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BONDERITE®
TECHNOMELT®
TEROSON®
AQUENCE®

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List of authorized distributors: www.henkel.com/aerospace-distributor
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LOCTITE®

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Structural Adhesive Solutions for Composite Repair

Henkel Excellence is our Passion

Proven Solutions for Composite Repair

Henkel's technical expertise is based on over 40 years of experience in aerospace applications. As a trusted partner of OEM and MRO customers, Henkel provides the optimum solution to meet the most rigorous industry requirements. Our proven technologies are listed in more than 5,000 aerospace specifications, which provides our customers with a broad portfolio of composite repair solutions.

With support from its authorized aerospace distribution network, Henkel delivers composite repair solutions for airline fleet requirements throughout the globe. Henkel offers its MRO customers products that meet major OEM qualifications in many ready-to-use size configurations.

Henkel offers adhesive solutions
for a variety of composite repair requirements.

Small Repair Applications
Industry standard solutions for composite repairs.

Out-of-Autoclave Applications
Leading film adhesive composite repair solutions.

Specialty Solutions

Surfacing Film and Lightning Strike Repairs
Superior new technologies for composite repair requirements.

Ready-to-use Packaging Solutions

Barrier Cartridge Kit

Package Description:

- Disposable plastic dispensing system.
- Pre-packaged part A and part B system separated by a foil barrier.
- Pre-measured 2 component system ensures full cure and product performance after mixing.
- Available in 2.5 oz and 6 oz sizes.

Package Use:

- Store material according to manufacturer's instructions in the original packaging from manufacturer.
- For refrigerated materials, thaw materials to room temperature (72 °F +/- 5 °F, 22 °C +/- 2 °C) prior to use.
- Remove kit from packaging and mix according to the instructions provided.
- The total number of mixing strokes should be accomplished within the allowance for time noted on instructions.
- Install kit in manual or pneumatic gun for extrusion of mixed material.
- Dispose of properly.

Barrier Cartridge Kit

Injection Cartridge Kit

Package Description:

- Disposable plastic dispensing system.
- Pre-packaged part A in tube and part B in rod.
- Pre-measured 2 component system ensures full cure and product performance after mixing.
- Available in 2.5 oz and 6 oz sizes.

Package Use:

- Store material according to manufacturer's instructions in original packaging from manufacturer.
- For refrigerated materials, thaw materials to room temperature (72 °F +/- 5 °F, 22 °C +/- 2 °C) prior to use.
- Remove kit from packaging and mix according to instructions provided.
- The total number of mixing strokes should be accomplished within the allowance for time noted on instructions.
- Install kit in manual or pneumatic gun for extrusion of mixed material.
- Dispose of properly.

Injection Cartridge Kit

Dual Cartridge Kit

Package Description:

- Disposable plastic dispensing system.
- Pre-packaged part A and part B in dual cartridge system.
- Pre-measured 2 component system ensures full cure and product performance after mixing.
- Available in 50 ml, 200 ml and 400 ml sizes.

Package Use:

- Store material according to manufacturer's instructions in original packaging from manufacturer.
- For refrigerated materials, thaw materials to room temperature (72 °F +/- 5 °F, 22 °C +/- 2 °C) prior to use.
- Install kit in manual or pneumatic gun with the static mix tip on the dual cartridge for extrusion of mixed material.
- Dispense a small amount of material from the static mix tip prior to use.
- Dispose of properly.

Dual Cartridge / Static Mixer Kit

Clip Pack

Package Description:

- Pre-packaged part A and part B system separated by a clip divider.
- Pre-measured 2 component system ensures full cure and product performance after mixing.
- Available in 25 gram and 50 gram sizes.

Package Use:

- Store material according to manufacturer's instructions in original packaging from manufacturer.
- For refrigerated materials, thaw materials to room temperature (72 °F +/- 5 °F, 22 °C +/- 2 °C) prior to use.
- Remove kit from packaging and remove clip divider to mix.
- Mix part A and part B in the sealed pouch until a uniform mix and color is achieved.
- Dispose of properly.

Clip Pack

Pudding Cups

Package Description:

- Pre-packaged part A and part B system provided in separate containers.
- Pre-measured 2 component system ensures full cure and product performance after mixing.
- Available in several sizes.

Package Use:

- Store material according to manufacturer's instructions in original packaging from manufacturer.
- For refrigerated materials, thaw materials to room temperature (72 °F +/- 5 °F, 22 °C +/- 2 °C) prior to use.
- Remove kit from packaging, empty part B into part A and fold the materials together with a mix handle.
- To ensure full kit performance, use the entire contents of part A with part B.
- Dispose of properly.

Pudding Cups

Composites Repair Portfolio

Repair Type	Bonding, Potting and Filling		
Size Package Options	› Clip Pack › Pudding Cup › Pints › Quarts › Gallons › Cartridge Kits	› Clip Pack › Pudding Cup › Pints › Quarts › Gallons › Cartridge Kits › Dual Cartridge	› Clip Pack › Quarts › Gallons › Cartridge Kits
Technology	2-part Epoxy	2-part Epoxy	2-part Epoxy
Color (A / B / Mixed)	Gray / Amber / Gray	Gray / Black / Gray	Light Blue / Olive Brown-Black / Gray-Blue
Service Temperature*	300 °F (149 °C)	350 °F (177 °C)	350 °F (177 °C)
Consistency	Thixotropic / 800 Poise @ 77 °F (25 °C)	Thixotropic / 1600 Poise @ 77 °F (25 °C)	Thixotropic / 1000 – 3000 Poise @ 77 °F (25 °C)
Pot Life (450g Mass)	40 min @ 77 °F (25 °C)	90 min @ 77 °F (25 °C)	95 – 100 min @ 77 °F (25 °C)
Key Features	› Room temperature storage › Room temperature cure › Good gap filler › Develops strength rapidly › Qualified to MMM-A-132 › Qualified by many OEMs	› Room temperature storage › Room temperature cure › Good gap filler › Excellent mechanical properties › Low toxicity › Improved hot / wet properties › Qualified to MMM-A-132 › Qualified by many OEMs	› Room temperature cure › Non-Metallic filler › Excellent mechanical properties › Good compressive strength › Improved hot / wet properties › Qualified by many OEMs
Product	**LOCTITE EA 934NA AERO**	**LOCTITE EA 9394 AERO**	**LOCTITE EA 9395 AERO**
Also Known As	**HYSOL EA 934NA**	**HYSOL EA 9394**	**HYSOL EA 9395**

* Service temperature is defined as the temperature at which the adhesive still retains 1000 psi / 6.9 MPa using test method ASTM D1002.

Repair Type	Laminating and Wet Lay Up			High Service Temperature		Out-of-Autoclave		Specialty Repair – Surfacing Film and Lightning Strike	
Size Package Options	› Clip Pack › Pudding Cup › Pints › Quarts	› Clip Pack › Pudding Cup › Quarts › Cartridge Kits	› Clip Pack › Pudding Cup › Pints › Quarts › Gallons › Cartridge Kits	› Clip Pack › Quarts › Cartridge Kits	› Quarts	› Film Adhesive	› Film Adhesive	› Film Adhesive	› Film Adhesive
Technology	2-part Epoxy	2-part Epoxy	2-part Epoxy	2-part Epoxy	2-part Epoxy	Epoxy Film	Epoxy Film	Epoxy Film	Epoxy Film
Color (A / B / Mixed)	Amber / Amber / Amber	Light Beige / Blue / Light Blue	Blue / Purple / Green-Purple	Gray / Purple / Gray-Purple	Blue / Purple / Violet	Uncured: Red Cured: Gold	Green	Blue	Blue
Service Temperature*	300 °F (149 °C)	350 °F (177 °C)	350 °F (177 °C)	450 °F (232 °C)	400 °F (204 °C)	>300 °F (149 °C)	> 300 °F (149 °C)	350 °F (177 °C)	350 °F (177 °C)
Consistency	Low Viscosity / 162 Poise @ 77 °F (25 °C)	Low Viscosity / 120 – 160 Poise @ 77 °F (25 °C)	Low Viscosity / 35 Poise @ 77 °F (25 °C)	Moderate Viscosity	Low Viscosity / < 35 Poise @ 77 °F (25 °C)	Film Adhesive	Film Adhesive	Film Adhesive	Film Adhesive
Pot Life	>30 min @ 77 °F (25 °C)	2 hrs @ 77 °F (25 °C)	75 – 90 min @ 77 °F (25 °C)	8 hrs @ 77 °F (25 °C)	8 hrs @ 77 °F (25 °C)	90 days @ 77 °F (25 °C)	>30 days @ 90 °F (32 °C), 50 % RH	45 days @ 77 °F (25 °C)	45 days @ 77 °F (25 °C)
Key Features	› Room temperature cure › Excellent elevated temperature strength › Accelerated heat cure capability › Qualified by many OEMs	› Accelerated heat cure capability › Improved hot / wet properties › Good wetting capability › Qualified by many OEMs	› Room temperature storage › Room temperature cure › Excellent strength properties from −67 °F to 350 °F (−55 °C to 177 °C) › Qualified to MMM-A-132 › Qualified by many OEMs	› Accelerated heat cure capability › Excellent strength properties above 400 °F (204 °C) › Low toxicity › Long pot life › Qualified to MMM-A-132 › Qualified by many OEMs	› Accelerated heat cure capability › Room temperature storage › Low toxicity › Long pot life › Improved hot / wet properties	› Accelerated heat cure capability › Excellent environmental resistance › Good co-cure capability with composites › Long out-time makes it ideal for repairs › Qualified to MMM-A-132 › Qualified by many OEMs	› Accelerated heat cure capability › Excellent peel and low temperature (−67°F / −55°C) properties › Good co-cure capability with composites › Qualified by many OEMs	› Accelerated heat cure capability › High quality surface finish › Good paint adhesion › Lower weight repair material › Long out-time makes it ideal for repairs	› Accelerated heat cure capability › Complete lightning strike repair solution › Lower weight repair material › Long out-time makes it ideal for repairs
Product	**LOCTITE EA 956 AERO**	**LOCTITE EA 9390 AERO**	**LOCTITE EA 9396 AERO**	**LOCTITE EA 9394C-2 AERO**	**LOCTITE EA 9396C-2 AERO**	**LOCTITE EA 9695 AERO**	**LOCTITE EA 7000 AERO**	**LOCTITE EA 9845SF AERO**	**LOCTITE EA 9845LSC AERO**
Also Known As	**HYSOL EA 956**	**HYSOL EA 9390**	**HYSOL EA 9396**	**HYSOL EA 9394/C-2**	**HYSOL EA 9396/C-2**	**HYSOL EA 9695**	**HYSOL PL 7000**	**HYSOL EA 9845 SF**	**HYSOL EA 9845 LSC**

Authorized Aerospace Distributor Partners

Henkel maintains an AS 9100 registered Quality Management System and audits its distributor partners to this standard. All authorized distributors maintain an AS 9120 registration, which ensures warranty flow down throughout the value chain. As a result, Henkel's composite repair solutions are readily available from our global network of authorized distributor partners. For a current list of authorized distributors, please visit the following link:

www.henkel.com/aerospace-distributor

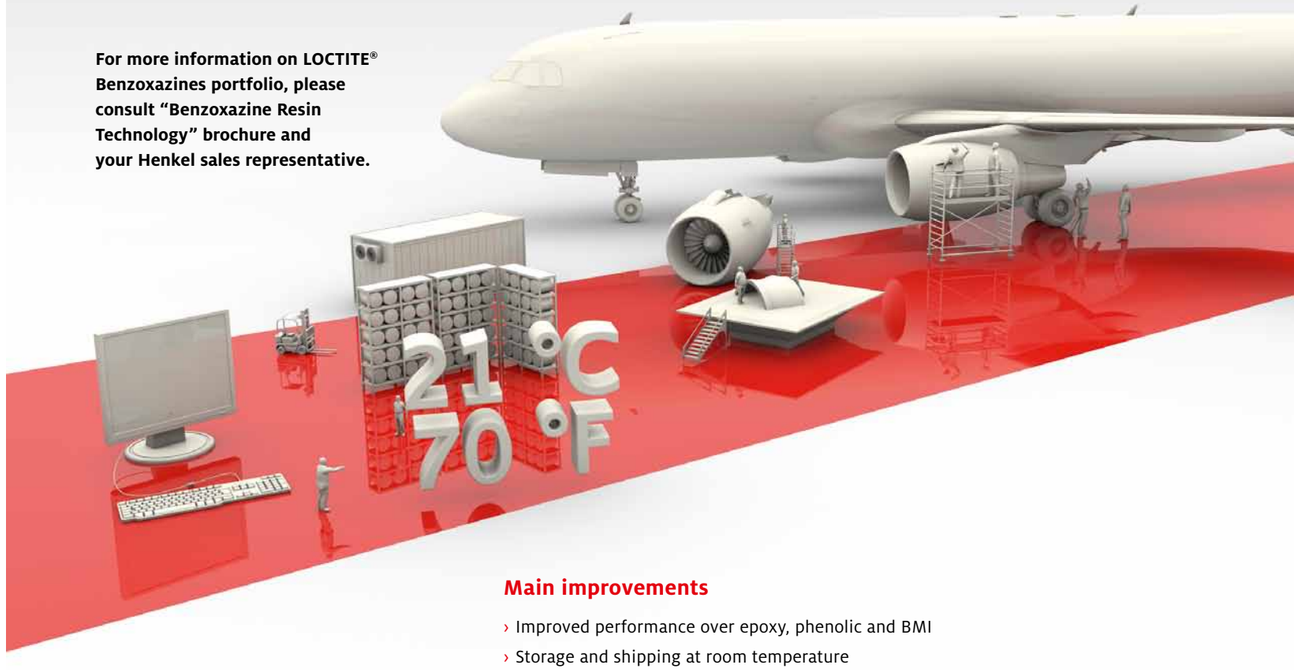
Feature	Benefit
› Audit & control of authorized distributor network	› Global product availability with aerospace focused technical support
› Product shipment according to manufacturer instructions & OEM specifications	› Compliant shipment package with lot traceability and shelf life control
› Full manufacturer warranty flow down	› Complete certification package, paperwork and warranty
› 2 component lot matched system	› Full performance characteristics tested to OEM requirements
› Local sales support & inventory of ready-to-use package configurations	› Just-in-time availability & safety stock for AOG needs

Meet the Next Generation … Benzoxazine Resins

Henkel launched a full product portfolio for the aerospace industry based on benzoxazine resin technology, offering advantages to commonly used epoxies, phenolics and BMI's. Benefits are across the entire value chain, including: weight savings, improved health and safety, storage and shipment at room temperature, less waste due to less spoilage and minimal shrinkage.

LOCTITE® Benzoxazines are suitable for most fabrication methods and processes, including: Hand lay-up, ATL, AFP, autoclave, autoclave curing, RTM, VARTM, RFI, honeycomb sandwich co-curing and secondary bonding.

For more information on LOCTITE® Benzoxazines portfolio, please consult "Benzoxazine Resin Technology" brochure and your Henkel sales representative.



Main improvements

- Improved performance over epoxy, phenolic and BMI
- Storage and shipping at room temperature
- Reduced waste due to less spoilage
- Improved health and safety
- Lighter weight allows lower fuel consumption

Advantages To Comparable Technologies

LOCTITE® Benzoxazine vs.

Epoxy	Phenolic	BMI
› Lower cure shrinkage and cure exotherm	› No microcracking	› Lower cure temperature and shorter cure cycle
› Improved hot/wet performance	› Improved durability	› Lower cost
› Inherent Flame, Smoke and Toxicity characteristics	› No water generated during cure	› Higher toughness