

Advanced Materials

Aerospace Materials for Production and Assembly

Selector Guide



About Huntsman Advanced Materials

Huntsman Advanced Materials is a leading global supplier of synthetic and formulated polymer systems for customers requiring high-performance materials which outperform the properties, functionality and durability of traditional materials. Over 2,300 associates at 13 locations worldwide work to fulfill this promise every day.

We enjoy a long heritage of pioneering technological excellence and offer a unique and wide range of innovative and tailor-made solutions to over 9,000 customers in more than 90 different countries. We maintain leading positions in our key markets through product differentiation, technical support and customer focus. The primary markets we serve include:

- Aerospace & Defense
- Construction
- Consumer-DIY
- Electrical Engineering
- Electronics
- Paint & Coatings
- Sport & Leisure
- Wind Energy

Huntsman's Commitment to REACH & Sustainability

Huntsman is committed to supporting global health, safety and environmental efforts, including new REACH regulations. We have teams of experts in each business area to coordinate our response to complex REACH requirements and continue to work with customers to ensure that their applications are satisfying the requirements of REACH regulations. We have also established web-based portals for customers and suppliers as a conduit through which we communicate REACH-related updates.

In addition to our REACH-related activities, Huntsman is dedicated to Sustainable Chemistry. We have established a strategic business unit wholly devoted to developing new chemistries and processes that can help address the world's most pressing environmental needs. By leveraging our core competencies, we can produce sustainable products that benefit our customers, consumers and the planet as a whole.

To learn more, please visit www.huntsman.com/reach

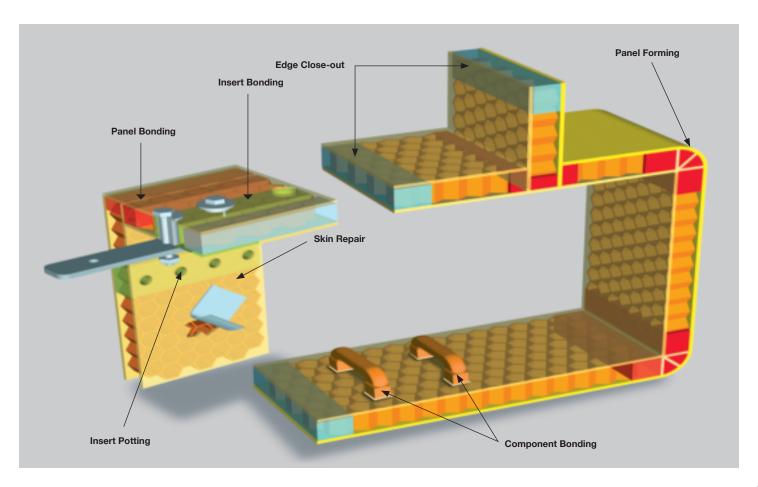


Aerospace Market

Huntsman Advanced Materials is a leading global supplier of advanced, high-performance materials for the fabrication, assembly and repair of interior and exterior aircraft components. For over 60 years, leading aerospace companies have turned to Huntsman Advanced Materials for innovations in syntactics, adhesives and laminating systems.

Huntsman's versatile adhesives, edge and void fillers are used by aircraft manufacturers who serve commercial airlines and general aviation throughout the world. The adhesives and syntactics are qualified to Boeing, Airbus, Goodrich, Gulfstream, Bombardier, Bell, Rohr and other OEM specifications and are included as approved repair materials in Structural Repair Manuals and Service Bulletins. Many of the epoxies and polyurethanes are flame retardant and exhibit the low flame, smoke and toxicity characteristics required to comply with regulations such as FAR 25.853 that govern materials used in large civil aircraft. In our efforts to develop innovative solutions for the aerospace market, we strive to meet the high product standards set forth by the industry and federal regulations that govern the performance properties of materials used in aircraft. Our products are used in the following applications:

- Component bonding
- Edge close out
- Insert bonding
- Insert potting
- Panel bonding
- Panel forming



Edge/Void Fillers, Adhesives and Laminating **Systems**

Huntsman Advanced Materials supplies the aerospace market with a full range of lightweight, durable edge and void fillers, as well as high-strength epoxy and polyurethane adhesives and epoxy laminating systems. Each of the materials in the Huntsman aerospace product line is formulated to meet the specific handling and performance requirements of aircraft manufacturers as well as repair and modification facilities.

Ultra-Low Density, Two-Component Edge and Void Fillers

Epocast® 1628 A/B Flame Retardant Edge and **Void Filler**

Trowellable and extrudable pale yellow epoxy paste with good compressive strength that can be sanded or machined after a room-temperature cure. Used for honeycomb edge reinforcing.

Epocast® 1629 A/B 🔕 Rapid-Setting Edge and Void Filler

Flame-retardant, easy-to-spread light tan epoxy paste with good slump resistance. Sands and machines readily after a room temperature cure. Used for edge reinforcement of honeycomb.

Low-Density, **Two-Component Edge and Void Fillers**

Araldite® 252 **High-Temperature Edge Filler**

Gap-filling, sandable light blue epoxy paste that cures at room temperature. Used for reinforcing and edge filling honeycomb sandwich structures.

Epocast® 169 A-1/946 Pourable Edge and Void Filler

Easy to use, reddish-brown epoxy edge and void filler suitable for core filling and reinforcing honeycomb.

Epocast® 169 A-1/9615 Carvable, Wood-Like Edge and **Void Filler**

General-purpose reddish-brown epoxy semi-paste with good dimensional stability under changing humidity conditions. Cures at room temperature to a carvable, woodlike material. Used for core filling and honeycomb reinforcement.

Epocast® 169 A-1/9646 High-Strength Edge and Void Filler

Pourable reddish brown epoxy that cures at room temperature to a wood-like material that can be carved, sanded and machined. Dimensionally stable under changing humidity conditions. Ideal for core filling and honeycomb reinforcement.

Epocast® 1617 A/B 🔕 Flame Retardant Edge and **Void Filler**

Low-density, room-temperature cure, off-white epoxy paste produces flame retardant, highstrength edge seals on honeycomb composite structures.



Epocast® 1618 D/B S Fast-Setting Edge and Void Filler

Flame-retardant, low-flow, extrudable, off-white epoxy edge and void filler with good compressive strength that cures at room temperature. Suitable for insert potting in honeycomb structures.

Epocast® 1619 A/B S Extrudable Edge and Void Filler

Flame-retardant, off-white epoxy edge and void filler that can withstand exposure to water, fungus and most aircraft fluids. Used for insert potting.

Epocast® 1622 FST A/B Edge Seller

Two component, flame-retardant epoxy edge filler designed for interior applications such as insert potting, panel joining, reinforcement and edge closeout in honeycomb panel structures.

Epocast® 1626 A/B Toughened Edge and Void Filler

Low-flow, brown viscous epoxy paste that retains strength and resists cracking when exposed to impact, vibration and environmental aging. Used for core filling, edge sealing and fastener potting in honeycomb structures.

Epocast® 1626 C1/D2 Impact-Resistant Edge and Void Filler

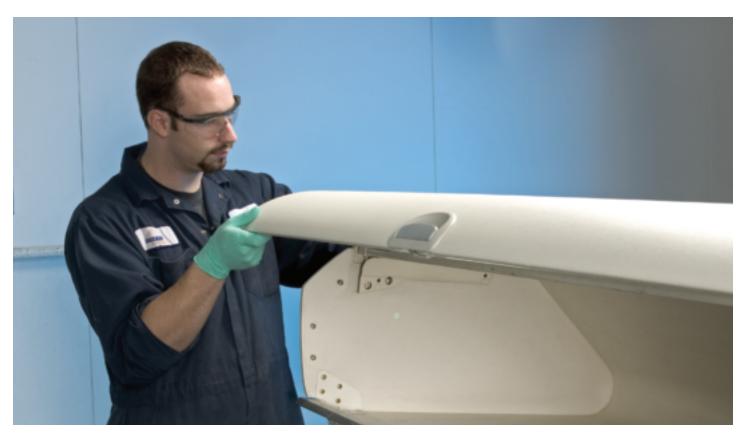
Toughened, viscous brown epoxy paste that can resist cracking even when exposed to impact and vibration. Used for core filling, edge sealing, bushing and fastener potting in honeycomb structures.

Extrudable, flame-retardant, halogen-free epoxy edge and void filler that sets in two to five minutes and exhibits high compressive strength. Available in different colors.

Epocast® 1638-1A/B Fast-Setting Edge and Void Filler

Flame-retardant, extrudable offwhite epoxy edge and void filler with high compressive strength. Used for honeycomb reinforcement including fastener potting and edge filling. Satisfies the requirements of FAR 25.853 60-second vertical ignition.





Medium-Density, Two-Component Edge and Void Fillers

CG 1305 A/B N High-Strength Edge and Void Filler

Flame-retardant, pourable off-white epoxy edge and void filler that cures at room temperature. Used for reinforcing high-stress areas in honeycomb and other potting applications.

Epocast® 1652 A/B High-Temperature Edge Filler

High-strength, light-tan epoxy edge filler that exhibits good elevated temperature performance after a room-temperature cure. Used for core filling and splicing honeycomb composite structures.

Epocast® 1656 A/B Long Work Life Edge Filler

Light-tan epoxy edge filler that maintains good physical performance characteristics at elevated temperatures of up to 350°F (177°C) after curing at 77°F (25°C). Used for core splicing and strengthening radii and corners in reinforced plastic structures.

Epocast® 89537 A/B Salass Fiber-Reinforced Edge and Void Filler

Sag-resistant, flame retardant, gray epoxy paste that performs at temperatures of up to 350°F (177°C) after a room-temperature cure. Designed for reinforcing fasteners and attachments, core splicing and edge reinforcing.

High-Density, Two-Component Edge and Void Fillers

Epocast® 1635 A/B High-Strength Void Filler

High-performance, aluminum-filled blue-gray void filler that exhibits outstanding compressive strength and dynamic fatigue resistance under load at elevated temperatures. Ideal for refilling mis-drilled holes in composite parts.

Epocast® 1636 A/B Flame Retardant Edge Filler

Flame-retardant, pourable gray epoxy edge filler with high strength and a long work life. Easy to handle and machine after a room-temperature cure. Used for reinforcing honeycomb structures.



Low-Density, One-Component Edge and Void Fillers

Epocast® 1610-A1 S Flame Retardant Void Filler

Non-flow, off-white epoxy void filler with a 30-day work life at room temperature. Requires elevated temperature cure and can be co-cured with composites in 90 minutes. Used for insert potting and blocks in honeycomb panels.

Epocast® 1661 Edge and Void Filler

Heat curing, off-white, one-component, frozen epoxy paste suitable for service temperatures up to 350°F (177°C). Used for insert potting, edge filling and reinforcing honeycomb core.

Medium-Density, One-Component Frozen Edge and Void Fillers

Epocast® 1614-A1 Shiph-Compressive Strength Edge and Void Filler

Thixotropic, reddish-brown structural epoxy edge and void filler with high-compressive strength. Requires an elevated temperature cure. Used for reinforcing honeycomb core and panel edges for high-service temperatures. Also available as a Eposert™ pre-cured insert.

High-Density, One-Component Frozen Edge and Void Fillers

Epocast® 938-A2 S Flame Retardant Edge and Void Filler

Extrudable off-white epoxy edge and void filler with high compressive strength at elevated temperature after full cure. Used for reinforcing honeycomb core sandwich structures. Also available as a Eposert™ pre-cured insert.

Epocast® 1627-2 Low CTE Edge and Void Filler

High-performance, extrudable gray epoxy edge and void filler with outstanding compressive strength at temperatures of up to 350°F (177°C). Designed for fabricating and reinforcing composite structures.



Edge and Void Fillers (Typical Properties)

	Lage and void i mers (typical i roperties)										
	Product	OEM Specifications	Consistency at 77°F	Gel Time, min at 77°F	Mix Ratio (R:H by Weight)						
	Ultra-Low Density, Two-C	omponent Edge and Void Fillers									
	Epocast® 1628 A/B	Boeing BMS 5-28, Ty 28, REV AN / TriumphTEC-M-20710-6, Ty 1, REV B	Paste	65 (62.5 gram mass)	100:25						
	Epocast® 1629 A/B	Boeing BMS 5-28, Ty 9, REV AN / Mitsubishi M1074, Ty 2, REV C / Raytheon BS 23818 Cl 1, Ty 1, REV 5	Dough	70 (75 gram mass)	100:50						
	Law Baratta Tara Carana										
	Low-Density, Two-Compo Araldite® 252	Huntsman standard certification	Non-flow paste	60 (100 gram mass)	100:40						
	Epocast® 169 A-1/ 9615	Sikorsky SS9587, Ty 1, REV 7 / Mitsubishi M1129 Cl A, REV F	Semi-paste	90-120 (100 gram mass)	100:50						
	Epocast® 169 A-1/ 9646	Huntsman standard certification	Pourable	25-40 (100 gram mass)	100:35						
	Epocast® 169 A-1/ 946	Sikorsky SS-9440, 0-001 A, REV 0 AMEND 0-04	Pourable	10-15 (100 gram mass)	100:20						
ers	Epocast® 1617 A/B	Boeing BMS 5-28, Ty 17, REV AN / ROHR RMS 027, Ty 5, Cl 3, REV AP SCO 036 / Bombardier SMS 41, Ty 3, Iss 6 / Gamesa GMS 124047 Iss 3 / Alenia MDL08055 REV 1 / Kaman CMS-007-4, REV IR / Piaggo NP190112, Ty 17, REV C	Paste	60-90 (60 gram mass)	100:20						
id Filk	Epocast® 1618 D/B	Boeing BMS 5-28, Ty 18, Cl 1, REV AN	Paste	15 (57 gram mass)	100:14						
nd Vo	Epocast® 1619 A/B	Boeing BMS 5-28, Ty 19, REV AN	Semi-paste	20-50 (62.5 gram mass)	100:25						
Two-Component Edge and Void Fillers	Epocast® 1622 FST A/B	Huntsman Standard Certification	Paste	15 (56 gram mass)	100:11.5						
	Epocast® 1626 A/B	Boeing BMS 5-28, Ty 26, Class 1, REV AN / Bell 299-947-097, Ty 5, REV V	Paste	60 (64.5 gram mass)	100:29						
	Epocast® 1626 C1/ D2	Boeing BMS 5-28, Ty 26, Cl 2, REV AN / Spirit SMS 116201, Ty 3, REV H	Paste	12 (77 gram mass)	100:54						
	Epocast® 1633 A/B	Boeing BMS 5-28, Ty 18, Cl 2, REV AN	Paste	5-12 (75 gram mass)	100:50						
	Epocast® 1638-1A/B	Huntsman standard certification	Paste	12-25 (56.5 gram mass)	100:13						
	Medium-Density, Two-Component Edge and Void Fillers										
	CG 1305 A/B	Boeing BMS 5-28, Ty 7, Cl 1, REV AN / Spirit SMS 116201, Ty 1, REV H / Alenia MDL8027, Ty 7, REV 1	Pourable	>60 (60 gram mass)	100:20						
	Epocast® 1652 A/B	Grumman GM 4006, Ty 1, Cl B FM1 REV B / Sikorsky SS-9587, Ty 2, REV 7 / Embraer MEP 10-051, Ty 2, Cl 1, REV M / Gulfstream GMS 4005, Ty 1, Cl B FM1 REV B / Allied PCS5606 / Martin STM-P-M134 / HUREL-Hispano HS/DFO-010 REV D	Paste	30-60 (100 gram mass)	100:12						
	Epocast® 1656 A/B	Grumman GM 4006, Ty 1, Cl B FM 1, REV B / Vought VM 4006, Ty 1, CLD FM1 / Pratt & Whitney CPW 505 REV D	Paste	50-90 (100 gram mass)	100:12						
	Epocast® 89537 A/B	Boeing BMS 5-28, Ty 7, Cl 2 REV AN / Lockheed Martin STM M1069 / Airbus Espana I+D-N-200-Z-18.115/2 REV 3 / Alenia MDL8027, Ty 7, REV 1	Pourable	70 (59 gram mass)	100:18.5						
	High-Density, Two-Compo	nent Edge and Void Fillers									
	Epocast® 1635 A/B	Boeing BMS 5-28, Ty 31 REV AN	Soft paste	>60 (61.5 gram mass)	100:23						
	Epocast® 1636 A/B	Boeing BMS 5-28, Ty 6 REV AN / Gulfstream GMS 4005, Ty 1, CI C FMII REV B / Kaman CMS-007-3 REV IR	Pourable	120 (54 gram mass)	100:8						
	Low-Density, One-Component Frozen Edge and Void Fillers										
llers	Epocast® 1610-A1	Boeing BMS 5-28, Ty 10, REV AN / C&D Aerospace CDM212-00, Ty 13, REV J /	Non-flow paste	30 days after thaw	N/A						
One-Component Edge and Void Fillers	Epocast® 1661	Heath Tecna C2-001, Ty 2, CLI GRA REV M Pratt & Whitney PWA 36757, REV C	Paste	8 hrs (100 gram mass)	N/A						
	·			after thaw							
	••	nponent Frozen Edge and Void Fillers									
	Epocast® 1614-A1	For complete list please see page 14	Extrudable paste	8 hrs after thaw	N/A						
oone	High-Density, One-Compo	One-Component Frozen Edge and Void Fillers									
e-Comp	Epocast® 938-A2	Boeing BMS 5-28, Ty 12, Cl 1& 2, REV AN / Boeing BMS 5-28, Ty 13, REV AN / ROHR RMS 027, Ty 13, REV AP SCO 036 / Spirit SMS 116201, Ty 2, REV H / Vought VM4006, Ty 2, Cl B FM 1 AM 2 / Grumman GM 4006, Ty 3, ClB, FM1 REV B	Extrudable paste	18 hrs (100 gram mass) after thaw	N/A						
O	Epocast® 1627-2	Boeing BMS 5-28, Ty 27, REV AN / Airbus/Coasa RP1021209 ISS 2	Extrudable paste	24 hrs after thaw	N/A						
7											

Suggested Cure Schedule °F	Max Service Temp °F	Compressive Strength, psi at 77°F	Density, g/cc	Flame Retardant	Color	Packaging
7 days at 77° F or 5 hrs at 125° F	Not Determined	2,800	0.50	Yes	Pale yellow	Working packs
7 days at 77°F or 5 hrs at 125° F	Not Determined	3,000	0.48	Yes	Light tan	Working packs
3 days at 77°F or 2 hrs at 160°F	176	5,200	0.65	Yes	Light blue	Working packs
24 hrs at 75°F or 2 hrs at 150°F	Not Determined	2,000	0.68	No	Red-brown	Working packs
24 hrs at 75°F or 2 hrs at 150°F	Not Determined	8,000	0.68	No	Red-brown	Working packs
12 hrs at 75°F or 1-3 hrs at 150°F	Not Determined	3,500	0.68	No	Red-brown	Working packs
7 days at 77°F or 5 hrs at 125°F	Not Determined	5,500	0.70	Yes	Off-white	Working packs
7 days at Room Temp or 5 hrs at 125°F	Not Determined	5,000	0.70	Yes	Off-white	6 oz Semkits®, working packs and pail kits
7 days at Room Temp o r 5 hrs at 125°F	Not Determined	5,500	0.70	Yes	Off-white	50g & 125g jar kits and working packs
3 to 5 days at RT or gel at room temperature plus 3 to 5 hours at 125°F (52°C)	80°C	8,500	0.77	Yes	Off-white	6 oz cartridges
7 days at 77°F * or 2 hrs at 160°F	Not Determined	NA	0.65	No	Brown	6 oz & 20 oz Semkits® and working packs
7 days at 77°F * or 2 hrs at 160°F	Not Determined	NA	0.69	No	Brown	400 ml cartridge
3 Days at 77°F or 5 hrs at 120°F or 2 hrs at 150°F	Not Determined	6,500	0.73	Yes	Light blue (available in different colors)	200 ml & 50ml cartridges
24 hrs at Room Temp or 5 hrs at 120°F	Not Determined	7,600	0.70	Yes	Off-white	Working packs
7 days at 77°F * or 1 hr at 350°F	350	9,000	0.90	Yes	Off-white	50g & 500g jar kits, 6 oz Semkits® and working packs
7 days at 77°F * or 2-3 hrs at 150°F	350	8,000	0.80	No	Light tan	6 oz Semkits® and working packs
7 days at 77°F or 2-3 hrs at 150°F	350	8,000	0.80	No	Light tan	Working packs
7 days at 77°F or 1 hr at 350°F	350	8,800	0.90	Yes	Gray	Working packs
7 days at 77°F or 2.5 hrs at 200°F	350	15,000	1.80	No	Blue-gray	50 ml cartridge and working packs
7 days at 77°F* or 1 hr at 350°F	350	15,000	1.72	Yes	Gray	Working packs
1 hr at 260°F	Not Determined	2,400	0.50	Yes	Off-white	Working packs and pails
1 hr at 350°F or 1.5 hrs at 250°F	350	9,000	0.60	No	Off-white	Patties
1 hr at 350°F or 1.5 hrs at 250°F	350	14,500	0.75	Yes	Red-brown	6 oz, 12 oz & 20 oz cartridges and patties
1 hr at 350°F or 1.5 hrs at 250°F	350	22,000	<1.40	Yes	Off-white	6 oz & 12 oz cartridges
1hr at 350°F	350	30,000	1.80	No	Gray	6 oz & 32 oz cartridges and patties

Epoxy Adhesives

Araldite® AV 8504/TDT 177-27 Thixotropic Adhesive

Fast curing, meter/mix dispensable black epoxy adhesive that produces high-strength, resilient bond lines on a variety of substrates. Well suited for panel pin bonding.

Araldite® EP 1000 A/B Nano-Toughened Adhesive

Translucent epoxy adhesive paste that can withstand exposure to aviation fuels and hydraulic fluids. Features very high lap shear strength at temperatures up to 250°F (121°C). Well suited for bonding metals, composites and dissimilar materials.

Araldite® 1570 FST A/B Selame-Retardant Adhesive

Dark gray, halogen-free epoxy adhesive designed for aerospace applications requiring flame retardant properties. Particularly suitable for PE foam-to-phenolic GRP bonding in cargo areas. Meets FAR 25.853, AIMS 10-04-006 and AITM 3.0005.

Epibond® 100 A/B High-temperature Adhesive

Two-component, heat-curing epoxy structural adhesive designed for demanding applications requiring high hot / wet Tg performance, and elevated temperature performance.

Epibond® 104-1 A/B Non-Flow Paste Adhesive

Gap-filling, sag-resistant, off-white epoxy paste that provides good adhesion on metals, plastics and rubber. Suitable for edge sealing and vibration dampening.

Epibond® 156-1A/B "Wipe-on" Paste Adhesive

Easy-to-apply, off-white epoxy paste with good electrical properties and adhesion. Particularly suitable as pore filler for composite, plastic and wood surfaces.

Epibond® 420 A/B Toughened Adhesive

Durable, tough, high-strength, blue-green epoxy adhesive suitable for a wide variety of metal, honeycomb and composite bonding applications.

Epibond® 1210 A/B Multi-Purpose Adhesive

Non-flow, room-temperature cure, tan epoxy adhesive with a long work life. Its low outgassing properties make it particularly suitable for spacecraft applications.

Epibond® 1210 A/9615 A Multi-Purpose Adhesive

Versatile, tan epoxy adhesive that cures at room temperature and can withstand exposure to jet fuel and water. For bonding metal, wood, glass, ceramics and plastics.

Epibond® 1210 A/9861 Multi-Purpose Adhesive

Non-flow, room-temperature cure tan epoxy adhesive with a long work life. Its low outgassing properties make it particularly suitable for spacecraft applications. Suitable for bonding metal, wood, glass, ceramics and some plastics. Faster curing than Epibond® 1210 A / 9615 A adhesive.

Epibond® 1217 A/B Fast-Setting Adhesive

Fast-cure, high-strength translucent epoxy adhesive suitable for bonding steel, aluminum, wood, ceramics and plastic substrates.

Epibond[®] 1337A-1 / 9615-A General Purpose Adhesive

Ambient-cure, two-component, aluminum-filled, non-flowing paste adhesive designed for general purpose metal bonding. Offers an excellent sag resistance when applied on vertical surfaces and may be faired, trowelled, or splined in position.

Epibond® 1534 A/B Composite Repair Adhesive

High-performance amber epoxy adhesive that can withstand exposure to distilled water, salt water, jet fuel and hydraulic fluids. For bonding fiberglass-reinforced polyesters, metals and dissimilar substrates.

Epibond® 1536 A/B Plastic Bonding Adhesive

High-strength amber epoxy adhesive with a two-hour work life, suitable for bonding composite panels together and joining other materials.

Epibond® 1539 A/B Composite Repair Adhesive

High-strength, amber epoxy adhesive for bonding polyesters, fiberglass-reinforced plastics and metals.

Epibond® 1539 A/B-10 Composite Repair Adhesive

High-strength, blue epoxy adhesive for bonding polyesters, fiberglass-reinforced plastics and metals.

Epibond® 1544-1 A/C S Flame Retardant Adhesive

Low-flow, gap-filling, off-white epoxy adhesive that develops early green strength. For bonding dissimilar materials including plastics, metals and composite laminates used in aircraft interiors which must satisfy the requirements of FAR 25.853.

Epibond® 1544-1 A-71/D Sepibond® 1544-1 A-71/D

Low-flow, gap-filling white epoxy adhesive that develops early green strength. For joining dissimilar materials including plastics, metals and composite laminates used in aircraft interiors which must satisfy the requirements of FAR 25.853.

Epibond[®] 1544-1 A-82/D **S** Flame Retardant Adhesive

Low-flow, gap-filling beige epoxy adhesive that develops early green strength. For joining dissimilar materials including plastics, metals and composite laminates used in aircraft interiors which must satisfy the requirements of FAR 25.853.

Epibond® 1559-1 A/B Seast-setting Adhesive

Flame retardant, fast-setting, dark gray epoxy adhesive that develops handling strength in ten minutes and cures to the touch after one hour at 77°F (25°C). For floor panels and other interior parts which must satisfy the requirements of FAR 25.853.

Epibond® 1565 A/B High-Temperature Adhesive

Dark amber thixotropic epoxy adhesive with excellent performance properties at temperatures up to 350°F (177°C). For bonding metals, glass, ceramics, wood and most plastics.

Epibond® 8000 FR A/B Selection Flame-retardant Adhesive

Two-component, flame-retardant epoxy structural adhesive designed for interior applications. Meets the flammability, smoke density and toxicity requirements of FAR 25.853. Suitable for honeycomb panels, metals and composite materials.

Epibond® 8543 C/B Low-Temperature Cure Adhesive

Sag-resistant, fast-setting gray epoxy adhesive that cures in as little as two hours at temperatures as low as 45°F (7°C). For bonding metal and plastics.

Fastweld[™] 10 Fast-Setting Adhesive

Rapid-setting, two-component gray epoxy adhesive paste offering a convenient one-to-one mixing ratio by volume or weight. Produces strong bonds within a short time. Particularly suitable for bonding small parts and for repair work.

Polyurethane Adhesives

Uralane® 5754 A/B Clear Adhesive

High peel strength polyurethane adhesive for producing clear bonds on acrylic and other polymers without requiring special surface preparation. For bonding plastics and metals used in interior aircraft assemblies and placards.

Uralane® 5759 G/D Flame Retardant Adhesive

Thixotropic, sprayable, off-white polyurethane adhesive for applications requiring high-bond strength on engineering thermoplastics. For aircraft interior applications with stringent flammability requirements.

Uralane® 5772 A/B High-Strength Adhesive

Tough, dark amber polyurethane adhesive which can provide bonds with high shear and peel strengths between metals and dissimilar materials. Suitable for temperatures up to 250°F (121°C).

Uralane® 5773 A/B High-Strength Adhesive

Durable, dark amber polyurethane adhesive with high peel strength at temperatures up to 250°F (121°C). For bonding metal substrates and thermoplastics.

Uralane® 5774 A/C Thermoplastic-Bonding Adhesive

Flame retardant beige polyurethane adhesive that can be handled after four hours at room temperature. Produces tough, impact-resistant bonds on hard-to-join thermoplastics and on metal substrates.



Adhesives, Two-Component Systems (Typical Properties)

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Product	OEM Specifications	Mix Ratio, Ritt By Weight	Mixed Viscosity cP at 77°F	Gel Time/Pot Life, min at 77°F	Suggested Cure Schedule °F
Epoxy Adhesives					
Araldite® AV 8504/ TDT 177-27	Huntsman standard certification	100:50	Semi-paste	15 (150 gram mass)	15 hrs at 77°F or 30 mins at 140°F or 10 mins at 212°F
Araldite® EP 1000 A/B	Huntsman standard certification	100:43	30,000	40 (20 gram mass)	7 days at 77°F or 3 hrs at 77°F + 3 hrs at 160°F
Araldite® 1570 FST A/B	Huntsman standard certification	100:87.8	Paste	140 (100 gram mass)	48 hrs at 73°F
Epibond® 100 A/B	Huntsman standard certification	100:44	280,000	135-145 (150 gram mass)	1 hour at 150°F + 3-5 hours at 200°F
Epibond® 104-1 A/B	Huntsman standard certification	100:10	Paste	30-40 (100 gram mass)	3 days at 77°F or 1 hr at 150°F
Epibond® 156-1 A/B	Huntsman standard certification	100:60	Soft paste	20-50 (100 gram mass)	3 days at 77°F or 1-3 hrs at 150°F
Epibond® 420 A/B	Boeing BMS 5-107, Cl 1, REV B / Triumph TCE-M-20710-4, Ty 1, REV B	100:40	Semi-paste	60 (100 gram mass)	7 days at 77°F or 1 hr at 250°F
Epibond® 1210 A/B	Sundstrand CM 34.40-38-01, REV 3	100:65	Semi-paste	50-75 (100 gram mass)	48 hrs at 77°F or 2 hrs at 150°F
Epibond [®] 1210 A/ 9615-A	Lockheed Martin LAC 30-4639-0100, REV H	100:65	Paste	50-75 (100 gram mass)	48 hrs at 77°F or 3 hrs at 150°F
Epibond® 1210 A/ 9861	Lockheed Martin LAC 30-4639-0200, REV H / Loral 23-P12027-0003, REV 7 / Spectrolab 044418, REV A1	100:20	Semi-paste	35-60 (100 gram mass)	48 hrs at 77°F or 1-2 hrs at 150°F
Epibond [®] 1217 A/B	Boeing HMS 16-1068 CL 8B, REV P / Kearfott Y105A053-101, REV B / MD Helicopters MDM 16-1068 CL 8B, REV B	100:100	Paste	4-8 (50 gram mass)	1-2 hrs at 77°F
Epibond® 1337A-1 / 9615-A	Huntsman standard certification	1:1	Semi-paste	90-150 (100 gram mass)	1 hour at 150°F + 3-5 hours at 200°F
Epibond® 1534 A/B	Boeing BMS 5-126, Ty 2, Cl 1 GR B, REV H / Pratt & Whitney TS10430, REV D	100:100	2,000	120 (100 gram mass)	Two days at RT or gel at RT plus 1-2 hrs at 150°F
Epibond® 1536 A/B	Boeing BMS 5-126, Ty 3, Cl 1 GR B, REV H	100:100	2,500	120 (100 gram mass)	3-5 days at 77°F or 20-30 mins at 250°F
Epibond® 1539 A/B	Boeing BMS 5-126, Ty 6, Cl 1 GR B, REV H	100:95	Paste	120 (100 gram mass)	24 hrs at 77°F or 20-30 mins at 250°F
Epibond® 1539 A/B-10	Boeing BMS 5-25, Ty 2, Gr 1, REV D	100:89	Paste	120 (50 gram mass)	24 hrs at 77°F or 20-30 mins at 250°F
Epibond® 1544-1 A/C	Boeing BMS 5-126, Ty 4, Cl 1, GR B, REV H	100:13	Semi-paste	10 (50 gram mass)	18 hrs at 77°F or 1 hr at 150°F
Epibond® 1544-1 A-71/D	Boeing BMS 5-126, Ty 4, Cl 4, GR B, REV H / Heath Tecna HMS A5-001, Ty 1, Cl 1, REV E	100:13	Semi-paste	30-40 (50 gram mass)	24 hrs at 77°F or gel at room temp + 1 hr at 150°F
Epibond® 1544-1 A-82/D	Boeing BMS 5-126, Ty 4, Cl 4, GR B, REV H / Gamesa GMS 124050 lss 3	100:13	Semi-paste	30-40 (50 gram mass)	24 hrs at 77°F or gel at room temp + 1 hr at 150° F
Epibond® 1559-1 A/B	Heath Techna HMS A5-001, Ty 2, Cl 3, REV E	100:100	Semi-paste	4-10 (50 gram mass)	24 hrs at 77°F or 30 mins at 160°F
Epibond® 1565 A/B	Boeing D800-10411-1 (PDD 6-1)	100:40	25,000	12 hrs (100 gram mass)	3 hrs at 200°F or 1 hr at 350°F
Epibond® 8000 FR A/B	Huntsman standard certification	100:48	180,000	65-70 (20 gram mass)	1.5 hours at 135°F or 5-7 days at 77°F
Epibond® 8543 C/B	Boeing BMS 5-123, Ty 1, Cl 3, REV F	100:100	Non-sag paste	3 (20 gram mass)	30-60 mins at 77°F or 60-120 mins at 45°F
Fastweld™ 10	Huntsman standard certification	100:100	160,000	3-4 (85 gram mass)	4 hrs at 77°F
Polyurethane Adhesives					
Uralane® 5754 A/B	Huntsman standard certification	100:50	600	12-18 (100 gram mass)	8 days at 77°F or 2 hrs at 150°F
Uralane® 5759 G/D	Boeing BMS 5-105, Ty 3, REV M	100:19	Paste	4-8 (100 gram mass)	48 hrs at 77°F or 4 hrs at 160°F
Uralane [®] 5772 A/B	Huntsman standard certification	100:23	Semi-paste	15-20 (100 gram mass)	7 days at 75°F or 16 hrs at 150°F
Uralane® 5773 A/B	Huntsman standard certification	100:42	Semi-paste	25-45 (50 gram mass)	5-7 days at 75°F or 16 hrs at 150°F
Uralane [®] 5774 A/C	Boeing BMS 5-105, Ty 5, REV M / Heath Tecna HMS A4-001, Ty 1, Cl 2, REV G / Navy NWC78A151, REV F / Gulfstream GAA 100BN1, REV C / Army 13312291, REV G	100:55	Semi-paste	15-25 (100 gram mass)	7 days at 77°F or 1-2 hrs at 200°F
Uralane® 5776 A/B	Navy 5675396, REV B / Navy WS 9087, REV A	100:40	Semi-paste	35-45 (100 gram mass)	5-7 days at 77°F or 4 hrs at 150°F or 1.5 hrs at 200°F
Uralane® 5779 A/B	Boeing BMS 5-105, Ty 6, REV M / Heath Tecna HMS A4-001, Ty 1, Cl 3, REV G	100:98	Non-sag paste	8-15 (100 gram mass)	7 days at 75°F or 4 hrs at 150°F
Uralane® 5779 A80/B	Boeing BMS 5-105, Ty 6, REV M	100:98	Non-sag paste	8-15 (100 gram mass)	7 days at 75°F or 4 hrs at 150°F

Max Service Temp °F	Lap Shear psi, al/al	Strength,	T-Peel, pli	Flame Retardant	Color	Packaging
	77°F	180°F				
200	1,850	900	N/A	No	Black	50 ml & 200 ml cartridge
250	5,000	3,500	17	No	Translucent	50 ml & 200 ml cartridge
Not Determined	2,600	400	N/A	Yes	Dark gray	200 ml cartridge
300	5,000	4,000	22	No	Off-white	50-ml, 200-ml 2:1 dual cartridges
150	2,500	800+	N/A	No	Off-white	Working packs
200	2,000	1,950	N/A	No	Off-white	Working packs
150	4,500	500	N/A	No	Blue-green	50 ml cartridge and working packs
Not Determined	2,500	500	N/A	No	Tan	Working packs
Not Determined	2,500	No Data	N/A	No	Tan	Working packs
250	2,800	2,500	N/A	No	Tan	Working packs
Not Determined	2,500	500	N/A	No	Translucent	50 ml cartridge, 6 oz tubes and working packs
Not Determined	2,400	N/A	N/A	No	Gray	Pint and quart kits
Not Determined	3,000	575	N/A	No	Amber	Working packs
Not Determined	3,000	550	N/A	No	Amber	Working packs
150	2,500	800	N/A	No	Amber	Working packs
150	2,500	800	N/A	No	Blue	Working packs
Not Determined	2,600	No Data	N/A	Yes	Off-white	Working packs
Not Determined	2,600	No Data	N/A	Yes	White	Working packs
Not Determined	2,600	No Data	N/A	Yes	Beige	6 oz Semkits® and working packs
Not Determined	2,700	No Data	N/A	Yes	Dark gray	50 ml & 200 ml cartridge
350	1,000	No Data	N/A	No	Dark amber	Working packs
180	3,900	1,290	23 (roller peel)	Yes	Off-white	50-ml, 200-ml 2:1 dual cartridges
Not Determined	2,000	500	N/A	No	Gray	50 ml cartridge and working packs
Not Determined	2,800	No Data	N/A	No	Gray	9 oz tubes, 50 ml cartridge and 5-gal pails
Not Determined	600	175	30	No	Clear	Working packs
Not Determined	700	300	10	Yes	Off-white	400 ml cartridge
180	2,100	650	50	No	Dark amber	Working packs
250	2,500	900	35	No	Dark amber	Working packs
180	2,200	1,300	35	Yes	Beige	50 ml & 200 ml cartridge and working packs
Not Determined	800	240	28	No	Olive/Tan	Working packs
Not Determined	1,200	No Data	10	No	White	50 ml cartridge
Not Determined	1,200	No Data	10	No	Beige	50 ml cartridge

Epoxy Laminating Systems

Epocast® 35 A / 927 High-temperature Epoxy

Two-component, solvent-free epoxy designed to perform at temperatures up to 300°F. Readily wets glass fabrics and offers a long work life. Well suited for the fabrication or repair of laminated composite structures.

Epocast® 50-A1/946 Nigh-Strength Epoxy

Flame-retardant, unfilled amber epoxy laminating system for the manufacture and repair of composite structures.

Epocast® 50-A1/9816 Nigh-Strength Epoxy

Flame-retardant, unfilled amber epoxy system suitable for repairing composite structures and for filament winding applications.

Epocast® 52 A/B High-Strength Epoxy

High-temperature, moderateviscosity blue epoxy laminating system with good hot/wet strength, excellent resistance to aircraft fluids and moisture. Cures quickly at temperatures between 150°F (65°C) and 200°F (93°C). For repairing graphite and fiberglass composite structures.

Epocast® 54 A/B High-Strength Repair Epoxy

Flame-retardant, fast-setting, unfilled light amber epoxy system that exhibits a high compressive strength and compressive modulus after curing. For repairing composite structures.

Araldite[®] 501 High-Temperature Epoxy

Unfilled blue epoxy system with good mechanical strength for repairing aircraft composite components. Suitable for temperatures up to 248°F (120 °C).

Araldite[®] LY 5052 / Aradur 5052 Ambient-Curing Epoxy

Low-viscosity, easy-to-mix, high-strength, pale yellow epoxy system designed for complete impregnation of glass, carbon and aramid fibers used in filament winding, RTM, pressure molding and wet lay-up.

Laminating Systems (Typical Properties)

Product	OEM Specifications	Mix Ratio pbw	Mixed Viscosity cP at 77°F	Gel Time, min at 77°F	Suggested Cure Schedule °F	Nominal Service Temp °F	Laminate Compressive Strength, psi at 77°F	Color	Packaging
Epocast [®] 35 A / 927	Boeing BMS 8-214, Ty1, REV G	100:25	7,000	5 (100 gram mass)	4hrs at 180°F (83°C) or 2hrs at 250°F (121°C)	<300	72,000	Amber	Quart kits
Epocast® 50-A1 / 946	Boeing BMS 8-201, Ty 4, REV F / Embraer MEP 22-011, REV C	100:15	2,400	20 (100 gram mass)	5 days at 77°F or 2 hrs at 170°-200°F	Not Determined	>45,000	Amber	Working packs
Epocast® 50-A1 / 9816	Boeing BMS 8-201, Ty 3, REV F / Embraer MEP 22-011, REV C	100:14	2,400	65 (100 gram mass)	5 days at 77°F or 2 hrs at 170°-200°F	Not Determined	>45,000	Amber	Working packs
Epocast® 52 A/B	Airbus IPS 08-01-002-01 Iss 4 / Adam Aircraft S-00-040-36, Ty 1, REV A / Eurocopter ECS 0049 Part 1 / SAE Aero AMS 2980	100:41	5,500	60 (100 gram mass)	3 hrs at 150°F or 2 hrs at 200°F	350	Not Determined	Blue	Working packs
Epocast® 54 A/B	Airbus IPS 04-27-001-01 lss 1	100:15	8,000	15-25 (100 gram mass)	5 days at 77°F or 2 hrs at 150°-200°F	Not Determined	49,000	Light amber	Working packs
Araldite® 501	Douglas HMS 16-1115 Ty 3, REV C, SUPP 1	100:15	3,500	90 at 73°F (100 gram mass)	7 days at 77°F or 16 hrs at 113°F or 2 hrs at 158°F	180	Not Determined	Blue	Working packs
Araldite® LY 5052 / Aradur® 5052	Huntsman standard certification	100:38	500-700	110-160 (100 gram mass)	Multiple cure schedules - refer to TDS	180	Not Determined	Pale yellow	Drums

Aerospace Products by Specification

Adam Aircraft S-00-040-36, Type 1 REV A	Epocast® 52 A/B	Hawker de Havilland EN-106G309, Iss 3	Epocast® 1614-A1
Alenia MDL08055 REV I MDL8027 Type 7 REV 1	Epocast® 1617 A/B CG1305A/B, Epocast® 89537A/B	Heath Tecna HMS A4-001, Type 1, Class 2 REV GHMS A4-001, Type 1, Class 3 REV GHMS A5-001, Type 1, Class 1 REV EHMS A5-001, Type 2, Class 3 REV EHMS C2-001, Type 2, Class 3 REV HMS C2-001, Type 2, CLI GRA REV M	Uralane® 5774 A/C Uralane® 5779 A/B Epibond® 1544-1 A-71/D
Allied Signal PCS 5606	Epocast® 1652 A/B	HMS A5-001, Type 2, Class 3 REV E HMS C2-001, Type 2, CLI GRA REV M	Epibond® 1559-1 A/B Epocast® 1610-A1
Airbus IPS 08-01-002-01 Issue 4 IPS 04-27-001-01, Issue 1	Epocast® 52 A/B Epocast® 54 A/B	HUREL-Hispano HS/DFO-010 REV D	•
Airbus/Coasa RP1021209 Issue 2	Epocast® 1627-2	Kaman Composite CMS-007-3 REV IR	Epocast® 1617A/B
Airbus Espana I+D-N-200-Z-18.115/2 REV 3	Epocast® 89537	Kearfott Y105A053-101 REV B	Epibond® 1217 A/B
Army 13312291 REV G	Uralane® 5774 A/C	Lockheed Martin LAC 30-4639-0100 REV H	Fpibond® 1210 A/9615A
Bell Helicopter 299-947-097, Type 5, REV V Boeing	Epocast® 1626 A/B	LAC 30-4639-0200 REV H STM M1067, Type 1 REV 1 STM M1067, Type 2 REV 1 STM M1069	Epibond® 1210 A/9861 Epocast® 1614-A1 Epocast® 1614-A1
BMS 5-25, Type 2, Gr 1 REV D BMS 5-28 Type 6 REV AN	Epibond [®] 1539 A/B-10 Epocast [®] 1636 A/B	Loral 23-P12027-0003 REV 7	,
BMS 5-28, Type 7, Class 1 REV AN BMS 5-28, Type 7, Class 2 REV AN BMS 5-28, Type 9, REV AN	Epocast® 89537 A/B Epocast® 1629 A/B	MD Helicopters MDM 16-1068 CL8B REV B	,
BMS 5-28, Type 9, REV AN BMS 5-28, Type 10, REV AN BMS 5-28, Type 12, Class 1 REV AN BMS 5-28, Type 12, Class 2 REV AN	Epocast® 1610-A1 Epocast® 938 A2 Epocast® 938 A2	Mitsuhishi	
BMS 5-28, Type 13, REV AN BMS 5-28, Type 14, Class 1 REV AN BMS 5-28, Type 14, Class 2 REV AN.	Epocast® 938 A2 Epocast® 1614 A1 Epocast® 1614 A1	M1074, Type 2 REV C M1129, Class A REV F	Epocast® 1629 A/B Epocast® 169 A-1/9615
BMS 5-28, Type 17, REV ANBMS 5-28, Type 18, Class 1 REV ANBMS 5-28, Type 18, Class 2 REV AN	Epocast® 1617 A/B Epocast® 1618 D/B Epocast® 1633A-40/B, 1633A-41/B, 1633A-50/B	Navy 5675396 REV B NWC 78A151 REV F WS 9087 REV A	Uralane® 5776 A/B Uralane® 5774 A/C Uralane® 5776 A/B
BMS 5-28, Type 19, REV AN BMS 5-28, Type 26, Class 1 REV AN BMS 5-28, Type 26, Class 2 REV AN BMS 5-28, Type 27, REV AN	Epocast® 1619 A/B Epocast® 1626 A/B Epocast® 1626 C1/D2 Epocast® 1627-2 _	Northrop Grumman GM 4006, Type 1, Class B FM1 REV B	Epocast® 1652 A/B, Epocast® 1656 A/B
BMS 5-28, Type 27, REV AN BMS 5-28, Type 28, REV AN BMS 5-28, Type 31 REV AN BMS 5-105, Type 3 REV M	Uralane® 5759 G/D	GM 4006, Type 3, Class B FM1 REV BACS-MRS-5601 REV C	Epocast® 938-A2 Epocast® 1614-A1
BMS 5-105, Týpe 5, REV M BMS 5-105, Type 6, REV M	I Iralane® 5770 Δ-80/R	Piaggo Aero NP190112, Type 17, REV C	
BMS 5-107, Class 1, REV B BMS 5-123, Type 1, Class 3, REV F BMS 5-126, Type 2, Class 1 GR B REV H BMS 5-126, Type 3, Class 1 GR B REV H	Epibond® 420 A/BEpibond® 8543 C/BEpibond® 1534 A/BEpibond® 1536 A/BEpibond® 1544 A/C	Pratt & Whitney CPW 505 REV D PW 36757 REV C PWA 452 REV L TS10430 REV D	Enocast® 1661
BMS 5-126, Type 3, Class 1 GR B REV H BMS 5-126, Type 4, Class 1 GR B REV H BMS 5-126, Type 4, Class 4 GR B REV H BMS 5-126, Type 6, Class 1 GR B REV H	Enipond® 1539 A/B	Raytheon BS 23818, Class 1, Type 1 REV 5	
BMS 8-201, Type 3, REV F BMS 8-201, Type 4, REV F. BMS 8-214, Type 1, REV G D800-10411-1, PDD6-1 HMS 16-1068, Class 8B REV P	Epibond® 1565 A/B	ROHR RMS 027, Type 5, Class 3 REV AP SCO 036 RMS 027, Type 12, REV AP SCO 036 RMS 027, Type 13, REV AP SCO 036	Fnocast® 1614-A1
901-330-140-107 REV C Boeing/MESA HS5933 (A) 100-25 REV E Boeing/MESA HS5933 (A) 150-100 REV E	Epocast® 1614-A1-11/CSI Epocast® 1614-A1-67/CSI Epocast® 1614-A1-64/CSI	SAE Aerospace AMS 2980	Epocast® 52 A/B
901-330-140-107 REV C Boeing/MESA HS5933 (A) 100-25 REV E Boeing/MESA HS5933 (A) 150-100 REV E Boeing/MESA HS5933 (A) 150-25 REV E Boeing/MESA HS5933 (A) 150-25 REV E Boeing/MESA HS5933 (A) 150-35 REV E Boeing/MESA HS5933 (A) 150-50 REV E MMS 347, Type 2, REV G ADD 1 REV K	Epocast® 1614-A1-65/CSI Epocast® 1614-A1-65/CSI Epocast® 1614-A1-68/CSI Epocast® 1614-A1	Sikorsky SS-9440, 0-001A REV 0 AMEND 0-04S-9587, (-002A &-05A) Type 1 REV 7 SS-9587, (-003A) Type 2 REV 7 SS 9587, (-008A) Type 3 REV 7	Epocast® 169 A-1/9615
Bombardier SMS41, Type 3, Iss 6	Epocast® 1617 A/B	Spectrolab	
C & D Aerospace CDM212-00, Type 13 REV J	Epocast® 1610 A1	0444418 REV A1Spirit Aero Systems	Epibond® 1210 A/9861
Douglas HMS 16-1115 Type III REV C SUPP 1	Araldite® 501 A/B	SMS 116201, Type 1 REV H SMS 116201, Type 2 REV H SMS 116201, Type 3 REV H	Epocast® 938 A2
Embraer MEP 10-051 TY2 CL1 REV M MEP 22-011 REV C	Epocast® 50-A1/946,	Triumph Composite TCE-M-20710-6 Type 1 REV B TCE-M-20710-4 Type 1 REV B	Epocast® 1628A/B Epibond® 420A/B
Embraer/Kawaski 190-38790-903 REV D	Epocast® 1614-A1-61/CSI	United Launch Alliance (ULA) STM M1067 TY I & TYII REV B	,
Eurocopter ECS 0049, Part 1	Epocast® 52 A/B	Vought	
Gamesa Aeronautica GMS 124050, Iss 3 GMS 124047, Iss 3	Epibond® 1544-1A-82/D Epocast® 1617 A/B	VM 4006, Type 1 CLD FM1 207-8-417 REV D VM 4006, Type 2, CL B, FM1 AM2 901-031-442-101U REV C.	Epocast® 1614-A1 Epocast® 938 A2 Epocast® 1614-A1-7/CSI
Gulfstream GMS 4005, Type 1, Class B FMI REV B GMS 4005, Type 1, Class C FMII REV B GAA 100BN1 REV C	Epocast® 1652 A/B Epocast® 1636 A/B Uralane® 5774 A/C	901-031-442-105U REV C 901-031-442-111U REV C. 901-031-442-103U REV C. 901-031-442-113U REV C. 901-031-442-115U REV C.	Epocast® 1614-A1-8/CSI Epocast® 1614-A1-62/CSI
Hamilton-Sundstrand CM34.40-38-01 REV 3	Epibond® 1210 A/B		,

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