LOCTITE EA 9258.1 AERO

Composite Bonding

Application	Composite	•	•	•		•	•
Characteristics	250 °F / 121 °C Service		•			•	
	300 °F / 149 °C Service			•			•
	350 °F / 177 °C Service						
	550 °F / 288 °C Service	•					
	Cure Temperature (°F / °C)	350 °F / 177 °C + 475 °F / 121 °C	250 °F / 121 °C	250 °F / 121 °C or 350 °F / 177 °C		225 – 275 °F / 107 – 129 °C	250 °F / 121 °C or 350 °F / 177 °C
	Cure Time	60 Minutes / 120 Minutes	60 Minutes	60 – 120 Minutes		60 – 90 Minutes	60 – 120 Minutes
	Storage Temperature (°F / °C)	0 °F / -18 °C	0 °F / -18 °C	0 °F / -18 °C		0 °F / -18 °C	0 °F / -18 °C
	Out-time (Days @ 77 °F / 25 °C) – FILM	30 Days	14 Days	90 Days		60 Days	30 Days
	Out-time (Days @ 90 °F / 32 °C) – FILM	15 Days	10 Days	45 Days		30 Days	30 Days
Mechanical Properties	Bell Peel 77 °F (lb / in) 25 °C (N / 25 mm)	–	87 lbs / in 387 N / 25 mm	20 lbs / in 89.6 N / 25 mm		75 lbs / in 334 N / 25 mm	20 lbs / in 89 N / 25 mm
	T Peel 77 °F (lb / in) 25 °C (N / 25 mm)	–	–	–		–	–
	TENSILE LAP SHEAR -67 °F (psi) / -55 °C (MPa)	2,000 psi / 13.8 MPa	6,350 psi / 43.8 Mpa	4,400 psi / 30.3 MPa		7,000 psi / 48.3 MPa	3,600 psi / 26.2 Mpa
	TENSILE LAP SHEAR 77 °F (psi) / 25 °C (MPa)	2,000 psi / 13.8 MPa	6,100 psi / 42.0 MPa	5,000 psi / 34.5 Mpa		6,000 psi / 41.3 MPa	4,500 psi / 31.0 MPa
	TENSILE LAP SHEAR 180 °F (psi) / 82 °C (MPa)	–	3,900 psi / 26.9 MPa	4,500 psi / 31.0 MPa		4,507 psi / 31.1 Mpa	–
	TENSILE LAP SHEAR Elevated Temperature (psi / MPa)	350 °F / 177 °C: 2,400 psi / 16.5 MPa	250 °F / 121 °C: 2,100 psi / 14.5 MPa	300 °F / 149 °C: 3,400 psi / 23.4 Mpa		250 °F / 121 °C: 2,000 psi / 12.8 MPa	270 °F / 132 °C: 1,300 psi / 9.0 MPa
	Honeycomb Climbing Drum Peel @ 77 °F (in·lb/in) / 25° (m·N/m)	–	18 in.lb / in 80 N.m / m	18 in.lb / 3 in 82 m.N / m		78 lbs / in 116 m.N / m	27 in.lb / 3in 40 m.N / m
	Flatwise Tension @ 77 °F / 25 °C (psi / MPa)	–	925 psi /6.4 MPa	1,200 psi / 8.3 MPa		1298 psi / 9.0 MPa	1,070 psi / 7.4 MPa
Bulk Properties	Tg Dry (°F / °C)	568 °F / 298 °C	240 °F / 115 °C	302 °F / 150 °C		253 °F / 123 °C	293 °F / 145 °C
	Tg Wet (°F / °C)	410 °F / 210 °C	200 °F / 95 °C	203 °F / 95 °C		200 °F / 93 °C	190 °F / 88 °C
	Tensile Strength (dogbone) @ 77 °F (psi) / 25 °C (MPa)	–	–	11,000 psi / 76 MPa		6,839 psi / 47.3 MPa	–
	Tensile Modulus @ 77 °F (ksi) / 25 °C (MPa)	–	–	450 ksi / 3,100 MPa		277.3 ksi / 1,912 MPa	–
	Elongation @ 77 °F / 25 °C (% at break)	–	–	3.00 – 4.00 %		16.00 %	–
	Compressive Strength @ 77 °F (psi) / 25 °C (MPa)	–	–	–		–	–
	Compressive Modulus @ 77 °F (ksi) / 25 °C (MPa)	–	–	–		–	–
Product	New Product Name	**LOCTITE EA 9673 AERO**	**LOCTITE EA 9690 AERO**	**LOCTITE EA 9695 AERO**		**LOCTITE EA 9696 AERO**	**LOCTITE EA 7000 AERO**
	Known As	Hysol® EA 9673™ (BMi)	Hysol® EA 9690™	Hysol® EA 9695™		Hysol® EA 9696™	Hysol® PL 7000™ NEW!
Availability	Packaging	Roll	Roll	Roll		Roll	Roll
Description		**LOCTITE EA 9673 AERO** • Service to 550 °F / 288 °C • No Volatiles During Cure • Bismalimide based chemistry	**LOCTITE EA 9690 AERO** • Low Flow • Exceptional Peel Strength • Available with Knit or Non-Woven Mat • Excellent Performance with Low Pressure Cures	**LOCTITE EA 9695 AERO** • X-ray Opaque • Excellent Environmental Resistance • Reticulatable • Good Pre and Post Bond Moisture Resistance • Low Flow • Allows 250 °F / 121 °C or 350 °F / 177 °C Cure • Co-Cure with Composites • Long Out time Facilitates Shop Floor Usage and Repair Applications		**LOCTITE EA 9696 AERO** • Excellent Environmental Resistance • High Toughness Maintaining Service Temperature • Balanced Flow • Allows from 225 °F to 265 °F / 107 °C to 129 °C Cure • Long Out-time Facilitates Shop Floor Usage and Repair Applications • Reticulatable	**LOCTITE EA 7000 AERO** • Dual temperature cure capabilities • Epoxy film adhesive for composite bonding applications • Excellent performance properties in composite bonding • Excellent results on composite surfaces • Excellent fracture toughness (G1c)

Notes

Clean and cost efficient surface preparation:

With LOCTITE peel plies

Peel ply: The ideal preparation method for treating surfaces evenly

There are two primary methods for adhesive bond preparation of the surface of a pre-cured carbon fiber composite: Surface abrasion, and the use of release ply fabric, i.e. peel ply. Of the two, peel ply is the most commonly recommended process because it creates a more uniform surface preparation than hand or machine abrasion.

LOCTITE peel plies: The ideal method to save time and costs

Henkel's peel ply enables process efficiency by minimizing surface preparation. LOCTITE peel ply provides part longevity and reduces maintenance costs. It ensures a consistent bonding surface, with a high quality bond with tough state-of-the-art composites.

Why choose LOCTITE peel plies?

- Ease of removal
- Minimal residual polyester fibers on substrate after removal
- Thin residual resin layer
- Controlled failure / release path
- Optimized interfacial strength
- Promotes cohesive failure modes within the bondline
- Generate more durable bonding surface than dry fabric

LOCTITE peel plies:

Facts at a glance

LOCTITE peel plies key features

- Compatible with third generation composites
- No sanding or solvent wiping required of bonding surface
- Minimal force required to remove peel ply layer
- Protective layer
- Good shop life

Key factors to consider when choosing the right LOCTITE peel ply

- Polyester vs. nylon peel ply
- Cure temperature
- Compatibility with composite prepreg resin
- Dry or wet peel ply

Composite Surface Preparation

Application	Peel Ply	•	•
Characteristics	250 °F / 121 °C Service	•	
	300 °F / 149 °C Service		•
	Cure Temperature (°F / °C)	250 °F / 121 °C	350 °F / 177 °C
	Cure Time	90 – 120 Minutes	90 – 120 Minutes
	Storage Temperature (°F / °C)	0 °F / -18 °C	0 °F / -18 °C
	Out-time (Days @ 77 °F / 25 °C) – FILM	14 Days	14 Days
	Out-time (Days @ 90 °F / 32 °C) – FILM	10 Days	10 Days
Bulk Properties	Tg Dry (°F / °C)	270 °F / 132 °C	228 °F / 109 °C
	Tg Wet (°F / °C)	217 °F / 103 °C	–
Product	New Product Name	**LOCTITE EA 9896 WPP AERO**	**LOCTITE EA 9895 WPP AERO**
	Known As	Hysol® EA 9896 WPP™ NEW!	Hysol® EA 9895 WPP™
Availability	Packaging	Roll	Roll
Description		**LOCTITE EA 9896 WPP AERO** • Durable bond • Minimal residual nylon fibers left on substrate after removal • Minimal risk of interfacial failure in bonded structures • No sanding or solvent wiping required for bonding • Minimal force required to remove peel ply layer	**LOCTITE EA 9895 WPP AERO** • Provides: More durable bond than dry peel ply fabrics • Minimal residual polyester fibers left on substrate after removal • Promotes cohesive failure mode • Compatible with third generation composites • No sanding or solvent wiping required for bonding • Minimal force required to remove peel ply layer

Notes

Boosting surface quality:

LOCTITE surfacing films for lightning strike protection

How to benefit from the right surfacing film solution

Surfacing films are designed to improve the surface quality of honeycomb stiffened composite parts. They also provide a barrier for dissimilar materials, decrease surface preparation time and provide protection of structural fibers. But this is not all: laminated films composed of a surfacing film and a conductive metal foil protect the composite structure from damage caused by lightning strikes.

Protect your aircraft from lightning strike damage

What are the requirements for optimum lightning strike protection of aircraft composite parts? A maximum electrical conductivity is essential. A lightweight solution is important too. And process efficiency should be maximized – including easy repair after lightning strike.

How to gain even more benefits: LOCTITE surfacing films & lightning strike protection

With our LOCTITE portfolio, you can be sure to get the technically most advanced solution. Economically, they offer up to 30 % weight savings compared to existing surfacing films – and they lower the composite part finishing costs. Technically, they provide durable, high quality paintable surfaces and a maximum of product & shop flexibility.

Why choose LOCTITE surfacing films & lightning strike protection?

- Minimize core crush
- Maximum protection against lightning strikes
- Reduce core mark-through
- Protect the composites
- Excellent retention of hardness after fluid soak
- Increased UV and paint stripper resistance
- Out-of-autoclave capable
- No microcracking
- High quality paintable surfaces
- Resistance to high thermal fatigue situations

LOCTITE surfacing films & lightning strike protections: Facts at a glance

LOCTITE surfacing films key features:

- High surface quality: Low flow
- Good paint adhesion without sanding
- Available in lightning strike configurations
- Reduce surface imperfections
- Minimize pre-paint preparation

LOCTITE lightning strike protection key features:

- Easier handling than stand-alone expanded foil during lay-up, sand and fill operations
- Inventory reduction from two raw materials to one
- Process labor reduction
- Easy repair after lightning strike

Surfacing Film & Lightning Strike

Characteristics	350 °F / 177 °C Service	•	•	•	•	•	•
	Cure Temperature (°F / °C)	250 °F / 121 °C or 350 °F / 177 °C	251 °F / 121 °C 350 °F / 177 °C	252 °F / 121 °C 350 °F / 177 °C	252 °F / 121 °C or 350 °F / 177 °C	250 °F / 121 °C or 350 °F / 177 °C	251 °F / 121 °C or 350 °F / 177 °C
	Cure Time	60 Minutes	60 Minutes	60 Minutes	60 – 120 Minutes	60 – 120 Minutes	60 – 120 Minutes
	Storage Temperature (°F / °C)	0 °F -18 °C	0 °F -18 °C	0 °F -18 °C	0 °F -18 °C	0 °F -18 °C	0 °F -18 °C
	Out-time (Days @ 77 °F / 25 °C) – FILM	90 Days	90 Days	90 Days	45 Days	45 Days	45 Days
	Out-time (Days @ 90 °F / 32 °C) – FILM	21 Days	21 Days	21 Days	10 Days	10 Days	10 Days
Mechanical Properties	TENSILE LAP SHEAR -67 °F (psi) / -55 °C (MPa)	–	–	–	–	–	–
	TENSILE LAP SHEAR 77 °F (psi) / 25 °C (MPa)	2,990 psi 20.6 MPa	2,990 psi 20.6 MPa	–	–	–	–
	TENSILE LAP SHEAR 180 °F (psi) / 82 °C (MPa)	–	–	–	–	–	–
	TENSILE LAP SHEAR Elevated Temperature (psi / MPa)	–	–	–	–	–	–
Bulk Properties	Tg Dry (°F / °C)	273 °F 134 °C	274 °F 134 °C	275 °F 134 °C	254 °F 122 °C	252 °F 122 °C	253 °F 122 °C
	Tg Wet (°F / °C)	228 °F 109 °C	229 °F 109 °C	230 °F 109 °C	223 °F 105 °C	221 °F 105 °C	222 °F 105 °C
Product	New Product Name	**LOCTITE EA 9837.1 AERO**	**LOCTITE EA 9837.1 BLK AERO**	**LOCTITE EA 9837.1 LS AERO**	**LOCTITE EA 9845 AERO**	**LOCTITE EA 9845 LC AERO**	**LOCTITE EA 9845 LA AERO**
	Known As	SynSkin® HC 9837.1™	SynSkin® HC 9837.1™ BLK	SynSkin® HC 9837.1™ LSC	Hysol® EA 9845 SF™	Hysol® EA 9845 LSC™	Hysol® EA 9845 LSA™
Availability	Packaging	Roll	Roll, Sheet	Roll, Sheet	Roll	–	–
Description		**LOCTITE EA 9837.1 AERO** is an epoxy based film with good tack properties, comparable with lightning strike foils, minimizes core crush and porosity. It offers high quality paintable surface. Available in One-Side-Tacky (OST) Configuration.	**LOCTITE EA 9837.1 BLK AERO** is an epoxy based film with good tack properties, compatible with lightening strike foils, minimizes core crush and porosity. It offers high quality paintable surface. Available in One-Side-Tacky (OST) Configuration.	**LOCTITE EA 9837.1 LS AERO** is an epoxy based composite film containing copper screen designed to lightening strike protection.	**LOCTITE EA 9845 AERO** is an epoxy-based composite surfacing film designed to improve the surface quality of honeycomb stiffened composite parts. The product is manufactured with a non-woven fabric for support.	**LOCTITE EA 9845 LC AERO** is an epoxy-based composite surfacing film containing copper screen designed to lightning strike protection.	**LOCTITE EA 9845 LA AERO** is an epoxy-based composite surfacing film containing aluminum screen designed to lightning strike protection.

Notes

Light weight, high stiffness and optimum load transfer:

LOCTITE syntactic materials for structural sandwich panel, core filling, splicing and abrasion resistance

Want to have optimum stiffness, load transfer and easier formability?

With LOCTITE structural syntactic materials, Henkel provides the right choice for structural and low density sandwich panels. Applications include low density panel stiffening, minimum gauge stiffened panels, and sandwich panel edge build-up. They offer maximum structural performance, high impact resistance, high panel strength – and, of course, an optimum stiffness to weight. The products are non-expanding films supplied in a range of thicknesses.

LOCTITE core splice and expanding materials meet your needs

Our high performance core splices are used to obtain a uniform load transfer from one section of core to another before being bonded on the assembly line. They enable filling the gap up to the skin surface. This process also serves as a method of preventing moisture ingression in honeycomb-stiffened parts through the core splice joint.

As foaming films, LOCTITE materials expand during heat cure up to 2 – 3 times their original size. They offer excellent slump resistance and exothermic properties, being ideal for thick splices, deep core filling or co-cure conditions – and are easier to insert into core gaps, improving productivity.

Materials for improved abrasion resistance

Henkel's abradable materials ensure that today's aircraft engines can operate at maximum efficiency. They provide a rub strip for jet engine compressor blades combining high erosion resistance with low abrasion at low density. Materials are available for OEM installation and for repair and maintenance to ensure the fleet is always operational.

Why choose LOCTITE syntactics, core fill and abradable materials?

- Improved mechanical strength, toughness and energy absorption
- Uniform expansion
- Enable load transfer
- Enable thick and complex sandwich structures
- No mark-off due to bonding or honeycomb
- Attach and bond to core walls
- Sag resistant
- Qualified by major OEMs
- Panel thickness can be contoured, local build-ups can be included
- Abrasion & erosion resistance
- Expanding, low density
- User-friendly processing

LOCTITE Syntactic, Core Fill and Abradable:

Facts at a glance

Syntactic Materials: Key factors to consider when choosing the right LOCTITE structural syntactic materials

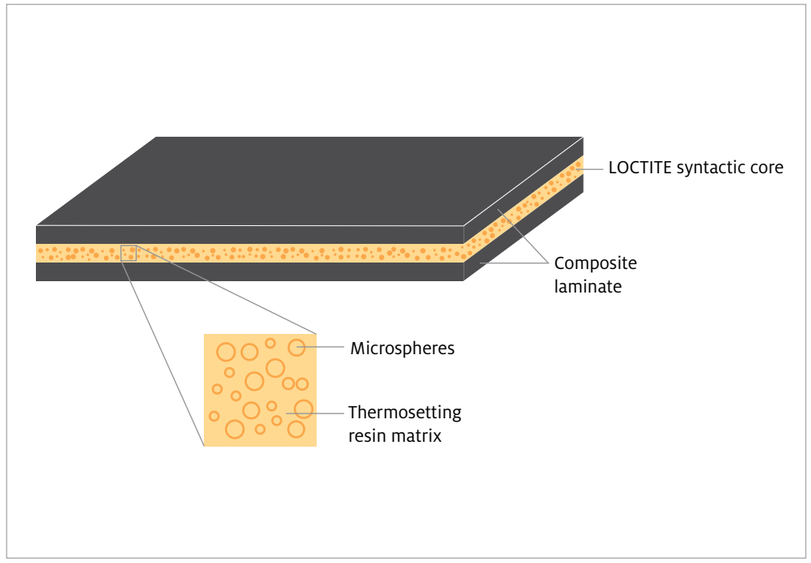
- Service temperature
- Compression strength
- Application
- Process temperature
- Core thickness required
- Expanding or non-expanding

Expanding materials: Key factors to consider when choosing the right LOCTTITE core fill and core splice materials

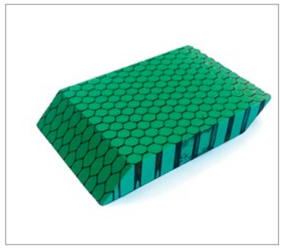
- Cure Temperature
- Cure Time
- Service Temperature
- Density
- Mechanical properties
- Process conditions

Abradable materials: Key facts to consider when choosing the right LOCTITE abradable materials

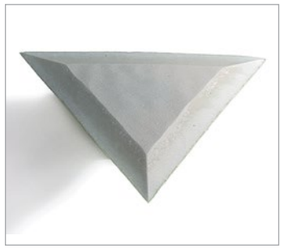
- Abrasion resistance required
- Service temperature
- Toughness
- Density
- Process conditions
- Repair



LOCTITE syntactic core sandwich construction



LOCTITE expanding syntactic film



LOCTITE syntactic core machined shape

Structural Syntactic Materials: Non Expanding

Application	Syntactic Film Non-Expandanding	•	•	•
	Syntactic Film Expanding			
	180 °F / 82 °C Service			
	250 °F / 121 °C Service	•		
	300 °F / 149 °C Service		•	•
	300 °F / 149 °C Service – High Strength			•
Product Characteristics	Continuous Service Temperature (F° / C°)	Maximum 250 °F / 121 °C	Maximum 350 °F / 177 °C	Maximum 350 °F / 177 °C
	Block Compressive (dry) @ 73 °F (psi) / 23 °C (MPa)	9,000 psi / 62 MPa	8,800 psi / 61 MPa	21,800 psi / 150 MPa
	Tensile Strength @ 73 °F (psi) / 23 °C (MPa)	4,700 psi / 32 MPa	4,800 psi / 33 MPa	5,000 psi / 34.5 MPa
	Tensile Modulus @ 73 °F (psi) / 23 °C (MPa)	380 ksi / 2,606 MPa	400 ksi / 2,758 MPa	580 ksi / 4,000 MPa
Process & Handling	Cure Temperature (°F / °C)	250 °F / 121 °C	350 °F / 177 °C	350 °F / 177 °C
	Cure Time	60 Minutes	60 Minutes	120 Minutes
	Storage Temperature (°F / °C)	0 °F / -18 °C	0 °F / -18 °C	0 °F / -18 °C
	Storage Time	> 12 Months	> 12 Months	> 12 Months
	Out-time (Days @ 77 °F / 25 °C) – FILM	15 Days	15 Days	15 Days
	Out-time (Days @ 90 °F / 32 °C) – FILM	10 Days	10 Days	10 Days
Bulk Properties	Tensile Strength (dogbone) @ 77 °F (psi) / 25 °C (MPa)	4,700 psi / 32 MPa	4,800 psi / 33 MPa	5,000 psi / 34.5 MPa
	Tensile Modulus @ 77 °F (ksi) / 25 °C (MPa)	380 ksi / 2,606 MPa	400 ksi / 2,758 MPa	580 ksi / 4,000 MPa
	Block Compressive (dry) @ 77 °F (psi) / 25 °C (MPa)	9,000 psi / 62 MPa	8,800 psi / 61 MPa	21,800 psi / 150 MPa
Products	New Product Name	**LOCTITE HC 9823.1 AERO**	**LOCTITE HC 9872.1 AERO**	**LOCTITE HC 9875 AERO**
	Known As	SynCore® 9823.1™	SynCore® 9872.1™	SynCore® 9875™
Availability	Packaging	Roll, Sheet	Roll, Sheet	Roll
Description		**LOCTITE HC 9823.1 AERO** is a structural syntactic film. Excellent moisture resistance. Lightweight syntactic core material. Modified epoxy. Co-curable with 250 °F / 121 °C prepegs.	**LOCTITE HC 9872.1 AERO** is a structural syntactic film. Excellent moisture resistance. Lightweight syntactic core material. Modified epoxy. Co-curable with 350 °F / 177 °C prepegs.	**LOCTITE HC 9875 AERO** is a structural syntactic film. High crush strength. Lightweight syntactic core material. Designed to witstand high compressive loading. Co-curable with 350 °F / 177 °C prepegs.

Core Fill & Abradable

Application	Abradable Seal			•	
	Core Splice / Filler	•	•		•
Characteristics	250 °F / 121 °C Service	•	•	•	
	300 °F / 149 °C Service				•
	350 °F / 177 °C Service				
	550 °F / 288 °C Service				
	Cure Temperature (°F / °C)	250 – 350 °F / 121 – 177 °C	250 – 350 °F / 121 – 177 °C	250 °F / 121 °C	250 – 350 °F / 121 – 177 °C
	Cure Time	60 Minutes	60 Minutes	120 Minutes	60 Minutes
	Storage Temperature (°F / °C)	0 °F / -18 °C	0 °F / -18 °C	0 °F / -18 °C	0 °F / -18 °C
	Out-time (Days @ 77 °F / 25 °C) – FILM	15 Days	15 Days	15 Days	10 Days
	Out-time (Days @ 90 °F / 32 °C) – FILM	10 Days	10 Days	10 Days	5 Days
Mechanical Properties	Tube Shears @ 77 °F (psi) / 25 °C (MPa)	–	1,300 psi / 9.0 MPa	–	940 psi / 6.5 MPa
	Tube Shears @ 250 °F(psi) / 121 °C (MPa)	–	–	–	1,063 psi / 7.3 Mpa
Bulk Properties	Tg Dry (°F / °C)	383 °F / 195 °C	380 °F / 193 °C	–	–
	Tensile Strength (dogbone) @ 77 °F (psi) / 25 °C (MPa)	–	–	1,100 psi / 7.6 MPa	–
	Tensile Modulus @ 77 °F (ksi) / 25 °C (MPa)	–	–	62ksi / 430 MPa	–
	Compressive Strength @ 77 °F (psi) / 25 °C (MPa)	1,500 psi / 10.3 MPa	5,425 psi / 37.4 MPa	1,440 psi / 10.0 MPa	–
	Compressive Modulus @ 77 °F (ksi) / 25 °C (MPa)	86 ksi / 585 MPa	198.2 ksi / 1,366 MPa	85 ksi /585 MPa	–
	Flexural Strength @ 77 °F (psi) / 25 °C (MPa)	–	–	1,600 psi / 11.0 MPa	–
	Block Compressive (dry) @ 77 °F (psi) / 25 °C (MPa)	500 @ 12 pcf density 3.45 @ 0.19 g / cc	19 pcf: 1,000 psi / 6.9 MPa 26 pcf: 2,500 psi / 17.2 MPa 35 pcf: 6,500 psi / 44.8 Mpa	–	–
Product	New Product Name	**LOCTITE EF 9899 AERO**	**LOCTITE EF 9899CF AERO**	**LOCTITE EF 9890 AERO**	**LOCTITE EF 557 AERO**
	Known As	SynSpand® 9899™	SynSpand® 9899CF™*	SynSpand® EA 9890™ Abradable Seal	Hysol® MA 557™
Availability	Packaging	Roll, Sheet	Roll, Sheet	Roll	Roll, Sheet
Description		**LOCTITE EF 9899 AERO** is a 250 °F / 121 °C or 350 °F / 177 °C curing expanding syntactic film. It expands using a unique closed cell process, providing for a completely homogenous cell structure. Its applications include honeycomb core stabilization, edge close out, RTM core, and many others.	**LOCTITE EF 9899CF AERO** is a medium density low exotherm expanding syntactic film suitable for core filling applications. Its typical cured density range is 18 – 35 pcf (0.29 – 0.56 g/cc). The low exotherm chemistry makes this product ideal for deep core fill. High compressive strength provides the potential for some structural applications.	**LOCTITE EF 9890 AERO** is an expanding modified epoxy film that cures at 250 °F / 121 °C. Commonly used for abradable seals, which require high abrasion and corrosion resistance. Additional features include areal weight and width.	**LOCTITE EF 557 AERO** is a modified epoxy foaming adhesive that may be cured at 250 °F / 121 °C or 350 °F / 177 °C. It is designed to seal, splice, or reinforce honeycomb materials.

Core Fill & Abradable

Application	Abradable Seal	•	•						
	Core Splice / Filler			•	•		•	•	•
Characteristics	250 °F / 121 °C Service								
	300 °F / 149 °C Service	•	•						
	350 °F / 177 °C Service			•	•		•	•	
	550 °F / 288 °C Service								•
	Cure Temperature (°F / °C)	300 °F / 149 °C	300 °F / 149 °C	250 °F / 121 °C 350 °F / 177 °C	250 °F / 121 °C 350 °F / 177 °C		250 °F / 121 °C 350 °F / 177 °C	250 °F / 121 °C 350 °F / 177 °C	350 °F / 177 °C + 475 °F / 121 °C"
	Cure Time	90 Minutes	90 Minutes	90 Minutes / 60 Minutes	90 Minutes / 60 Minutes		60 Minutes / 60 Minutes	60 Minutes	60 Minutes / 120 Minutes
	Storage Temperature (°F / °C)	0 °F / -18 °C	0 °F / -18 °C	0 °F / -18 °C	0 °F / -18 °C		0 °F / -18 °C	0 °F / -18 °C	0 °F / -18 °C
	Out-time (Days @ 77 °F / 25 °C) – FILM	15 Days	15 Days	10 Days	30 Days		30 Days	20 Days	30 Days
	Out-time (Days @ 90 °F / 32 °C) – FILM	10 Days	10 Days	10 Days	10 Days		10 Days	10 Days	10 Days
Mechanical Properties	Tube Shears @ 77 °F (psi) / 25 °C (MPa)	–	–	850 psi / 5.8 MPa	1,682 psi / 11.6 MPa		1,190 psi / 8.2 MPa	1,150 psi / 8.0 MPa	1,000 psi / 6.9 MPa
	Tube Shears @ 250 °F(psi) / 121 °C (MPa)	–	–	1,000 psi / 6.9 MPa	1,170 psi / 8.1 Mpa		940 psi / 6.5 MPa	1,150 psi / 8.0 MPa	1,000 psi / 6.9 MPa
Bulk Properties	Tg Dry (°F / °C)	–	200 °F / 93 °C	–	266 °F / 130 °C		–	300 °F / 149 °C	550 °F / 288 °C
	Tensile Strength (dogbone) @ 77 °F (psi) / 25 °C (MPa)	–	2,400 psi / 16.5 MPa	–	–		–	–	–
	Tensile Modulus @ 77 °F (ksi) / 25 °C (MPa)	370 ksi / 2,551 MPa	180 ksi / 1,241 MPa	–	–		–	–	–
	Compressive Strength @ 77 °F (psi) / 25 °C (MPa)	–	–	–	–		–	–	–
	Compressive Modulus @ 77 °F (ksi) / 25 °C (MPa)	250 ksi / 1,724 MPa	144 ksi / 993 MPa	–	–		–	–	–
	Flexural Strength @ 77 °F (psi) / 25 °C (MPa)	–	–	–	–		–	–	827 psi / 5.7 MPa
	Block Compressive (dry) @ 77 °F (psi) / 25 °C (MPa)	4615 psi / 31.8 MPa	2.300 psi / 15.8 MPa	–	–		–	–	–
Product	New Product Name	**LOCTITE EF 9835 AERO**	**LOCTITE EF 9840 AERO**	**LOCTITE EF 562SFR AERO**	**LOCTITE EA 460 AERO**		**LOCTITE EF 560 AERO**	**LOCTITE EF 562 AERO**	**LOCTITE EF 9833.1 AERO**
	Known As	SynSpand® EA 9835™ Abradable Seal	SynSpand® EA 9840™ Abradable Seal	Hysol® MA 562SFR™	Hysol® PL 460™		Hysol® MA 560™	Hysol® MA 562™	Hysol® EA 9833.1™ (BMi)
Availability	Packaging	Roll, Sheet	Roll	Sheet	Dual Cartridge		Sheet	Roll, Sheet	Sheet
Description		**LOCTITE EF 9835 AERO** is an expanding modified epoxy film that is supplied as a continuous film of controlled areal weight and width. It may be cured at 300 °F / 149 °C. Commonly used for abradable seals, which require high erosion resistance.	**LOCTITE EF 9840 AERO** is an expanding modified epoxy film that is supplied as a continuous film of controlled areal weight and width. It may be cured at 300 °F /149 °C. Commonly used for abradable seals, which require high abrasion and corrosion resistance.	**LOCTITE EF 562SFR AERO** is an expanding foam adhesive, which is supplied as a film for core splicing and closeout of honeycomb panels. It offers the advantages of a fire retardant structural adhesive, which may be cured at 250 °F /121 °C or 350 °F /177 °C.	**LOCTITE EA 460 AERO** is a foaming epoxy adhesive in paste form for easy extrusion through packaged cartridges. The adhesive expands and cures at temperatures from 250 °F / 121 °C to 350 °F / 177 °C.		**LOCTITE EF 560 AERO** is a low density, expanding, epoxy film adhesive. It may be cured at 250 °F / 121 °C or 350 °F / 177 °C and is designed for service at temperatures from -67 °F / -55 °C to 350 °F / 177 °C.	**LOCTITE EF 562 AERO** is a general purpose 250 °F / 121 °C or 350 °F / 177 °C film. It is designed for service temperatures from -67 °F / -55 °C to 350 °F / 177 °C.	**LOCTITE EF 9833.1 AERO** is a modified bismaleimide foaming core splice adhesive. It is designed for use up to 450 °F / 230 °C. This product handles like an epoxy and may be cured at 350 °F / 177 °C followed by an elevated temperature post cure.

Notes

High-end protection for sensitive surfaces:

LOCTITE primers

Once a surface has been etched, it needs protection

One of the main reasons for priming is to prevent corrosion of the part. The etched metal surface is “active” and ready to be bonded. The oxide layer from the cleaning and etching process is sensitive to decay. Priming protects and preserves the oxide, and allows you to store metal for later use.

LOCTITE primers care and protect perfectly

Created for a broad application range, LOCTITE primers are designed to promote adhesion, provide corrosion protection and improve bond joint long term durability. And of course, they are available in ozone-safe (non-CFC), solvent-based and solvent-free formulations.

Why choose LOCTITE primers?

- Enhance adhesion
- Excellent resistance to chemicals
- Eliminate cobwebbing
- Corrosion protection

LOCTITE primers: Facts at a glance

LOCTITE primers key features

- Spray of brush applications
- Improves production rates
- Excellent storage and out time stability
- Primer reactivation not required for second-stage bonding

Key factors to consider when choosing the right LOCTITE primer

- Temperature resistance
- Adhesion to different substrates
- Chemical resistance
- Product safety of reactive hotmelts

Primers

Application	Corrosion Protection / Enhanced Bondability	Enhanced Bondability	Enhanced Bondability	Enhanced Bondability / Corrosion Protection
Characteristics	180 °F / 82 °C Service	•		
	350 °F / 177 °C Service		•	•
	Form	1 Part	1 Part	1 Part
Mechanical Properties	Bell Peel 77 °F (lb / in) 25 °C (N / 25 mm)	–	–	0.12 mils: 13 lb / in 58 N / 25 mm 0.24 mils: 15 lb / in 65 N / 25 mm 0.39 mils: 14 lb / in 62 N / 25 mm
	TENSILE LAP SHEAR: -67 °F (psi) / -55 °C (MPa)	–	3,165 psi / 22 MPa	3,900 psi / 27 MPa
	TENSILE LAP SHEAR: 77 °F (psi) / 25 °C (MPa)	1,000 psi / 6.9 MPa	4,200 psi / 29 MPa	4,800 psi / 33 MPa
	TENSILE LAP SHEAR: Elevated Temperature (psi / MPa)	–	1500psi /10 MPa @ 250 °F /121°C	2,800 psi / 19 MPa @ 380 °F / 177 °C
	Honeycomb Climbing Drum Peel @ 77 °F (in·lb / in) / 25 °(m·N / m)	–	80 in·lb / in 17.6 m·N / m	12 in·lb / in 50 m·N / m
	Flatwise Tension @ 77 °F / 25 °C (psi / MPa)	–	–	1000 psi / 7 MPa
	PRIMER COVERAGE: Square Foot / Gal @ 0.3 mildry film thickness / Square Meter / Liter @ 8µm dry film thickness	1,600 SF / Gal / Mil 39 m^2 / liter / 0.0254 mm	600 SF / Gal / Mil 14.7 m^2 / liter / 0.0254 mm	1,200 SF / Gal / Mil 29.3 m^2 / liter / 0.0254 mm
Handling	Cure Temperature (°F / °C)	77 °F / 23 °C	315 °F / 157 °C	350 °F / 177 °C
	Cure Time	–	90 Minutes	45 – 60 Minutes
	Storage Temperature (°F / °C)	77 °F / 25 °C	40 °F / 5 °C	40 °F / 5 °C
	Out-time (Days @ 77 °F / 25 °C) – FILM	365 Days	90 Days	30 Days
	Out-time (Days @ 90 °F / 32 °C) – FILM	366 Days	30 Days	20 Days
Product	New Product Name	**LOCTITE EA 9203 AERO**	**LOCTITE EA 2000 AERO**	**LOCTITE EA 9258.1 AERO**
	Known As	Hysol® EA 9203™	Hysol® AL 2000™	Hysol® EA 9258.1
Availability	Packaging	Gallon	Gallon	Gallon
Description		**LOCTITE EA 9203 AERO** is an adhesive bonding primer which enhances adhesion on poorly prepared surfaces. Since it is a non-curing primer, it requires only a room temperature drying to be ready for bonding. It is especially well-suited for use with room temperature curing paste adhesives.	**LOCTITE EA 2000 AERO** is a heat curing nitrile / phenolic water based primer. When cured, it furnishes excellent resistance to chemicals and water.	**LOCTITE EA 9258.1 AERO** is a water-borned chromated adhesive bonding primer for 350 °F / 177 °C service. It is designed to offer at least twice the improvement in peel strength toughness over current 350 °F / 177 °C service film adhesives. It is applied with current aerospace primer spray equipment, and provides low VOCs of 142 g/liter. It may be cured 45 – 60 minutes 350 °F / 177 °C) for optimum performance. The data contained herin were obtained with the companion film adhesive LOCTITE EA 9658 0.10 NWG AERO and LOCTITE EA 9658 AERO 0.060 unsupported.

Superior bonding performance:

LOCTITE paste adhesives

Paste adhesives: Keeping it all together

Paste adhesives are structural adhesives used to bond aluminum, stainless steel, titanium and composites either in rib-stiffened designs or in honeycomb designs.

Outperforming portfolio: LOCTITE paste adhesives

As a leader in toughened paste and film adhesives, Henkel's aerospace group offers a complete line of pre-measured packages for paste adhesives ranging from a pudding cup to a two-part cartridge kit with static mixers.

In other words, Henkel provides exactly the paste adhesive solutions you need: one- and two-part epoxy paste adhesive systems for potting, bonding, fairing and repair.

Why choose for LOCTITE paste adhesives?

- Improve microcrack resistance
- Reduce costs
- Bond numerous substrates
- Reduce weight in structural assemblies
- Excellent thin substrates bonding
- Provide design flexibility

LOCTITE paste adhesives:

Facts at a glance

LOCTITE paste adhesives key features:

- Allow use of two different materials
- Distribute stresses in joints
- Flexible to cure temperature
- Absorb vibration
- Oil and fuel resistant
- Co-bond and co-cure

Key factors to consider when choosing the right LOCTITE paste adhesive

- Size and shape of part to be bonded
- Production rates and quantities
- Process related requirements

If you need a metal bond or repair solution with paste adhesives

LOCTITE is for you

Metal and Honeycomb bonding and repair solutions require maximum flexibility

When it comes to bonding or repair of metal parts and structures of an aircraft, you will surely be looking for a solution that has high strength, chemical resistance and resists creep under sustained loads. In addition, you need a two component system with a room temperature cure. Too many requirements? Not for us.

We combine it with efficiency: LOCTITE metal bond and repair

Henkel offers a high-performance structural adhesive portfolio in ready-to-use packaging configurations for aerospace OEM and MRO customers. LOCTITE products allow you to bond or make repairs to metallic substrates on the production line while improving your employees' productivity and safety. The down time is minimized, waste and stress on components are reduced. Finally, the efficiency is more than convincing thanks to a less time consuming, less expensive and faster through-put.

Why choose LOCTITE structural metal bond paste?

- Qualified by major OEM's
- Easy to apply
- Ready-to-use packaging solutions
- Superior mechanical strength
- Create durable repairs
- Excellent resistance to aggressive chemicals to increase part life
- One or two component systems
- Room temperature and elevated cure temperatures options

LOCTITE metal bond and repair paste adhesives: **Facts at a glance**

LOCTITE structural metal bond paste solutions key features

- Industry standard for metal bond applications
- Out-of-Autoclave solutions
- Easy application
- Chemical resistance

Key factors to consider when choosing the right LOCTITE structural repair product

- Metal bond or composite to repair
- Service temperature
- Consistency and viscosity
- High compression loads resistance
- High temperature resistance
- Flexibility or toughness

Metal, Honeycomb Bonding & Repair

Characteristics	180°F / 82°C Service	•	•	•
	300°F / 149°C Service			
	350°F / 177°C Service			
	450°F / 232°C Service			
	Improved Hot / Wet Properties			
	Toughened	•	•	•
	Consistency	Moderate Viscosity	Thixotropic	Low Viscosity
	Form	2 Part	2 Part	2 Part
	Peel Strength	High	Low	Low
Mechanical Properties	Bell Peel 77°F (lb / in) 25°C (N / 25 mm)	35 lbs / in 150 N / 25 mm	35 lbs / in 150 N / 25 mm	6 lbs / in 25 N / 25 mm
	TENSILE LAP SHEAR -67°F (psi) / -55°C (Mpa)'	4,900 psi / 33.8 MPa	3,000 psi / 20.7 MPa	3,000 psi / 20.7 MPa
	TENSILE LAP SHEAR 77°F (psi) / 25°C (Mpa)	5,000 psi / 34.5 MPa	4,000 psi / 27.6 MPa	4,000 psi / 27.6 MPa
	TENSILE LAP SHEAR 180°F (psi) / 82°C (Mpa)	2,300 psi / 15.9 MPa	2,900 psi / 20.0 MPa	1,200 psi / 8.3 MPa
	TENSILE LAP SHEAR Elevated Temperature (psi / MPa)	–	500 psi / 3.4 MPa	600 psi / 4.1 MPa
Bulk Properties	Tg Dry (°F / °C)	180 °F / 82 °C	230 °F / 110 °C	207 °F / 97 °C
	Tg Wet (°F / °C)	–	190 °F / 88 °C	157 °F / 69 °C
	Tensile Strength @ 77°F (psi) / 25°C (MPa)	5,000 psi / 34.5 MPa	7,100 psi / 49.0 MPa	3,500 psi / 24.1 MPa
	Tensile Modulus @ 77°F (ksi) / 25°C (MPa)	330 ksi / 2,274 MPa	42 ksi / 2.90 GPa	375 ksi / 2.58 Gpa
	Elongation @ 77°F / 25°C (% at break)	9,00 %	6,00 %	9,00 %
	Compressive Strength @ 77°F (psi) / 25°C (MPa)	8,000 psi / 55.1 MPa	9,280 psi / 64.00 MPa	8,800 psi / 60.6 MPa
	Compressive Modulus @ 77°F (ksi) / 25°C (MPa)	265 ksi / 1,826 MPa	284 ksi / 1,960 MPa	375 ksi / 2.58 GPa
Handling	Mix RatioWeight (PartA / Part B)	100 : 19	100 : 50	100 : 45
	CureTemperature (°F / °C)	> 77 – 200°F / > 25 – 93 °C	77 – 200 °F / 25 – 93 °C	> 77 – 200 °F / > 25 – 93 °C
	CureTime	5 – 7 Days / 1 Hour	5 – 7 Days / 1 Hour	5 – 7 Days / 1 Hour
	StorageTemperature (°F / °C)	77 °F / 25 °C	40 °F / 4 °C	40 °F / 4 °C
	Pot Life (minutes / lb) / (minutes / kg)	25 Minutes / 200 Gram Mass	40 Minutes / 450 Gram Mass	30 Minutes / 450 Gram Mass
Product	New Product Name	**LOCTITE EA 9320NA AERO**	**LOCTITE EA 9321 AERO**	**LOCTITE EA 9323 AERO**
	Known As	Hysol® EA 9320NA™	Hysol® EA 9321™	Hysol® EA 9323™
Availability	Packaging	Quart Kit, Gallon Kit, Injection Kit	Clip Pack, Dual Cartridge, Quart Kit	Barrier Kit, Quart Kit
Description		**LOCTITE EA 9320NA AERO** is a two-component paste adhesive with good peel strength as well as elevated temperature resistance.	**LOCTITE EA 9321 AERO** is a two-component thixotropic paste adhesive, which exhibits toughness and retains strength at elevated temperatures. This product cures at room temperature and yields durable bonds over a wide temperature range.	**LOCTITE EA 9323 AERO** is a two-component paste adhesive, which is low in viscosity, possesses some toughness and maintains high temperature strength. Its room temperature cure capability makes it ideal for repair of metal and composite structure, including laminating and injection. It has no metallic fillers.

Metal, Honeycomb Bonding & Repair

Characteristics	180°F / 82°C Service	•	•	•		•	•	•	•
	300°F / 149°C Service								
	350°F / 177°C Service								
	450°F / 232°C Service								
	Improved Hot / Wet Properties			•		•	•	•	
	Toughened	•	•	•		•	•	•	•
	Consistency	Moderate Viscosity	Thixotropic	Thixotropic		Thixotropic	Thixotropic	Thixotropic	Moderate Viscosity
	Form	2 Part	2 Part	2 Part		2 Part	2 Part	2 Part	2 Part
	Peel Strength	High	High	High		High	High	High	High
Mechanical Properties	Bell Peel 77°F (lb / in) 25°C (N / 25 mm)	92 lbs / in 409 N / 25 mm	93 lbs / in 414 N / 25 mm	75 lbs / in 335 N / 25 mm		60 lbs / in 265 N / 25 mm	50 lbs / in 178 N / 25 mm	40 lbs / in 220 N / 25 mm	44 lbs / in 196 N / 25 mm
	TENSILE LAP SHEAR -67°F (psi) / -55°C (Mpa)'	5,000 psi / 34.5 MPa	5,700 psi / 39.3 MPa	4,000 psi / 27.6 MPa		4,000 psi / 27.6 MPa	4,650 psi / 32.1 MPa	4,000 psi / 27.6 MPa	–
	TENSILE LAP SHEAR 77°F (psi) / 25°C (Mpa)	5,000 psi / 34.5 Mpa	4,900 psi / 33.8 MPa	4,500 psi / 31.0 MPa		5,000 psi / 34.5 MPa	5,350 psi / 36.9 Mpa	5,100 psi / 35.0 MPa	4,800 psi / 33.1 MPa
	TENSILE LAP SHEAR 180°F (psi) / 82°C (Mpa)	1,000 psi / 6.9 MPa	1,100 psi / 7.6 MPa	2,000 psi / 13.8 MPa		3,000 psi / 20.7 MPa	4,200 psi / 29.0 MPa	4,000 psi / 27.5 MPa	–
	TENSILE LAP SHEAR Elevated Temperature (psi / MPa)	–	–	1,000 psi / 6.9 MPa		950 psi / 6.5 MPa	2,500 psi / 17.2 MPa	1,750 psi / 12 MPa	–
Bulk Properties	Tg Dry (°F / °C)	135 °F / 57 °C	129 °F / 54 °C	134°F / 51°C		151 °F / 66 °C	200 °F / 93 °C	223 °F / 106 °C	208 °F / 98 °C
	Tg Wet (°F / °C)	–	–	150 °F / 66 °C		–	225 °F / 108 °C	192 °F / 89 °C	145 °F / 63 °C
	Tensile Strength @ 77°F (psi) / 25°C (MPa)	5,600 psi / 38.6 MPa	6,100 psi / 42.0 MPa	5300 psi / 36.6 MPa		–	–	–	–
	Tensile Modulus @ 77°F (ksi) / 25°C (MPa)	384 ksi / 2,646 MPa	390 ksi / 2,687 MPa	310 ksi / 2,136 MPa		487.2 ksi / 3360 MPa	–	–	–
	Elongation @ 77°F / 25°C (% at break)	2,40 %	9,00 %	7,70 %		5,00 %	–	–	–
	Compressive Strength @ 77°F (psi) / 25°C (MPa)	7,700 psi / 53.1 MPa	–	7,700 psi / 53.1 MPa		9,878 psi / 68 MPa	11,300 psi / 78 MPa	–	–
	Compressive Modulus @ 77°F (ksi) / 25°C (MPa)	253 ksi / 1,743 MPa	–	–		368 ksi / 2,538 MPa	355 ksi / 2,950 MPa	–	–
Handling	Mix RatioWeight (PartA / Part B)	100 : 33	100 : 33	100 : 44		100 : 43	100 : 55	100 : 45	100 : 35
	CureTemperature (°F / °C)	77 – 200 °F / 25 – 93 °C	> 77 – 200 °F / > 25 – 93 °C	77 – 180 °F / 25 – 82 °C		77 – 180 °F / 25 – 82 °C	≥ 160 – 175 °F / 70 – 80 °C	180 – 220 °F / 82 – 104 °C	> 77 °F / 25 °C
	CureTime	5 – 7 Days / 1 Hour	5 – 7 Days / 1 Hour	5 – 7 Days /		150 °F / 66 °C"			
	StorageTemperature (°F / °C)	77 °F / 25 °C	77 °F / 25 °C	77 °F / 25 °C		5 – 7 Days / 1 Hour	240 Minutes	2 hours / 1 hour	5 Days / 1 Hour
	Pot Life (minutes / lb) / (minutes / kg)	60 Minutes / 100 Gram Mass	60 Minutes / 100 Gram Mass	60 Minutes / 100 Gram Mass / 50 Minutes / 200 Gram Mass / 40 Minutes / 450 Gram Mass		77 °F / 25 °C	40 °F / 4 °C	40 °F / 4 °C	82 °F / 28 °C
Product	New Product Name	**LOCTITE EA 9330 AERO**	**LOCTITE EA 9330.3 AERO**	**LOCTITE EA 9359.3 AERO**		**LOCTITE EA 9360 AERO**	**LOCTITE EA 9380 AERO**	**LOCTITE EA 9380.05 AERO**	**LOCTITE EA 9345 AERO**
	Known As	Hysol® EA 9330™	Hysol® EA 9330.3™	Hysol® EA 9359.3™		Hysol® EA 9360™	Hysol® EA 9380™NEW!	Hysol® EA 9380.05	Hysol® EA 9345™
Availability	Packaging	Barrier Kit, Gram Kit, Gallon Kit	Quart Kit, Clip Pack	Quart Kit, Dual Cartridge, Gallon Kit		Quart Kit, Dual Cartridge, Gallon Kit	Dual Cartridge, Barrier Kit, Quart Kit	–	Gallon Kit
Description		**LOCTITE EA 9330 AERO** • Two Component System • Tolerant of Bondline Thickness Variations • Room Temperature Cure • High Peel Strength • Excellent Environmental Resistance	**LOCTITE EA 9330.3 AERO** • Two Component System • Low Slump • Room Temperature Cure • Easy Mix • High Peel Strength	**LOCTITE EA 9359.3 AERO** • Easy Mix • Good Environmental Resistance • Non Sag • High Shear Strength • Bondline Thickness Control • High Peel Strength • Available in 2:1 Dual Cartridge with Static Mixer		**LOCTITE EA 9360 AERO** • Available in dual cartridge packaging • High peel strength • Excellent static stress durability • >225°F (107°C) service • Easy mixing two component system • Room temperature cure • Low Slump	**LLOCTITE EA 9380 AERO** • Low temp curing two-part adhesive • Meter mixable • High strength, toughness and high temp resistance • Prebond humidity resistant	**LOCTITE EA 9380.05 AERO** • Low temp curing two-part adhesive • Meter mixable • High strength, toughness and high temp resistance • Prebond humidity resistant	**LOCTITE EA 9345 AERO** • Long Pot Life • Non-Asbestos • Toughened

Metal, Honeycomb Bonding & Repair

Characteristics	180°F / 82°C Service		•						
	300°F / 149°C Service	•	•	•		•	•		•
	350°F / 177°C Service								
	450°F / 232°C Service							•	
	Improved Hot / Wet Properties			•		•			•
	Toughened					•	•		•
	Consistency	Low Viscosity	Thixotropic	Low Viscosity		Thixotropic	Thixotropic	Moderate Viscosity	Thixotropic
	Form	2 Part	2 Part	2 Part		2 Part	2 Part	2 Part	2 Part
	Peel Strength	Nil	Nil	Nil		Low	Nil	Low	Low
Mechanical Properties	Bell Peel 77°F (lb / in) 25°C (N / 25 mm)	–	–	–		20 lbs / in 89 N / 25 mm	20 lbs / in 90 N / 25 mm	10 lbs / in 45 N / 25 mm	15 lbs / in 67 N / 25 mm
	TENSILE LAP SHEAR -67°F (psi) / -55°C (Mpa)'	1,780 psi / 12.3 MPa	3,100 psi / 21.4 MPa	2,200 psi / 15.2 MPa		3,300 psi / 22.7 MPa	2,700 psi / 18.6 MPa	3,500 psi / 24.1 MPa	2,300 psi / 15.8 MPa
	TENSILE LAP SHEAR 77°F (psi) / 25°C (Mpa)	2,300 psi / 15.8 MPa	3,700 psi / 25.5 MPa	2,600 psi / 17.9 MPa		4,200 psi / 28.9 MPa	4,910 psi / 33.9 MPa	5,000 psi / 34.5 MPa	4,300 psi / 29.7 MPa
	TENSILE LAP SHEAR 180°F (psi) / 82°C (Mpa)	1,500 psi / 10.3 MPa	2,800 psi / 19.3 MPa	3,000 psi / 20.7 MPa		3,000 psi / 20.7 MPa	3,140 psi / 21.7 MPa	4,000 psi / 27.5 MPa	3,500 psi / 24.1 MPa
	TENSILE LAP SHEAR Elevated Temperature (psi / MPa)	1,000 psi / 6.9 MPa	1,200 psi / 8.3 MPa	1,700 psi / 11.7 MPa		1,200 psi / 8.3 MPa	1,640 psi / 11.3 MPa	2,500 psi / 17.2 MPa	1,200 psi / 8.3 MPa
Bulk Properties	Tg Dry (°F / °C)	156 °F / 69 °C	159 °F / 71 °C	345 °F / 174 °C		172 °F / 78 °C	158 °F / 70 °C	–	163 °F / 73 °C
	Tg Wet (°F / °C)	–	235 °F / 113 °C	302 °F / 150 °C		154 °F / 68 °C	196 °F / 91 °C	–	246 °F / 119 °C
	Tensile Strength @ 77°F (psi) / 25°C (MPa)	5,800 psi / 40.0 MPa	5,800 psi / 40.0 MPa	8,200 psi / 56.5 MPa		6,675 psi / 46.0 MPa	–	–	8,070 psi / 55.6 MPa
	Tensile Modulus @ 77°F (ksi) / 25°C (MPa)	370 ksi / 2,552 MPa	550 ksi / 3,792 MPa	418 ksi / 2,880 MPa		615 ksi / 4,237 MPa	–	–	717 ksi / 4,940 MPa
	Elongation @ 77°F / 25°C (% at break)	2,40 %	1,20 %	2,50 %		1,77 %	–	–	2,60%
	Compressive Strength @ 77°F (psi) / 25°C (MPa)	12,000 psi / 82.8 MPa	9,500 psi / 65.5 MPa	5,300 psi / 36.6 MPa		10,000 psi / 68.9 MPa	11,329 psi / 78.1 MPa	32,000 psi / 220.7 MPa	14,000 psi / 94.5 MPa
	Compressive Modulus @ 77°F (ksi) / 25°C (MPa)	158 ksi / 1,089 MPa	367 psi / 2,530 MPa	–		–	–	–	429 ksi / 2.956 MPa
Handling	Mix RatioWeight (PartA / Part B)	100 : 58	100 : 33	100 : 56		100 : 17	100 : 27	100 : 20	100 : 17
	CureTemperature (°F / °C)	77 – 200 °F / 25 - 93 °C	77 – 200 °F / 25 – 93 °C	200 °F / 93 °C 250 °F / 121 °C 300 °F / 149 °C		77 – 200 °F / 25 – 93 °C	77 °F / 25 °C	> 200 °F / 93 °C	77 – 150 °F / 25 – 66 °C
	CureTime	5 – 7 Days / 1 Hour	5 – 7 Days / 1 Hour	220 Minutes 150 Minutes 130 Minutes		3 – 5 Days / 1 Hour	24 Hours	1 Hour	5 Days / 1 Hour
	StorageTemperature (°F / °C)	40 °F / 4 °C	40 °F / 4 °C	40 °F / 4 °C		77 °F / 25 °C	77 °F / 25 °C	77 °F / 25 °C	77 °F / 25 °C
	Pot Life (minutes / lb) / (minutes / kg)	> 30 minutes / 450 Gram Mass	40 – 50 minutes / 450 Gram Mass	120 Minutes / 250 Gram Mass		90 Minutes / 450 Gram Mass	20 – 30 Minutes / 100 Gram Mass	7 Hours / 450 Gram Mass	95 – 100 Minutes / 450 Gram Mass
Product	New Product Name	**LOCTITE EA 956 AERO**	**LOCTITE EA 934NA AERO**	**LOCTITE EA 9390 AERO**		**LOCTITE EA 9394 AERO**	**LOCTITE EA 9394.2 AERO**	**LOCTITE EA 9394/C-2 AERO**	**LOCTITE EA 9395 AERO**
	Known As	Hysol® EA 956™	Hysol® EA 934NA™	Hysol® EA 9390™		Hysol® EA 9394™	Hysol® EA 9394.2™	Hysol® EA 9394™ / C-2™	Hysol® EA 9395™
Availability	Packaging	Clip Pack, Gallon Kit, Gram Kit Pint Kit, Quart Kit	Barrier Kit, Clip Pack, Gallon Kit, Gram Kit, Pint Kit, Quart Kit"	Quart Kit, Gram Kit, Clip Pack, Barrier Kit		55-Gallon Kit, 5-Gallon Kit, Clip Pack, Dual Cartridge, Gram Kit, Pint Kit, Quart Kit	Dual Cartridge, Pint Kit, Quart Kit, Clip Pack, Gallon Kit, 5-Gallon Kit	Quart Kit, Injection Kit, Clip Pack	Quart Kit, Injection Kit, Clip Pack, 5-Gallon Kit, Gallon Kit
Description		**LOCTITE EA 956 AERO** is a two-component, adhesive, which has excellent elevated temperature strength. Its room temperature cure capability and low viscosity make it ideal for repair applications, including laminating, injection, and coating.	**LOCTITE EA 934NA AERO** is a two-component thixotropic paste adhesive, which cures at room temperature and possesses superior strength to 300 °F / 149 °C and higher. Its thixotropic nature and good compressive strength make it ideal for potting, filling, and fairing, as well as for shim applications.	**LOCTITE EA 9390 AERO** • Good Hot/Wet Strength • Good Wetting • High Shear Modulus		**LOCTITE EA 9394 AERO** • Good Gap Filling Capabilities • Potting Material • Room Temperature Storage • Outstanding Mechanical Properties • Long Pot Life • Low Toxicity	**LOCTITE EA 9394.2 AERO** is a fast curing two-part structural paste adhesive, which cures at room temperature. Its thixotropic nature makes it ideal for potting, filling, and liquid shim applications.	**LOCTITE EA 9394/C-2 AERO** is an elevated temperature curing, high service temperature structural paste adhesive. It uses a non-aromatic amine curing agent that retains many of the excellent properties offered by aromatic amine cured systems, high temperature service with a long pot life.	**LOCTITE EA 9395 AERO** • Non-Metallic Filler • Cures at Ambient Temperature • Thixotropic • Excellent Mechanical Properties • Good Compressive Strength

Metal, Honeycomb Bonding & Repair

Characteristics	180°F / 82°C Service							•	•
	300°F / 149°C Service	•	•						
	350°F / 177°C Service			•		•	•		
	450°F / 232°C Service								
	Improved Hot / Wet Properties	•	•						
	Toughened	•		•		•			•
	Consistency	Low Viscosity	Low Viscosity	Moderate Viscosity		Thixotropic	Thixotropic	Thixotropic	Moderate Viscosity
	Form	2 Part	2 Part	2 Part		2 Part	2 Part	2 Part	2 Part
	Peel Strength	Moderate	Low	High		High	Low	Nil	High
Mechanical Properties	Bell Peel 77°F (lb / in) 25°C (N / 25 mm)	25 lbs / in 111 N / 25 mm	15 lbs / in 67 N / 25 mm	25 lbs / in 111 N / 25 mm		40 lbs / in 178 N / 25 mm	20 lbs / in 90 N / 25 mm	–	40 lbs / in 178 N / 25 mm
	TENSILE LAP SHEAR -67°F (psi) / -55°C (Mpa)'	3,300 psi / 22.8 MPa	2,500 psi / 17.2 MPa	6,700 psi / 46.2 MPa		3,500 psi / 24.1 MPa	3,300 psi / 22.7 MPa	–	4600 psi / 31.7 Mpa
	TENSILE LAP SHEAR 77°F (psi) / 25°C (Mpa)	3,500 psi / 24.1 MPa	4,600 psi / 31.7 MPa	6,100 psi / 42.1 MPa		4,300 psi / 29.6 MPa	4,200 psi / 28.9 MPa	1,650 psi / 11.4 MPa	5400 psi / 37.2 Mpa
	TENSILE LAP SHEAR 180°F (psi) / 82°C (Mpa)	3,200 psi / 22.0 MPa	4,100 psi / 28.3 MPa	1,300 psi / 9.0 MPa		2,500 psi / 17.2 MPa	3,000 psi / 20.7 MPa	525 psi / 3.6 MPa	1000 psi / 6.9 Mpa
	TENSILE LAP SHEAR Elevated Temperature (psi / MPa)	1,250 psi / 8.6 MPa	2,500 psi / 17.2 MPa	–		1,000 psi / 6.9 MPa	600 psi / 4.1 MPa	–	–
Bulk Properties	Tg Dry (°F / °C)	208 °F / 98 °C	226°F / 108°C	127 °F / 53 °C		164 °F / 73 °C	172 °F / 78 °C	248 °F / 120 °C	174°F / 79°C
	Tg Wet (°F / °C)	145 °F / 63 °C	232°F / 111°C	147 °F / 64 °C		144 °F / 62 °C	154 °F / 68 °C	–	138°F / 59°C
	Tensile Strength @ 77°F (psi) / 25°C (MPa)	8,000 psi / 55.2 MPa	–	4,500 psi / 31 MPa		6,000 psi / 41.3 MPa	6,675 psi / 46.0 MPa	–	5400 psi / 37.2 Mpa
	Tensile Modulus @ 77°F (ksi) / 25°C (MPa)	400 ksi / 2,750 MPa	–	338 ksi / 2,331 MPa		475 ksi / 3,273 MPa	615 ksi / 4,237 MPa	–	–
	Elongation @ 77°F / 25°C (% at break)	3,40 %	–	10,00 %		4,00 %	1,70 %	–	4,80%
	Compressive Strength @ 77°F (psi) / 25°C (MPa)	70,000 psi / 482.8 MPa	14,000 psi / 96.6 MPa	7,000 psi / 48.2 MPa		9,300 psi / 64.1 MPa	10,000 psi / 68.9 MPa	3,270 psi / 22.5 MPa	7700 psi / 53 MPa
	Compressive Modulus @ 77°F (ksi) / 25°C (MPa)	8,000 psi / 55,150 MPa	–	249 ksi / 1,716 MPa		–	–	172.5 ksi / 1,188 MPa	218 Ksi / 1502 MPa
Handling	Mix RatioWeight (PartA / Part B)	100 : 30	100 : 36	100 : 30		100 : 32	–	100 : 40	100 : 22
	CureTemperature (°F / °C)	77 – 150 °F / 25 - 66 °C	200 °F / 93 °C	77 °F / 25 °C 150 °F / 66 °C		77 °F / 25 °C 180 °F / 82 °C	77 – 200 °F / 25 – 93 °C	77 °F / 25 °C	77 – 200 °F / 25 – 93°C
	CureTime	3 – 5 Days / 1 Hour	1 Hour	3 – 5 Days / 1 Hour		5 – 7 Day / 1 Hour	3 – 5 Days / 1 Hour	24 Hours	5 Days
	StorageTemperature (°F / °C)	77 °F / 25 °C	77 °F / 25 °C	77 °F / 25 °C		82 °F / 28 °C	82 °F / 28 °C	82 °F / 28 °C	82 °F / 28°C
	Pot Life (minutes / lb) / (minutes / kg)	120 Minutes / 100 Gram Mass	7 Hours / 450 Gram Mass	120 Minutes / 100 Gram Mass		75 Minutes / 100 Gram Mass	90 Minutes / 450 Gram Mass	20 Minutes / 400 Gram Mass	30 Minutes / 450 Gram Mass
Product	New Product Name	**LOCTITE EA 9396 AERO**	**LOCTITE EA 9396/C-2 AERO**	**LOCTITE EA 9309NA AERO**		**LOCTITE EA 9392 AERO**	**LOCTITE EA 9394S AERO**	**LOCTITE EA 9891RP AERO**	**LOCTITE EA 9309.2 AERO**
	Known As	Hysol® EA 9396™	Hysol® EA 9396™ / C-2™	Hysol® EA 9309NA™		Hysol® EA 9392™	Hysol® EA 9394S™	Hysol® EA 9891RP™	Hysol® EA 9309.2™
Availability	Packaging	50-Gram Kit, 5-Gallon Kit, Barrier Kit, Clip Pack, Gallon Kit, Gram Kit, Injection Kit, Pint Kit, Quart Kit	Quart Kit	Pint Kit, Quart Kit, Gallon Kit, Clip Pack, Injection Kit		Quart Kit	Injection Kit	Barrier Kit, Quart Kit	Pudding Cup, Quart Kit
Description		**LOCTITE EA 9396 AERO** is a two-component, adhesive, which has excellent elevated temperature strength. Its room temperature cure capability and low viscosity make it ideal for repair applications, including laminating, injection, and coating.	**LOCTITE EA 9396/C-2 AERO** is a two-component thixotropic paste adhesive, which cures at room temperature and possesses superior strength to 300 °F / 149 °C and higher. Its thixotropic nature and good compressive strength make it ideal for potting, filling, and fairing, as well as for shim applications.	**LOCTITE EA 9309NA AERO** • High Peel Strength • Bonds Many Surfaces		**LOCTITE EA 9392 AERO** is a paste adhesive, which possesses excellent shear strength at high temperatures. This product exhibits excellent toughness and yields durable bonds over a wide temperature range.	**Loctite EA 9394S AERO** is a two-part structural paste adhesive, which possesses excellent strength at high temperatures. Its thixotropic nature and excellent high temperature compressive strength also make it ideal for potting, filling and liquid shim applications.	**LOCTITE EA 9891RP AERO** iis a two-component room temperature curing, abrasion resistant repair paste adhesive suitable for repairing LOCTITE EF 9890 AERO abradable seal.	**LOCTITE EA 9309.2 AERO** is a two part epoxy sytem bonds metal skins and honeycomb core to yield tough permanently flexible joints that resist humidity, water and most common fluids. Its outstanding feature is high shear and peel strength on aluminum bonds at moderate temperatures.

When structural integrity matters:

LOCTITE composite bonding and repair adhesives

Concerning critical aircraft components, some questions might come up

In order to preserve the structural integrity of critical aircraft components, manufacturers need the right adhesives to bond or join composite sub-components with excellent chemical resistance, variable viscosity and extraordinary mechanical performance.

Henkel gives a strong answer: LOCTITE composite bonding adhesives

LOCTITE products for composite bonding fulfill all these requirements and allow engineers to create efficient structures. No fasteners are needed. They offer lower adherent thickness, let you take advantage of stiffness properties of composites and provide a separation of dissimilar materials.

Why choose LOCTITE composite bonding adhesives?

› Easy to mix
› Good environmental resistance
› Sag resistant
› High shear & peel strength
› Bond line thickness control

LOCTITE composite bonding adhesives: Facts at a glance

LOCTITE composite bonding adhesives key features:

› High service temperature
› Prepreg
› Compatibility with aerospace systems
› Good wetting of metallic and composite surfaces
› High mechanical performance
› Toughness tailorable to requirements
› Variations in form: One or two part
› Variable viscosity to fit application requirements
› Excellent chemical resistance vs. solvents and water

Key factors to consider when choosing the right LOCTITE composite bonding adhesive

› Viscosity
› Shelf life / out-time
› Cure temperature
› Glass transition temperature (Tg)

Composite Bonding and Repair

Characteristics	180°F / 82°C Service	•	•	•
	300°F / 149°C Service			
	350°F / 177°C Service			
	450°F / 232°C Service			
	Improved Hot / Wet Properties	•		
	Toughened	•	•	•
	Consistency	Moderate Viscosity	Moderate Viscosity	Thixotropic
	Form	2 Part	2 Part	2 Part
	Peel Strength	High	High	High
Mechanical Properties	Bell Peel 77°F (lb / in) 25°C (N / 25 mm)	94 lbs / in 418 N / 25mm	92 lbs / in 409 N / 25 mm	93 lbs / in 414 N / 25 mm
	TENSILE LAP SHEAR -67°F (psi) / -55°C (Mpa)'	5,500 psi / 38.0 MPa	5,000 psi / 34.5 MPa	5,700 psi / 39.3 MPa
	TENSILE LAP SHEAR 77°F (psi) / 25°C (Mpa)	5,000 psi / 34.5 MPa	5,000 psi / 34.5 Mpa	4,900 psi / 33.8 Mpa
	TENSILE LAP SHEAR 180°F (psi) / 82°C (Mpa)	750 psi / 5.2 MPa	1,000 psi / 6.9 MPa	1,100 psi / 7.6 MPa
	TENSILE LAP SHEAR Elevated Temperature (psi / MPa)	–	–	–
Bulk Properties	Tg Dry (°F / °C)	142 °F / 61 °C	135 °F / 57 °C	129 °F / 54 °C
	Tg Wet (°F / °C)	147 °F / 64 °C	–	–
	Tensile Strength @ 77°F (psi) / 25°C (MPa)	4,670 psi / 32.2 MPa	5,600 psi / 38.6 MPa	6,100 psi / 42.0 MPa
	Tensile Modulus @ 77°F (ksi) / 25°C (MPa)	334 ksi / 2,303 MPa	384 ksi / 2,646 MPa	390 ksi / 2,687 MPa
	Elongation @ 77°F / 25°C (% at break)	10,00 %	2,40 %	9,00 %
	Compressive Strength @ 77°F (psi) / 25°C (MPa)	7,500 psi / 51.7 MPa	7,700 psi / 53.1 MPa	–
	Compressive Modulus @ 77°F (ksi) / 25°C (MPa)	245 ksi / 1,688 MPa	253 ksi / 1,743 MPa	–
Handling	Mix RatioWeight (PartA / Part B)	100 : 22	100 : 33	100 : 33
	CureTemperature (°F / °C)	77 °F / 25 °C 180 °F / 82 °C“	77 – 200 °F / 25 – 93 °C	› 77 – 200 °F / › 25 – 93 °C
	CureTime	3 – 5 Days / 1 Hour	5 – 7 Days / 1 Hour	5 – 7 Days / 1 Hour
	StorageTemperature (°F / °C)	77 °F / 25 °C	77 °F / 25 °C	77 °F / 25 °C
	Pot Life (minutes / lb) / (minutes / kg)	35 minutes / 450 Mram Mass	60 Minutes / 100 Gram Mass	60 Minutes / 100 Gram Mass
Product	New Product Name	**LOCTITE EA 9309.3NA AERO**	**LOCTITE EA 9330 AERO**	**LOCTITE EA 9330.3 AERO**
	Known As	Hysol® EA 9309.3NA™	Hysol® EA 9330™	Hysol® EA 9330.3™
Availability	Packaging	Clip Pack, Gallon Kit, Gram Kit, Injection Kit, Quart Kit	Barrier Kit, Gram Kit, Gallon Kit	Quart Kit, Clip Pack
Description		**LOCTITE EA 9309.3NA AERO** • High Shear Strength • High Peel Strength • Bondline Thickness Control • Good Environmental Resistance	**LOCTITE EA 9330 AERO** • Two Component System • Tolerant of Bondline Thickness Variations • Room Temperature Cure • High Peel Strength • Excellent Environmental Resistance	**LOCTITE EA 9330.3 AERO** • Two Component System • Low Slump • Room Temperature Cure • Easy Mix • High Peel Strength

Composite Bonding and Repair

Characteristics	180°F / 82°C Service	•	•	•		•	•		
	300°F/149°C Service							•	•
	350°F / 177°C Service								
	450°F / 232°C Service								
	Improved Hot / Wet Properties	•	•	•		•		•	•
	Toughened	•	•	•		•			•
	Consistency	Thixotropic	Thixotropic	Thixotropic		Thixotropic	Moderate Viscosity	Low Viscosity	Thixotropic
	Form	2 Part	2 Part	2 Part		2 Part	2 Part	2 Part	2 Part
	Peel Strength	High	High	High		High	Low	Nil	Low
Mechanical Properties	Bell Peel 77°F (lb / in) 25°C (N / 25 mm)	75 lbs / in 335 N / 25 mm	60 lbs / in 265 N / 25 mm	50 lbs / in 178 N / 25 mm		40 lbs / in 220 N / 25 mm	20 lbs / in 89 N / 25 mm	–	20 lbs / in 89 N / 25 mm
	TENSILE LAP SHEAR -67°F (psi) / -55°C (Mpa)‘	4,000 psi / 27.6 MPa	4,000 psi / 27.6 MPa	4,650 psi / 32.1 MPa		4,000 psi / 27.6 MPa	–	2,200 psi / 15.2 MPa	3,300 psi / 22.7 MPa
	TENSILE LAP SHEAR 77°F (psi) / 25°C (Mpa)	4,500 psi / 31.0 MPa	5,000 psi / 34.5 MPa	5,350 psi / 36.9 Mpa		5,100 psi / 35.0 MPa	4,370 psi / 30.1 MPa	2,600 psi / 17.9 MPa	4,200 psi / 28.9 MPa
	TENSILE LAP SHEAR 180°F (psi) / 82°C (Mpa)	2,000 psi / 13.8 MPa	3,000 psi / 20.7 MPa	4,200 psi / 29.0 MPa		4,000 psi / 27.5 MPa	–	3,000 psi / 20.7 MPa	3,000 psi / 20.7 MPa
	TENSILE LAP SHEAR Elevated Temperature (psi / MPa)	1,000 psi / 6.9 MPa	950 psi / 6.5 Mpa	2,500 psi / 17.2 MPa		1,750 psi / 12 MPa	–	1,700 psi / 11.7 MPa	1,200 psi / 8.3 MPa
Bulk Properties	Tg Dry (°F / °C)	134°F / 51°C	151 °F / 66 °C	200 °F / 93 °C		223 °F / 106 °C	–	345 °F / 174 °C	172 °F / 78 °C
	Tg Wet (°F / °C)	150 °F / 66 °C	–	225 °F / 108 °C		192 °F / 89 °C	–	302 °F / 150 °C	154 °F / 68 °C
	Tensile Strength @ 77°F (psi) / 25°C (MPa)	5300 psi / 36.6 MPa	–	–		–	–	8,200 psi / 56.5 MPa	6,675 psi / 46.0 MPa
	Tensile Modulus @ 77°F (ksi) / 25°C (MPa)	310 ksi / 2,136 MPa	487.2 ksi / 3360 MPa	–		–	–	418 ksi / 2,880 MPa	615 ksi / 4,237 MPa
	Elongation @ 77°F / 25°C (% at break)	7,70 %	5,00 %	–		–	–	2,50 %	1,77%
	Compressive Strength @ 77°F (psi) / 25°C (MPa)	7,700 psi / 53.1 MPa	9,878 psi / 68 MPa	11,300 psi / 78 MPa		–	–	5,300 psi / 36.6 MPa	10,000 psi / 68.9 MPa
	Compressive Modulus @ 77°F (ksi) / 25°C (MPa)	–	368 ksi / 2,538 MPa	355 ksi / 2,950 MPa		–	–	–	–
Handling	Mix RatioWeight (PartA / Part B)	100 : 44	100 : 43	100 : 55		100 : 45	100 : 42.4	100 : 56	100 : 17
	CureTemperature (°F / °C)	77–- 180 °F / 25 – 82 °C	77 – 180 °F / 25 – 82 °C	≥ 160 – 175 °F / 70 – 80 °C		180 – 220 °F / 82 – 104 °C	> 77 °F / 25 °C 180 °F / 83 °C“	200 °F / 93 °C 250 °F / 121 °C 300 °F / 149 °C“	77 – 200 °F / 25 – 93 °C
	CureTime	5 – 7 Days / 1 Hour	5 – 7 Days/ 1 Hour	240 Minutes		2 hours / 1 hour	5 – 7 Days / 1 Hour	220 Minutes 150 Minutes 130 Minutes	3 – 5 Days / 1 Hour
	StorageTemperature (°F / °C)	77 °F / 25 °C	77 °F / 25 °C	40 °F / 4 °C		40 °F / 4 °C	77 °F / 25 °C	40 °F / 4 °C	77 °F / 25 °C
	Pot Life (minutes / lb) / (minutes / kg)	60 Minutes / 100 Gram Mass / 50 Minutes / 200 Gram Mass / 40 Minutes / 450 Gram Mass	50 Minutes / 200 Gram Mass	180 Minutes / 500 Gram Mass		300 Minutes / 500 Gram Mass	60 Minutes / 20 Gram Mass	120 Minutes / 250 Gram Mass	90 Minutes/ 450 Gram Mass
Product	New Product Name	**LOCTITE EA 9359.3 AERO**	**LOCTITE EA 9360 AERO**	**LOCTITE EA 9380 AERO**		**LOCTITE EA 9380.05 AERO**	**LOCTITE EA 9364FR AERO**	**LOCTITE EA 9390 AERO**	**LOCTITE EA 9394 AERO**
	Known As	Hysol® EA 9359.3™	Hysol® EA 9360™	Hysol® EA 9380™NEW!		Hysol® EA 9380.05	Hysol® EA 9364FR™	Hysol® EA 9390™	Hysol® EA 9394™
Availability	Packaging	Quart Kit, Dual Cartridge, Gallon Kit“	Quart Kit, Dual Cartridge, Gallon Kit	Dual Cartridge, Barrier Kit, Quart Kit		–	–	Quart Kit, Gram Kit, Clip Pack, Barrier Kit	55-Gallon Kit, 5-Gallon Kit, Clip Pack, Dual Cartridge, Gram Kit, Pint Kit, Quart Kit
Description		**LOCTITE EA 9359.3 AERO** • Easy Mix • Good Environmental Resistance • Non Sag • High Shear Strength • Bondline Thickness Control • High Peel Strength • Available in 2:1 Dual Cartridge with Static Mixer	**LOCTITE EA 9360 AERO** • Available in dual cartridge packaging • High peel strength • Excellent static stress durability • >225°F (107°C) service • Easy mixing two component system • Room temperature cure • Low Slump	**LOCTITE EA 9380 AERO** • Low temp curing two-part adhesive • Meter mixable • High strength, toughness and high temp resistance • Prebond humidity resistant		**LOCTITE EA 9380.05 AERO** • Low temp curing two-part adhesive • Meter mixable • High strength, toughness and high temp resistance • Prebond humidity resistant	**LOCTITE EA 9364FR AERO** is a two-component flame retardant toughened paste adhesive, with excellent mechanical performance. It contains no halogenated resins common in many other flame retardant products.	**LOCTITE EA 9390 AERO** • Good Hot/Wet Strength • Good Wetting • High Shear Modulus	**LOCTITE EA 9394 AERO** • Good Gap Filling Capabilities • Potting Material • Room Temperature Storage • Outstanding Mechanical Properties • Long Pot Life • Low Toxicity

Composite Bonding and Repair

Characteristics	180°F / 82°C Service		•	•					
	300°F/149°C Service	•					•	•	•
	350°F / 177°C Service								
	450°F / 232°C Service					•			
	Improved Hot / Wet Properties						•	•	•
	Toughened	•	•	•			•	•	
	Consistency	Thixotropic	Moderate Viscosity	Moderate Viscosity		Moderate Viscosity	Thixotropic	Low Viscosity	Low Viscosity
	Form	2 Part	2 Part	2 Part		2 Part	2 Part	2 Part	2 Part
	Peel Strength	Nil	High	High		Low	Low	Moderate	Low
Mechanical Properties	Bell Peel 77°F (lb / in) 25°C (N / 25 mm)	20 lbs / in 90 N / 25 mm	44 lbs / in 196 N / 25 mm	65 lbs / in 289 N / 25 mm		10 lbs / in 45 N / 25 mm	15 lbs / in 67 N / 25 mm	25 lbs / in 111 N / 25 mm	15 lbs / in 67 N / 25 mm
	TENSILE LAP SHEAR -67°F (psi) / -55°C (Mpa)‘	2,700 psi / 18.6 MPa	–	6,525 psi / 45 MPa		3,500 psi / 24.1 MPa	2,300 psi / 15.8 MPa	3,300 psi / 22.8 MPa	2,500 psi / 17.2 MPa
	TENSILE LAP SHEAR 77°F (psi) / 25°C (Mpa)	4,910 psi / 33.9 MPa	4,800 psi / 33.1 MPa	6,525 psi / 45 MPa		5,000 psi / 34.5 MPa	4,300 psi / 29.7 MPa	3,500 psi / 24.1 MPa	4,600 psi / 31.7 MPa
	TENSILE LAP SHEAR 180°F (psi) / 82°C (Mpa)	3,140 psi / 21.7 MPa	–	3,625 psi / 25 MPa		4,000 psi / 27.5 MPa	3,500 psi / 24.1 MPa	3,200 psi / 22.0 MPa	4,100 psi / 28.3 MPa
	TENSILE LAP SHEAR Elevated Temperature (psi / MPa)	1,640 psi / 11.3 MPa	–	–		2,500 psi / 17.2 MPa	1,200 psi / 8.3 MPa	1,250 psi / 8.6 MPa	2,500 psi / 17.2 MPa
Bulk Properties	Tg Dry (°F / °C)	158 °F / 70 °C	208 °F / 98 °C	–		–	163 °F / 73 °C	208 °F / 98 °C	226°F / 108°C
	Tg Wet (°F / °C)	196 °F / 91 °C	145 °F / 63 °C	–		–	246 °F / 119 °C	145 °F / 63 °C	232°F / 111°C
	Tensile Strength @ 77°F (psi) / 25°C (MPa)	–	–	–		–	8,070 psi / 55.6 MPa	8,000 psi / 55.2 MPa	–
	Tensile Modulus @ 77°F (ksi) / 25°C (MPa)	–	–	–		–	717 ksi / 4,940 MPa	400 ksi / 2,750 MPa	–
	Elongation @ 77°F / 25°C (% at break)	–	–	–		–	2,60 %	3,40 %	–
	Compressive Strength @ 77°F (psi) / 25°C (MPa)	11,329 psi / 78.1 MPa	–	–		32,000 psi / 220.7 MPa	14,000 psi / 94.5 MPa	70,000 psi / 482.8 MPa	14,000 psi / 96.6 MPa
	Compressive Modulus @ 77°F (ksi) / 25°C (MPa)	–	–	–		–	429 ksi / 2.956 MPa	8,000 psi / 55,150 MPa	–
Handling	Mix RatioWeight (PartA / Part B)	100 : 27	100 : 35	100 : 43		100 : 20	100 : 17	100 : 30	100 : 36
	CureTemperature (°F / °C)	77 °F / 25 °C	> 77 °F / 25 °C 150 °F / 66 °C“	> 77 °F / 25 °C 150 °F / 66 °C“		> 200 °F / 93 °C	77 – 150 °F / 25 - 66 °C	77 – 150 °F / 25 - 66 °C	200 °F / 93 °C
	CureTime	24 Hours	5 Days / 1 Hour	5 –7 Days / 2 Hours		1 Hour	5 Days / 1 Hour	3 – 5 Days / 1 Hour	1 Hour
	StorageTemperature (°F / °C)	77 °F / 25 °C	82 °F / 28 °C	82 °F / 28 °C		77 °F / 25 °C	77 °F / 25 °C	77 °F / 25 °C	77 °F / 25 °C
	Pot Life (minutes / lb) / (minutes / kg)	20 – 30 Minutes / 100 Gram Mass	90 Minutes/ 400 Gram Mass	30 Minutes / 100 Gram Mass		7 Hours / 450 Gram Mass	95 – 100 Minutes / 450 Gram Mass	120 Minutes / 100 Gram Mass	7 Hours / 450 Gram Mass
Product	New Product Name	**LOCTITE EA 9394.2 AERO**	**LOCTITE EA 9345 AERO**	**LOCTITE EA 9363 AERO**		**LOCTITE EA 9394/C-2 AERO**	**LOCTITE EA 9395 AERO**	**LOCTITE EA 9396 AERO**	**LOCTITE EA 9396/C-2 AERO**
	Known As	Hysol® EA 9394.2™	Hysol® EA 9345™	Hysol® EA 9363™		Hysol® EA 9394™ / C-2™	Hysol® EA 9395™	Hysol® EA 9396™	Hysol® EA 9396™ / C-2™
Availability	Packaging	Dual Cartridge, Pint Kit, Quart Kit, Clip Pack, Gallon Kit, 5-Gallon Kit	Gallon Kit	5-Gallon Kit, Gallon Kit		Quart Kit, Injection Kit, Clip Pack	Quart Kit, Injection Kit, Clip Pack, 5-Gallon Kit, Gallon Kit	50-Gram Kit, 5-Gallon Kit, Barrier Kit, Clip Pack, Gallon Kit, Gram Kit, Injection Kit, Pint Kit, Quart Kit“	Quart Kit
Description		**LOCTITE EA 9394.2 AERO** is a fast curing two-part structural paste adhesive, which cures at room temperature. Its thixotropic nature makes it ideal for potting, filling, and liquid shim applications.	**LOCTITE EA 9345 AERO** • Long Pot Life • Non-Asbestos • Toughened	**LOCTITE EA 9363 AERO** is a two-component toughened paste adhesive, which combines high peel strength at room temperature with tensile lap shear strength at 200 °F / 93 °C.		**LOCTITE EA 9394/C-2 AERO** is an elevated temperature curing, high service temperature structural paste adhesive. It uses a non-aromatic amine curing agent that retains many of the excellent properties offered by aromatic amine cured systems, high temperature service with a long pot life.	**LLOCTITE EA 9395 AERO** • Non-Metallic Filler • Cures at Ambient Temperature • Thixotropic • Excellent Mechanical Properties • Good Compressive Strength	**LOCTITE EA 9396 AERO** • Low Viscosity • Room Temperature Cure • Room Temperature Storage • High Strength at Low and High Temperatures	**LOCTITE EA 9396/C-2 AERO** • Low Viscosity • Long Work Life • Non-MDA Curing Agent • Ideal for use as Neat Lay-up Resin

Composite Bonding and Repair

Characteristics	180°F / 82°C Service					•		•
	300°F/149°C Service						•	
	350°F / 177°C Service	•	•	•				
	450°F / 232°C Service							
	Improved Hot / Wet Properties							
	Toughened	•	•			•		•
	Consistency	Moderate Viscosity	Thixotropic	Thixotropic		Moderate Viscosity	Thixotropic	Moderate Viscosity
	Form	2 Part	2 Part	2 Part		2 Part	2 Part	2 Part
	Peel Strength	High	High	Low		High	Nil	High
Mechanical Properties	Bell Peel 77°F (lb / in) 25°C (N / 25 mm)	25 lbs / in 111 N / 25 mm	40 lbs / in 178 N / 25 mm	20 lbs / in 90 N / 25 mm		35 lbs / in 150 N / 25 mm	–	40 lbs / in 178 N / 25 mm
	TENSILE LAP SHEAR -67°F (psi) / -55°C (Mpa)'	6,700 psi / 46.2 MPa	3,500 psi / 24.1 MPa	3,300 psi / 22.7 MPa		4,900 psi / 33.8 MPa	2,000 psi / 13.8 MPa	4600 psi / 31.7 Mpa
	TENSILE LAP SHEAR 77°F (psi) / 25°C (Mpa)	6,100 psi / 42.1 MPa	4,300 psi / 29.6 MPa	4,200 psi / 28.9 MPa		5,000 psi / 34.5 MPa	2,200 psi / 15.2 MPa	5400 psi / 37.2 Mpa
	TENSILE LAP SHEAR 180°F (psi) / 82°C (Mpa)	1,300 psi / 9.0 MPa	2,500 psi / 17.2 MPa	3,000 psi / 20.7 MPa		2,300 psi / 15.9 MPa	700 psi / 4.8 MPa	1000 psi / 6.9 Mpa
	TENSILE LAP SHEAR Elevated Temperature (psi / MPa)	–	1,000 psi / 6.9 MPa	600 psi / 4.1 MPa		–	–	–
Bulk Properties	Tg Dry (°F / °C)	127 °F / 53 °C	164 °F / 73 °C	172 °F / 78 °C		180 °F / 82 °C	150 °F / 66 °C	174°F / 79°C
	Tg Wet (°F / °C)	147 °F / 64 °C	144 °F / 62 °C	154 °F / 68 °C		–	175 °F / 79 °C	138°F / 59°C
	Tensile Strength @ 77°F (psi) / 25°C (MPa)	4,500 psi / 31 MPa	6,000 psi / 41.3 MPa	6,675 psi / 46.0 MPa		5,000 psi / 34.5 MPa	2200 psi / 15.2 MPA	5400 psi / 37.2 Mpa
	Tensile Modulus @ 77°F (ksi) / 25°C (MPa)	338 ksi / 2,331 MPa	475 ksi / 3,273 MPa	615 ksi / 4,237 MPa		330 ksi / 2,274 MPa	–	–
	Elongation @ 77°F / 25°C (% at break)	10,00 %	4,00 %	1,70 %		9,00 %	–	4,80%
	Compressive Strength @ 77°F (psi) / 25°C (MPa)	7,000 psi / 48.2 MPa	9,300 psi / 64.1 MPa	10,000 psi / 68.9 MPa		8,000 psi / 55.1 MPa	–	7700 psi / 53 MPa
	Compressive Modulus @ 77°F (ksi) / 25°C (MPa)	249 ksi / 1,716 MPa	–	–		265 ksi / 1,826 MPa	–	218 Ksi / 1502 MPa
Handling	Mix RatioWeight (PartA / Part B)	100 : 30	100 : 32	–		100 : 19	100 : 50	100 : 22
	CureTemperature (°F / °C)	77 °F / 25 °C 150 °F / 66 °C“	77 °F / 25 °C 180 °F / 82 °C“	77 – 200 °F / 25 – 93 °C“		> 77 – 200°F / > 25 - 93°C	77 – 160 °F / 25 – 71 °C	77 – 200 °F / 25 – 93°C
	CureTime	3 – 5 Days / 1 Hour	5 – 7 Day / 1 Hour	3 – 5 Days/ 1 Hour		5 – 7 Days / 1 Hour	24 Hours / 1 Hour	5 Days
	StorageTemperature (°F / °C)	77 °F / 25 °C	82 °F / 28 °C	82 °F / 28 °C		77 °F / 25 °C	77 °F / 25 °C	82 °F / 28°C
	Pot Life (minutes / lb) / (minutes / kg)	120 Minutes / 100 Gram Mass	75 Minutes / 100 Gram Mass	90 Minutes / 450 Gram Mass		25 Minutes / 200 Gram Mass	30 minutes / 100 Gram Mass	30 Minutes / 450 Gram Mass
Product	New Product Name	**LOCTITE EA 9309NA AERO**	**LOCTITE EA 9392 AERO**	**LOCTITE EA 9394S AERO**		**LOCTITE EA 9320NA AERO**	**LOCTITE EA 960F AERO**	**LOCTITE EA 9309.2 AERO**
	Known As	Hysol® EA 9309NA™	Hysol® EA 9392™	Hysol® EA 9394S™		Hysol® EA 9320NA™	Hysol® EA 960F™	Hysol® EA 9309.2™
Availability	Packaging	Pint Kit, Quart Kit, Gallon Kit, Clip Pack, Injection Kit	Quart Kit	Injection Kit		Quart Kit, Gallon Kit, Injection Kit	50-Gram Kit, 5-Gallon Kit, Clip Pack, Gallon Kit, Quart Kit	Pudding Cup, Quart Kit
Description		**LOCTITE EA 9309NA AERO** • High Peel Strength • Bonds Many Surfaces	**LOCTITE EA 9392 AERO** is a paste adhesive, which possesses excellent shear strength at high temperatures. This product exhibits excellent toughness and yields durable bonds over a wide temperature range.	**Loctite EA 9394S AERO** is a two-part structural paste adhesive, which possesses excellent strength at high temperatures. Its thixotropic nature and excellent high temperature compressive strength also make it ideal for potting, filling and liquid shim applications.		**LOCTITE EA 9320NA AERO** is a two-component paste adhesive with good peel strength as well as elevated temperature resistance.	**LOCTITE 960F AERO** iis a fairing and smoothing compound for exterior aircraft surfaces. It is a two-component system, which cures rapidly at room temperature. It is color coded to identify when fully mixed.	**LOCTITE EA 9309.2 AERO** is a two part epoxy sytem bonds metal skins and honeycomb core to yield tough permanently flexible joints that resist humidity, water and most common fluids. Its outstanding feature is high shear and peel strength on aluminum bonds at moderate temperatures.

Notes

LOCTITE fire retardant

Be sure to protect your aircraft from fire

For aircrafts, fire breakout is one of the most dangerous incidents. By using the right fire retardant on honeycomb panels for edge close out, insert bonding or potting, aircraft manufacturers can do their best to protect their aircraft.

Especially developed for the highest safety standards: LOCTITE fire retardant

Henkel has developed special flame retardant products for aircraft interior applications. They are toughened paste adhesive with superior dispense rate and high compressive strength potting compound. LOCTITE flame retardants are halogens, antimony and phenol-free.

Why choose LOCTITE fire retardant?

- Easy to apply
- Room temperature storage
- Provide excellent mechanical properties
- Offer long mixed working life
- Supplied in cartridges

LOCTITE fire retardant: **Facts at a glance**

LOCTITE fire retardants key features:

- Two component product
- Halogens, antimony and phenol-free
- Slump resistant
- Excellent strength after cure

Characteristics	180°F / 82°C Service	•	•
	350°F / 177°C Service		
	Consistency	Moderate Viscosity	
	Form	2 Part	
	Peel Strength	Low	
Mechanical Properties	Bell Peel @ 77°F (lb / in) / 25°C (N / 25 mm)	20 lbs / in 89 N / 25 mm	–
	TENSILE LAP SHEAR 77°F (psi) / 25°C (Mpa)	4,370 psi / 30.1 MPa	–
Handling	Mix RatioWeight (PartA / Part B)	100 : 42.4	
	CureTemperature (°F / °C)	> 77 °F / 25 °C 180 °F / 83 °C	250 °F / 121 °C or 350 °F / 177 °C
	CureTime	5 – 7 Days / 1 Hour	90 Minutes / 60 Minutes
	StorageTemperature (°F / °C)	77 °F / 25 °C	0 °F / -18 °C
	Pot Life (minutes / lb) / (minutes / kg)	60 Minutes / 20 Gram Mass	–
Product	New Product Name	**LOCTITE EA 9364FR AERO**	**LOCTITE EF 562SFR AERO**
	Known As	Hysol® EA 9364FR™	Hysol® MA 562SFR™
Availability	Packaging	Dual Cartridge, Gallon Kit	Sheet
Description		**LOCTITE EA 9364FR AERO** is a two-component flame retardant toughened paste adhesive, with excellent mechanical performance. It contains no halogenated resins common in many other flame retardant products.	LOCTITE EF 562SFR AERO is an expanding foam adhesive, which is supplied as a fil for core splicing and closeout of honeycomb panels. It offers the advantaes of a fire retardant structural adhesive, which may be cured at 250 °F / 121 °C or 350 °F / 177 °C

We mind the gaps for you with

LOCTITE liquid shims

The way to eliminate small gaps

Whenever gaps and differences between two composite parts occur, shims both in solid and liquid form are used to eliminate them. For gaps less than 3 millimeters or for wide area fit up, liquid shims are employed. They are spread on one side of the rib, squeezed together and bolted. This forces any excess shim material to be squeezed out leaving just the necessary amount of shim to bridge any gaps occurring in the manufacturing process.

Guaranteeing a perfect result: LOCTITE liquid shims

LOCTITE liquid shims are epoxy-based materials that provide not only high compressive strength, but also a balance between open assembly time and strength. They operate as both, an adhesive and shim, offer good compressive strength across a wide temperature range and allow a long out time to facilitate larger parts.

Why choose LOCTITE liquid shims?

- Good gap filling capabilities
- Fast cure time
- Tough – resistance to microcracking
- Qualified at most commercial aircraft OEMs
- Optimized to match CTE difference on composite substrates

LOCTITE liquid shims:
Facts at a glance

LOCTITE liquid shims key features:

- Two-part custom filled epoxy-based materials
- Extremely high compressive strength
- Ambient temperature storage
- Ambient & elevated temperature cure

Key factors to consider when choosing the right LOCTITE liquid shim

- Good compression properties
- Fluid resistance: fuel, water ingression
- Adhesion properties: must bond well to substrate
- Temperature performance
- Low slump: low flow on vertical surfaces

Liquid Shim

Characteristics	180°F / 82°C Service		•	•
	300°F / 149°C Service	•		
	350°F / 177°C Service			
	Improved Hot / Wet Properties	•		•
	Toughened	•		•
	Consistency	Thixotropic	Thixotropic	Thixotropic
	Form	2 Part	2 Part	2 Part
	Peel Strength	Low	High	High
Mechanical Properties	Bell Peel 77°F (lb / in) 25°C (N / 25 mm)	20 lbs / in 89 N / 25 mm	50 lbs / in 178 N / 25 mm	60 lbs / in 265 N / 25 mm
	TENSILE LAP SHEAR -67°F (psi) / -55°C (Mpa)'	3,300 psi / 22.7 MPa	4,650 psi / 32.1 MPa	4,000 psi / 27.6 MPa
	TENSILE LAP SHEAR 77°F (psi) / 25°C (Mpa)	4,200 psi / 28.9 MPa	5,350 psi / 36.9 MPa	5,000 psi / 34.5 MPa
	TENSILE LAP SHEAR 180°F (psi) / 82°C (Mpa)	3,000 psi / 20.7 MPa	4,200 psi / 29.0 MPa	3,000 psi / 20.7 MPa
	TENSILE LAP SHEAR Elevated Temperature (psi / MPa)	1,200 psi / 8.3 MPa	2,500 psi / 17.2 MPa	950 psi / 6.5 Mpa
Bulk Properties	Tg Dry (°F / °C)	172 °F / 78 °C	153 °F / 67 °C	151 °F / 66 °C
	Tg Wet (°F / °C)	154 °F / 68 °C	–	–
	Tensile Strength @ 77°F (psi) / 25°C (MPa)	6,675 psi / 46.0 MPa	–	–
	Tensile Modulus @ 77°F (ksi) / 25°C (MPa)	615 ksi / 4,237 MPa	–	487.2 ksi / 3360 MPa
	Elongation @ 77°F / 25°C (% at break)	1,77 %	–	5,00 %
	Compressive Strength @ 77°F (psi) / 25°C (MPa)	10,000 psi / 68.9 MPa	11,300 psi / 78 MPa	9,878 psi / 68 MPa
	Compressive Modulus @ 77°F (ksi) / 25°C (MPa)	–	355 ksi / 2,950 MPa	368 ksi / 2,538 MPa
Handling	Mix RatioWeight (PartA / Part B)	100 : 17	100 : 55	100 : 43
	CureTemperature (°F / °C)	77 – 200 °F / 25 – 93 °C	≥ 160 – 175 °F / 70 – 80 °C	77 – 180 °F / 25 – 82 °C
	CureTime	3 – 5 Days / 1 Hour	240 Minutes	5 – 7 Days/ 1 Hour
	StorageTemperature (°F / °C)	77 °F / 25 °C	40 °F / 4 °C	77 °F / 25 °C
	Pot Life (minutes / lb) / (minutes / kg)	90 Minutes 450 Gram Mass	180 Minutes 500 Gram Mass	50 Minutes 200 Gram Mass
Product	New Product Name	**LOCTITE EA 9394 AERO**	**LOCTITE EA 9377 AERO**	**LOCTITE EA 9360 AERO**
	Known As	Hysol® EA 9394™	Hysol® EA 9377™	Hysol® EA 9360™
Availability	Packaging	55-Gallon Kit, 5-Gallon Kit, Clip Pack, Dual Cartridge, Gram Kit, Pint Kit, Quart Kit	Barrier Kit, Clip Pack, Quart Kit, Injection Kit, Gram Kit	Quart Kit, Dual Cartridge, Gallon Kit
Description		**LOCTITE EA 9394 AERO** • Good Gap Filling Capabilities • Potting Material • Room Temperature Storage • Outstanding Mechanical Properties • Long Pot Life • Low Toxicity	**LOCTITE EA 9377 AERO** is a two-component moldable plastic shim with excellent microcrack resistance under thermal cycling and high compressive strength	**LOCTITE EA 9360 AERO** • Available in dual cartridge packaging • High peel strength • Excellent static stress durability • >225°F (107°C) service • Easy mixing two component system • Room temperature cure • Low Slump

Liquid Shim

Characteristics	180°F / 82°C Service	•	•				
	300°F / 149°C Service			•			•
	350°F / 177°C Service					•	
	Improved Hot / Wet Properties	•	•				•
	Toughened	•	•	•			
	Consistency	Thixotropic	Thixotropic	Thixotropic		Thixotropic	Low Viscosity
	Form	2 Part	2 Part	2 Part		2 Part	2 Part
	Peel Strength	High	High	Nil		Low	Nil
Mechanical Properties	Bell Peel 77°F (lb / in) 25°C (N / 25 mm)	50 lbs / in 178 N / 25 mm	40 lbs / in 220 N / 25 mm	20 lbs / in 90 N / 25 mm		20 lbs / in 90 N / 25 mm	–
	TENSILE LAP SHEAR -67°F (psi) / -55°C (Mpa)'	4,650 psi / 32.1 MPa	4,000 psi / 27.6 MPa	2,700 psi / 18.6 MPa		3,300 psi / 22.7 MPa	2,200 psi / 15.2 MPa
	TENSILE LAP SHEAR 77°F (psi) / 25°C (Mpa)	5,350 psi / 36.9 Mpa	5,100 psi / 35.0 MPa	4,910 psi / 33.9 MPa		4,200 psi / 28.9 MPa	2,600 psi / 17.9 MPa
	TENSILE LAP SHEAR 180°F (psi) / 82°C (Mpa)	4,200 psi / 29.0 MPa	4,000 psi / 27.5 MPa	3,140 psi / 21.7 MPa		3,000 psi / 20.7 MPa	3,000 psi / 20.7 MPa
	TENSILE LAP SHEAR Elevated Temperature (psi / MPa)	2,500 psi / 17.2 MPa	1,750 psi / 12 MPa	1,640 psi / 11.3 MPa		600 psi / 4.1 MPa	1,700 psi / 11.7 MPa
Bulk Properties	Tg Dry (°F / °C)	200 °F / 93 °C	223 °F / 106 °C	158 °F / 70 °C		172 °F / 78 °C	345 °F / 174 °C
	Tg Wet (°F / °C)	225 °F / 108 °C	192 °F / 89 °C	196 °F / 91 °C		154 °F / 68 °C	302 °F / 150 °C
	Tensile Strength @ 77°F (psi) / 25°C (MPa)	–	–	–		6,675 psi / 46.0 MPa	8,200 psi / 56.5 MPa
	Tensile Modulus @ 77°F (ksi) / 25°C (MPa)	–	–	–		615 ksi / 4,237 MPa	418 ksi / 2,880 MPa
	Elongation @ 77°F / 25°C (% at break)	–	–	–		1,70 %	2,50 %
	Compressive Strength @ 77°F (psi) / 25°C (MPa)	11,300 psi / 78 MPa	–	11,329 psi / 78.1 MPa		10,000 psi / 68.9 MPa	5,300 psi / 36.6 MPa
	Compressive Modulus @ 77°F (ksi) / 25°C (MPa)	355 ksi / 2,950 MPa	–	–		–	–
Handling	Mix RatioWeight (PartA / Part B)	100 : 55	100 : 45	100 : 27		–	100 : 56
	CureTemperature (°F / °C)	≥ 160 – 175 °F / 70 – 80 °C	180 – 220 °F / 82 – 104 °C	77 °F / 25 °C		77 – 200 °F / 25 – 93 °C	200 °F / 93 °C 250 °F / 121 °C 300 °F / 149 °C
	CureTime	240 Minutes	2 hours / 1 hour	24 Hours		3 – 5 Days / 1 Hour	220 Minutes 150 Minutes 130 Minutes
	StorageTemperature (°F / °C)	40 °F / 4 °C	40 °F / 4 °C	77 °F / 25 °C		82 °F / 28 °C	40 °F / 4 °C
	Pot Life (minutes / lb) / (minutes / kg)	180 Minutes 500 Gram Mass	300 Minutes 500 Gram Mass	20 – 30 Minutes 100 Gram Mass		90 Minutes 450 Gram Mass	120 Minutes 250 Gram Mass
Product	New Product Name	**LOCTITE EA 9380 AERO**	**LOCTITE EA 9380.05 AERO**	**LOCTITE EA 9394.2 AERO**		**LOCTITE EA 9394S AERO**	**LOCTITE EA 9390 AERO**
	Known As	Hysol® EA 9380™NEW!	Hysol® EA 9380.05	Hysol® EA 9394.2™		Hysol® EA 9394S™	Hysol® EA 9390™
Availability	Packaging	Dual Cartridge, Barrier Kit, Quart Kit	–	Dual Cartridge, Pint Kit, Quart Kit, Clip Pack, Gallon Kit, 5-Gallon Kit		Injection Kit	Quart Kit, Gram Kit, Clip Pack, Barrier Kit
Description		**LOCTITE EA 9380 AERO** • Low temp curing two-part adhesive • Meter mixable • High strength, toughness and high temp resistance • Prebond humidity resistant	**LOCTITE EA 9380.05 AERO** • Low temp curing two-part adhesive • Meter mixable • High strength, toughness and high temp resistance • Prebond humidity resistant	**LLOCTITE EA 9394.2 AERO** is a fast curing two-part structural paste adhesive, which cures at room temperature. Its thixotropic nature makes it ideal for potting, filling, and liquid shim applications.		**Loctite EA 9394S AERO** is a two-part structural paste adhesive, which possesses excellent strength at high temperatures. Its thixotropic nature and excellent high temperature compressive strength also make it ideal for potting, filling and liquid shim applications.	**LOCTITE EA 9390 AERO** • Good Hot/Wet Strength • Good Wetting • High Shear Modulus

Notes

Low viscosity, high quality:

LOCTITE laminate and wet lay-up resins

For high temperature applications ...

A low viscosity system is needed for high temperature wet lay-up composite construction or repairs. It should allow wet lamination processes as well as out-of-autoclave curing processes to be employed.

... and perfect surface preparation: LOCTITE low viscosity wet lay-up.

With more than 50 years experience, Henkel offers the right solution for this challenge: LOCTITE low viscosity wet lay-up solutions. Curing very fast under heat, they provide an optimal adhering surface for subsequent painting and coating.

Why choose LOCTITE low viscosity wet lay-up products?

› High-temperature applications
› Long open life up to eight hours
› Enhanced occupational safety during employee exposure times

LOCTITE laminate and wet lay up resins:

Facts at a glance

LOCTITE low viscosity wet lay-up key features:

› Two-component system
› Low viscosity
› Room temperature or elevated cure
› Ideal for OEM assembly or repair

Key factors to consider when choosing the right LOCTITE low viscosity wet lay-up solution

› Fiber volume ratio (55 %)
› Porosity level (< 1 %)
› Cure temperature
› Fabric alignment
› Resin physical-chemical properties (viscosity)
› Pot life

Laminate and Wet Lay-up Resins

	300°F/149°C Service		•	•
	Improved Hot / Wet Properties			•
	Toughened	•		•
	Consistency	Low Viscosity	Low Viscosity	Low Viscosity
	Form	2 Part	2 Part	2 Part
	Peel Strength	High	Nil	Moderate
Mechanical Properties	Bell Peel 77°F (lb / in) 25°C (N / 25 mm)	60 lbs / in 267 N / 25 mm	–	25 lbs / in 111 N / 25 mm
TENSILE LAP SHEAR	-67°F (psi) / -55°C (Mpa)'	4,200 psi / 28.9 MPa	1,780 psi / 12.3 MPa	3,300 psi / 22.8 MPa
TENSILE LAP SHEAR	77°F (psi) / 25°C (Mpa)	4,500 psi / 31.0 MPa	2,300 psi / 15.8 MPa	3,500 psi / 24.1 MPa
TENSILE LAP SHEAR	180°F (psi) / 82°C (Mpa)	500 psi / 3.5 Mpa	1,500 psi / 10.3 MPa	3,200 psi / 22.0 MPa
TENSILE LAP SHEAR	Elevated Temperature (psi / MPa)	–	1,000 psi / 6.9 MPa	1,250 psi / 8.6 MPa
Bulk Properties	Tg Dry (°F / °C)	120 °F / 49 °C	156 °F / 69 °C	208 °F / 98 °C
	Tg Wet (°F / °C)	–	–	145 °F / 63 °C
	Tensile Strength @ 77°F (psi) / 25°C (MPa)	6,300 psi / 45 MPa	5,800 psi / 40.0 MPa	8,000 psi / 55.2 MPa
	Tensile Modulus @ 77°F (ksi) / 25°C (MPa)	330 ksi / 2,274 MPa	370 ksi / 2,552 MPa	400 ksi / 2,750 MPa
	Elongation @ 77°F / 25°C (% at break)	8,00 %	2,40 %	3,40 %
	Compressive Strength @ 77°F (psi) / 25°C (MPa)	9,040 psi / 62.3 MPa	12,000 psi / 82.8 MPa	70,000 psi / 482.8 MPa
	Compressive Modulus @ 77°F (ksi) / 25°C (MPa)	263 ksi / 1,812 MPa	158 ksi / 1,089 MPa	8,000 psi / 55,150 MPa
Handling	Mix RatioWeight (PartA / Part B)	100 : 25	100 : 58	100 : 30
	CureTemperature (°F / °C)	77 °F / 25 °C 100 °F / 38 °C 140 °F / 60 °C 200 °F / 93 °C“	77 – 200 °F / 25 - 93 °C	77 – 150 °F / 25 – 66 °C
	CureTime	8 Hours / 75 Minutes / 30 Minutes / 5 Minutes	5 – 7 Days / 1 Hour	3 – 5 Days / 1 Hour
	StorageTemperature (°F / °C)	77 °F / 25 °C	40 °F / 4 °C	77 °F / 25 °C
	Pot Life (minutes / lb) / (minutes / kg)	60 Minutes / 200 Gram Mass	> 30 minutes / 450 Gram Mass	120 Minutes / 100 Gram Mass
Product	New Product Name	**LOCTITE EA 9313 AERO**	**LOCTITE EA 956 AERO**	**LOCTITE EA 9396 AERO**
	Known As	Hysol® EA 9313™	Hysol® EA 956™	Hysol® EA 9396™
Availability	Packaging	Quart Kit	Clip Pack, Gallon Kit, Gram Kit, Pint Kit, Quart Kit	50-Gram Kit, 5-Gallon Kit, Barrier Kit, Clip Pack, Gallon Kit, Gram Kit, Injection Kit, Pint Kit, Quart Kit“
Description		**LOCTITE EA 9313 AERO** is a low viscosity, two component paste adhesive designed for bonds requiring flexibility. The low viscosity of the mixed system allows it to be injected into pre-assembled parts. The flexibility of the cured adhesive makes it useful for bonding dissimilar substrates. It can also be used as a laminating resin and for potting small assemblies.	**LOCTITE EA 956 AERO** is a two-component, adhesive, which has excellent elevated temperature strength. Its room temperature cure capability and low viscosity make it ideal for repair applications, including laminating, injection, and coating.	**LOCTITE EA 9396 AERO** • Low Viscosity • Room Temperature Cure • Room Temperature Storage • High Strength at Low and High Temperatures

Laminate and Wet Lay-up Resins

Characteristics	300°F/149°C Service	•
	Improved Hot / Wet Properties	•
	Toughened	
	Consistency	Low Viscosity
	Form	2 Part
	Peel Strength	Low
Mechanical Properties	Bell Peel 77°F (lb / in) 25°C (N / 25 mm)	15 lbs / in 67 N / 25 mm
	TENSILE LAP SHEAR -67°F (psi) / -55°C (Mpa)'	2,500 psi / 17.2 MPa
	TENSILE LAP SHEAR 77°F (psi) / 25°C (Mpa)	4,600 psi / 31.7 MPa
	TENSILE LAP SHEAR 180°F (psi) / 82°C (Mpa)	4,100 psi / 28.3 MPa
	TENSILE LAP SHEAR Elevated Temperature (psi / MPa)	2,500 psi / 17.2 MPa
Bulk Properties	Tg Dry (°F / °C)	226°F / 108°C
	Tg Wet (°F / °C)	232°F / 111°C
	Tensile Strength @ 77°F (psi) / 25°C (MPa)	–
	Tensile Modulus @ 77°F (ksi) / 25°C (MPa)	–
	Elongation @ 77°F / 25°C (% at break)	–
	Compressive Strength @ 77°F (psi) / 25°C (MPa)	14,000 psi / 96.6 MPa
	Compressive Modulus @ 77°F (ksi) / 25°C (MPa)	–
Handling	Mix RatioWeight (PartA / Part B)	100 : 36
	CureTemperature (°F / °C)	200 °F / 93 °C
	CureTime	1 Hour
	StorageTemperature (°F / °C)	77 °F / 25 °C
	Pot Life (minutes / lb) / (minutes / kg)	7 Hours / 450 Gram Mass
Product	New Product Name	**LOCTITE EA 9396/C-2 AERO**
	Known As	Hysol® EA 9396™ / C-2™
Availability	Packaging	Quart Kit

Description

LOCTITE
EA 9396/C-2
AERO
- Low Viscosity
- Long Work Life
- Non-MDA Curing Agent
- Ideal for use as Neat Lay-up Resin

Notes

Gives you strength:

LOCTITE potting and edge compounds

What potting and edge fill compounds can do for you

Potting and Edge Fill and encapsulation compounds provide mechanical reinforcement to housed assemblies, fill voids, and protect devices from the effects of exposure to chemicals, moisture, mechanical shock and vibration. High-quality potting and edge fill products effectively prevent corrosion and ensure the long-term integrity of your device.

And why LOCTITE potting and edge fill compounds do it best

LOCTITE offers a broad variety of potting and edge fill and encapsulating compounds to use with various substrates, operating temperatures and other environmental factors. All of them improve the mechanical strength as well as the resistance to vibration, shock and thermal stress.

At the same time, they protect against corrosion, dust and chemicals and provide electrical insulation. Because of their thermal properties they are ideally suited for aerospace temperature requirements.

Why choose LOCTITE potting and edge Fill compounds?

- Significantly improved shelf life
- Easy to apply
- Improves mechanical strength
- Provide insulation
- Enhances resistance to vibration and shock
- Prevents corrosion from moisture, thermal cycling, dust and chemicals
- Broad selection of product chemistries allows use with different substrates, operating temperatures and other environmental factors
- Reduces open time in dispensing, assembling and testing

LOCTITE potting and edge Fill compounds:

Facts at a glance

LOCTITE potting and edge Fill compounds key features:

- Suitable packaging configurations for application
- No sag for vertical applications
- Co-curable with sandwich assembly
- Adhesive can be drilled and sanded without damage
- Dual cure or step cure processing capability
- Products available in low to medium densities

Potting and Edge Fill

Characteristics	180°F / 82°C Service	•		•
	300°F/149°C Service			
	350°F / 177°C Service			
	450°F / 232°C Service		•	
	Cured Density (g / cc)	1.3		0.48
	Improved Hot / Wet Properties			
	Toughened	•		
	Consistency	Thixotropic	Moderate Viscosity	Syntactic
	Form	2 Part	2 Part	2 Part
	Peel Strength	Low	Low	Nil
Mechanical Properties	Bell Peel 77°F (lb / in) 25°C (N / 25 mm)	6 lbs / in 25 N / 25 mm“	10 lbs / in 45 N / 25 mm“	–
	TENSILE LAP SHEAR -67°F (psi) / -55°C (Mpa)‘	3,000 psi / 20.7 MPa	3,500 psi / 24.1 MPa	–
	TENSILE LAP SHEAR 77°F (psi) / 25°C (Mpa)	4,000 psi / 27.6 MPa	5,000 psi / 34.5 MPa	1,300 psi / 9.0 MPa
	TENSILE LAP SHEAR 180°F (psi) / 82°C (Mpa)	2,900 psi / 20.0 MPa	4,000 psi / 27.5 MPa	–
	TENSILE LAP SHEAR Elevated Temperature (psi / MPa)	500 psi / 3.4 MPa	2,500 psi / 17.2 MPa	–
Bulk Properties	Tg Dry (°F / °C)	230 °F / 110 °C	–	248 °F / 120 °C
	Tg Wet (°F / °C)	190 °F / 88 °C	–	–
	Tensile Strength @ 77°F (psi) / 25°C (MPa)	7,100 psi / 49.0 MPa	–	–
	Tensile Modulus @ 77°F (ksi) / 25°C (MPa)	42 ksi / 2.90 MPa	–	–
	Elongation @ 77°F / 25°C (% at break)	6,00 %	–	–
	Compressive Strength @ 77°F (psi) / 25°C (MPa)	9,280 psi / 64.00 MPa	32,000 psi / 220.7 MPa	2,500 psi / 17.2 MPa
	Compressive Modulus @ 77°F (ksi) / 25°C (MPa)	284 ksi / 1,960 MPa	–	110 ksi / 758 MPa
Handling	Mix RatioWeight (PartA / Part B)	100 :50	100 :20	100 :34.2
	CureTemperature (°F / °C)	77 – 200 °F / 25 - 93 °C	> 200 °F / 93 °C	77 °F / 25 °C
	CureTime	5 – 7 Days / 1 Hour	1 Hour	5 – 7 Days
	StorageTemperature (°F / °C)	40 °F / 4 °C	77 °F / 25 °C	82 °F / 28 °C
	Pot Life (minutes / lb) / (minutes / kg)	40 Minutes / 450 Gram Mass	7 Hours / 450 Gram Mass	60 Minutes / 70 Gram Mass
Product	New Product Name	**LOCTITE EA 9321 AERO**	**LOCTITE EA 9394/C-2 AERO**	**LOCTITE HC 3056 AERO**
	Known As	Hysol® EA 9321™	Hysol® EA 9394™ / C-2™	SynSkin® HC 3056™
Availability	Packaging	Clip Pack, Dual Cartridge, Quart Kit	Quart Kit, Injection Kit, Clip Pack	Gallon Kit
Description		**LOCTITE EA 9321 AERO** is a two-component thixotropic paste adhesive, which exhibits toughness and retains strength at elevated temperatures. This product cures at room temperature and yields durable bonds over a wide temperature range.	**LOCTITE EA 9394/C-2 AERO** is an elevated temperature curing, high service temperature structural paste adhesive. It uses a non-aromatic amine curing agent that retains many of the excellent properties offered by aromatic amine cured systems, high temperature service with a long pot life.	**LOCTITE HC 3056 AERO** is a two-component low-density potting compound. It is self-extinguishing and its thixotropic characteristics make it ideal for use in honeycomb panels for edge close out, insert potting, and smoothing. it is a closed cell structure with minimum moisture penetration. although it is epoxy chemistry, clean up is with hot, soapy water rather than solvents.

Potting and Edge Fill

Characteristics	180°F / 82°C Service	•							
	300°F / 149°C Service	•	•	•		•	•		
	350°F / 177°C Service							•	•
	450°F / 232°C Service								
	Cured Density (g / cc)	1.38	1.37				0.60	0.87	0.72
	Improved Hot / Wet Properties		•			•			
	Toughened		•	•		•			
	Consistency	Thixotropic	Thixotropic	Thixotropic		Thixotropic	Syntactic	Thixotropic	Thixotropic
	Form	2 Part	2 Part	2 Part		2 Part	2 Part	1 Part	1 Part
	Peel Strength	Nil	Low	Nil		Low	Nil	Nil	Nil
Mechanical Properties	Bell Peel 77°F (lb / in) 25°C (N / 25 mm)	–	20 lbs / in 89 N / 25 mm“	20 lbs / in 90 N / 25 mm“		15 lbs / in 67 N / 25 mm“	–	–	–
	TENSILE LAP SHEAR -67°F (psi) / -55°C (Mpa)‘	3,100 psi / 21.4 MPa	3,300 psi / 22.7 MPa	2,700 psi / 18.6 MPa		2,300 psi / 15.8 MPa	2,000 psi / 13.8 MPa	–	–
	TENSILE LAP SHEAR 77°F (psi) / 25°C (Mpa)	3,700 psi / 25.5 MPa	4,200 psi / 28.9 MPa	4,910 psi / 33.9 MPa		4,300 psi / 29.7 MPa	2,700 psi / 18.6 MPa	–	2,000 psi / 13.8 MPa
	TENSILE LAP SHEAR 180°F (psi) / 82°C (Mpa)	2,800 psi / 19.3 MPa	3,000 psi / 20.7 MPa	3,140 psi / 21.7 MPa		3,500 psi / 24.1 MPa	1,500 psi / 10.3 MPa	–	–
	TENSILE LAP SHEAR Elevated Temperature (psi / MPa)	1,200 psi / 8.3 MPa	1,200 psi / 8.3 MPa	1,640 psi / 11.3 MPa		1,200 psi / 8.3 MPa	1,400 psi / 9.7 MPa	–	–
Bulk Properties	Tg Dry (°F / °C)	159 °F / 71 °C	172 °F / 78 °C	158 °F / 70 °C		163 °F / 73 °C	147 °F / 64 °C	–	–
	Tg Wet (°F / °C)	235 °F / 113 °C	154 °F / 68 °C	196 °F / 91 °C		246 °F / 119 °C	–	–	–
	Tensile Strength @ 77°F (psi) / 25°C (MPa)	5,800 psi / 40.0 MPa	6,675 psi / 46.0 MPa	–		8,070 psi / 55.6 MPa	3,000 psi / 20.7 MPa	–	–
	Tensile Modulus @ 77°F (ksi) / 25°C (MPa)	550 ksi / 3,792 MPa	615 ksi / 4,237 MPa	–		717 ksi / 4,940 MPa	290 ksi / 2,000 MPa	–	–
	Elongation @ 77°F / 25°C (% at break)	1,20 %	1,77 %	–		2,60 %	2 – 3 %	–	–
	Compressive Strength @ 77°F (psi) / 25°C (MPa)	9,500 psi / 65.5 MPa	10,000 psi / 68.9 MPa	11,329 psi / 78.1 MPa		14,000 psi / 94.5 MPa	6,500 psi / 44.8 MPa	22,800 psi / 157 MPa	12,232 psi / 84 MPa
	Compressive Modulus @ 77°F (ksi) / 25°C (MPa)	367 psi / 2,530 MPa	–	–		429 ksi / 2.956 MPa	–	–	–
Handling	Mix RatioWeight (PartA / Part B)	100 :33	100 :17	100 :27		100 :17	100 :31	–	–
	CureTemperature (°F / °C)	77 – 200 °F / 25 – 93 °C	77 – 200 °F / 25 – 93 °C	77 °F / 25 °C		77 – 150 °F / 25 – 66 °C	77 – 200 °F / 25 – 93 °C	250 °F / 121 °C 350 °F / 177 °C“	250 °F / 121 °C 350 °F / 177 °C“
	CureTime	5 – 7 Days / 1 Hour	3 – 5 Days / 1 Hour	24 Hours		5 Days / 1 Hour	5 – 7 Days / 1 Hour	90 – 100 Minutes / 60 – 70 Minutes	90 – 100 Minutes / 60 – 70 Minutes
	StorageTemperature (°F / °C)	40 °F / 4 °C	77 °F / 25 °C	77 °F / 25 °C		77 °F / 25 °C	40 °F / 4 °C	0 °F / -18 °C	0 °F / -18 °C
	Pot Life (minutes / lb) / (minutes / kg)	40 – 50 minutes / 450 Gram Mass	90 Minutes / 450 Gram Mass	20 – 30 Minutes / 100 Gram Mass		95 – 100 Minutes / 450 Gram Mass	120 Minutes / 100 Gram Mass	> 8 Hours	> 8 Hours
Product	New Product Name	**LOCTITE EA 934NA AERO**	**LOCTITE EA 9394 AERO**	**LOCTITE EA 9394.2 AERO**		**LOCTITE EA 9395 AERO**	**LOCTITE EA 9396.6MD AERO**	**LOCTITE EA 9820 AERO**	**LOCTITE EA 9825 AERO**
	Known As	Hysol® EA 934NA™	Hysol® EA 9394™	Hysol® EA 9394.2™		Hysol® EA 9395™	Hysol® EA 9396.6MD™	Hysol® EA 9820™	Hysol® EA 9825™
Availability	Packaging	Barrier Kit, Clip Pack, Gallon Kit, Gram Kit, Pint Kit, Quart Kit	55-Gallon Kit, 5-Gallon Kit, Clip Pack, Dual Cartridge, Gram Kit, Pint Kit Quart Kit	Dual Cartridge, Pint Kit, Quart Kit, Clip Pack, Gallon Kit, 5-Gallon Kit		Quart Kit, Injection Kit, Clip Pack, 5-Gallon Kit, Gallon Kit“	Gallon Kit, Barrier Kit	Cartridge Gallon Kit	Dual Cartridge
Description		**LOCTITE EA 934NA AERO** is a two-component thixotropic paste adhesive, which cures at room temperature and possesses superior strength to 300 °F / 149 °C and higher. Its thixotropic nature and good compressive strength make it ideal for potting, filling, and fairing, as well as for shim applications.	**LOCTITE EA 9394 AERO** • Good Gap Filling Capabilities • Potting Material • Room Temperature Storage • Outstanding Mechanical Properties • Long Pot Life • Low Toxicity	**LOCTITE EA 9394.2 AERO** is a fast curing two-part structural paste adhesive, which cures at room temperature. Its thixotropic nature makes it ideal for potting, filling, and liquid shim applications.		**LOCTITE EA 9395 AERO** • Non-Metallic Filler • Cures at Ambient Temperature • Thixotropic • Excellent Mechanical Properties • Good Compressive Strength	**LOCTITE EA 9396.6MD AERO** is an easy mixing, two-part syntactic epoxy adhesive with good compressive strength at higher temperatures.	**LOCTITE EA 9820 AERO** is an intermediate density, one-component epoxy syntactic for use on honeycomb composite parts requiring high compressive strength at temperatures up to 350 °F (177 °C). It may also be used for fastener or attachment potting and panel edge reinforcing.	**LOCTITE EA 9825 AERO** is a low-density, one-component epoxy syntactic for use on honeycomb composite parts requiring high compressive strength at temperatures up to 350 °F (177 °C). It may also be used for fastener or attachment potting and panel edge reinforcing.

Aerospace industry has many standards:

LOCTITE FREKOTE is the one for release materials

Choosing the right release material is not as easy as you might think ...

Aircraft manufacturers' demands on professional release materials are high: They require a wide range of mold releases with different characteristics to meet all needs. They want to be sure to apply a sustainable solution. And last but not least, they only accept materials that comply with the most rigorous requirements – their own ones.

... unless you discover LOCTITE FREKOTE.

Henkel's LOCTITE FREKOTE release agents, sealers and cleaners are based on over 50 years of technical experience and are the most trusted for consistent release of composite parts from tools. These wax- and silicone-free release agents polymerize to create a low surface energy film which is durable, chemically resistant and thermally stable. A minimal transfer to molded components, minimized fouling, easy application and the highest number of releases possible per application are guaranteed.

Why choose LOCTITE FREKOTE mold release materials?

- Semi-permanent mold release bonds to mold surface for consistent release
- Higher productivity and profitability through reduced downtime
- Low reject rates
- Available with no volatile organic compounds (VOCs) and CFCs for improved sustainability
- Dispensing equipment available

LOCTITE FREKOTE mold release materials:

All facts at a glance

Key factors to consider when choosing the right LOCTITE mold release

- Water-based vs. solvent-based
- Slip / release characteristics
- Service temperature
- Transfer characteristics

LOCTITE FREKOTE mold releases can be used with following materials:

- Thermoset epoxies, phenolics and BMIs
- Natural & synthetic rubbers
- Silicones
- Urethanes
- Thermoplastic polymers
- Thermoset prepregs
- Thermoplastic prepregs
- Polyester resins
- Vinyl ester resins
- MRO & repair

LOCTITE FREKOTE mold releases can be used in all composite manufacturing processes:

- Hand lay-up
- Automated fiber placement & tape laying
- Autoclave molding
- Vacuum bag only molding
- Resin transfer molding
- Vacuum infusion processes
- Resin film infusion
- Filament winding
- Injection molding
- Compression molding
- Pultrusion
- Rotational molding
- Metallic, ceramic and composite tooling
- Automated spray application

With support from its authorized aerospace distribution network, Henkel delivers LOCTITE FREKOTE mold release agents for aerospace customers throughout the globe.

Mold Release

Applications	Mold Cleaning	•	•							
	Mold Sealing			•						
	Composites Molding					•	•	•	•	•
	Compression Molding					•	•	•	•	•
	Casting					•	•	•	•	•
	Vacuum Bagging					•	•	•	•	•
	High Release							•	•	•
	Filament Winding								•	
Mechanical Properties	Appearance	Clear liquid	Beige-Pasty liquid	Clear liquid		Clear Liquid	Clear Liquid	Clear Liquid	Clear Liquid	Milky White Emulsion
	Finish	–	–	Gloss		Matte	Satin	Gloss	Gloss	Matte
	Density at 77 °F / 25°C (g / ml)	0.821 to 0.854 LMS	0.97 to 0.99 LMS	0.745 to 0.775 LMS		0.76 to 0.782 LMS	0.715 to 0.725 LMS	0.755 to 0.764 LMS	0.715 to 0.725 LMS	0.98 to 1.02 LMS
Handling	CureTemperature (°F / °C)	Ambient	Ambient	Ambient / 210 – 300 °F 100 – 150 °C		Ambient / 210 – 300 °F 100 – 150 °C	Ambient / 210 – 300 °F 100 – 150 °C	Ambient / 210 – 300 °F 100 – 150 °C	Ambient	Ambient / 210 – 300 °F 100 – 150 °C
	CureTime	–	–	24 Hours / 60 Minutes		3 Hours / 15 Minutes	30 Minutes / 5 Minutes	10 minutes / 5 Minutes	5 – 10 Minutes	3 Hours / 12 Minutes
	StorageTemperature (°F / °C)	46 – 70 °F 8 – 21 °C	46 – 70 °F 8 – 21 °C	46 – 70 °F 8 – 21 °C		46 – 70 °F 8 – 21 °C	46 – 70 °F 8 – 21 °C	46 – 70 °F 8 – 21 °C	46 – 70 °F 8 – 21 °C	37 – 68 °F 3 – 20 °C
	Storage Time	24 Months	24 Months	12 Months		12 Months	12 Months	12 Months	12 Months	9 Months
Product	New Product Name	**LOCTITE FREKOTE PMC AERO**	**LOCTITE FREKOTE PMC 915WB AERO**	**LOCTITE FREKOTE B-15 AERO**		**LOCTITE FREKOTE 44-NC AERO**	**LOCTITE FREKOTE 55-NC AERO**	**LOCTITE FREKOTE 700-NC AERO**	**LOCTITE FREKOTE 770-NC AERO**	**LOCTITE FREKOTE C-800 AERO**
	Known As	Frekote® PMC™	Frekote® 915WB™	Frekote® B-15™		Frekote® 44-NC™	Frekote® 55-NC™	Frekote® 700-NC™	Frekote® 770-NC™	Frekote® Aqualine® C-800™
Availability	Packaging	Can, Pail	Can	Can, Pail		Can, Pail, Drum, Aerosol	Can, Pail, Drum, Aerosol	Can, Pail, Drum, Aerosol	Can, Pail, Drum, Aerosol	Can, Pail

Description		**LOCTITE FREKOTE PMC AERO** • Easy to use • Eliminates contaminants • Enhances release effectiveness	**LOCTITE FREKOTE PMC 915WB AERO** • Water based polisher • Polishing liquid • Removes cured films	**LLOCTITE FREKOTE B-15 AERO** • Seals mold porosity, scratches, or imperfections • No contaminating transfer • High thermal stability		**LOCTITE FREKOTE 44-NC AERO** • Better mold utilisation • Non contaminating transfer • No mold build up • Significantly lower mold maintenance costs	**LOCTITE FREKOTE 55-NC AERO** • Fast drying • Non contaminating transfer • High thermal stability • Non-CFC • No mold build-up	**LOCTITE FREKOTE 700-NC AERO** • No chlorinated solvents • High gloss finish • High slip • No contaminating transfer • No mold build-up	**LOCTITE FREKOTE 770-NC AERO** • No contaminating transfer • High gloss finish • High slip • No mold build-up • Low odor	**LOCTITE FREKOTE C-800 AERO** • High slip • Easy application • Multiple releases • Low transfer • No corrosion / oxidation of the mold surface • Minimal mold build-up

Index

LOCTITE Nomeclature	
LOCTITE EA	Epoxy Adhesives
LOCTITE EF	Expanding Materials
LOCTITE HC	Syntactic Core

Notes

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TECHNOMELT®
TEROSON®
AQUENCE®

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