



Aerospace

Adhesives and Syntactics

Huntsman is a global leader in the manufacture and supply of products for the aerospace industry including high-performance syntactics and adhesives for use on composites, metals, plastics and honeycomb structures.

HUNTSMAN

Syntactics

Huntsman's lightweight syntactics are widely used to reinforce interior and exterior aircraft composite structures.

Huntsman manufactures one- and two-component Araldite® and Epocast® epoxy syntactics with a variety of densities ranging from ultra-low (0.50 grams/cc) to high (1.80 grams/cc). The compounds are designed for lightweight reinforcement of interior and exterior honeycomb composite structures and are used in a wide range of aircraft types including Boeing and Airbus. The majority of these systems are qualified to aircraft manufacturers' specifications and are included as approved repair materials in manufacturers' structural repair manuals and service bulletins. Many of the syntactics are also self-extinguishing and exhibit the low flame, smoke and toxicity characteristics required to comply with FAR 25.853 regulations governing materials used in aircraft interiors.

Ultra-low Density, Two-component Syntactics

Araldite® 1641-A/B, Pale Blue, Crack-resistant Syntactic

Non-flowing, thixotropic epoxy paste that is easy to extrude. Features a long 180-minute work life and resists cracking when exposed to vibration and other high-stress applications. Qualified to MSRR 1076.

Epocast® 1628 Products, Off-white, Green, Self-extinguishing Syntactics

Non-sag paste epoxies with outstanding self-extinguishing properties to meet the requirements of FAR 25.853 a & b. Can be extruded or troweled into composite components as an edge fill or honeycomb reinforcement. Qualified to BMS 5-28, Type 28 and CCS 1129.

Epocast® 87005-AC/B-61, Light Green, Easy-to-sand Syntactic

Self-extinguishing, non-sagging epoxy with good resistance to fluids, fungus and moisture. Color-coded components provide for easy mixing. The system cures at room temperature. Specially designed for sandwich panel close-out.



Low-density, Two-component Syntactics

Araldite® 252-A/B, Blue, High-temperature Syntactic

Gap-filling, sandable epoxy paste. Cures at room temperature. Developed for reinforcing and edge filling honeycomb sandwich structures. Qualified to ASNA 4072, issA.

Epocast® 169-A/9615, Red Brown, General-purpose Syntactic

Easy-to-apply foam with good dimensional stability under changing humidity conditions. Cures at room temperature to a carvable, wood-like material. For core filling and honeycomb reinforcement. Qualified to SS-9587, Type 1.

Epocast® 1618 Products, White, Fast-setting Syntactics

Self-extinguishing, low-flow extrudable epoxies with good compressive strength. Cure at room temperature. Designed for reinforcing inserts in honeycomb core. Qualified to BMS 5-28, Type 18, Class 1.



Epocast® 1626 Products, Brown, Toughened Syntactic Foams

Easy-to-handle, low-flow epoxies that exhibit high heat stability, resist cracking and can withstand vibration. Cure at room temperature. For core filling, edge sealing, and bushing and fastener potting of honeycomb structures. Qualified to BMS 5-28, Type 26.

Epocast® 1633-A/B, Light Blue, Fast Repair Syntactic

Self-extinguishing, halogen-free epoxy that sets in 2-5 minutes and exhibits high compressive strength. Supplied in 50 and 200 ml dual-barrel dispensing cartridges. Cures after a 25°C (77°F) gel plus 5 hours at 49°C (120°F).

Epocast® 1638-A/B, Off-white, Fast-setting Syntactic

Improved self-extinguishing, extrudable syntactic with high compressive strength at density of 0.7 g/cc. Contains no antimony trioxide. Gels in less than 20 minutes and cures overnight at room temperature or after 5 hours at 49°C (120°F). Suitable for a wide range of honeycomb reinforcement projects including fastener potting and edge filling.



Medium-density, Two-component Syntactics

CG 1305-R/H, Off-white, High-strength Syntactic

Flame-retardant epoxy that cures at room temperature. Designed for reinforcing high-stress areas in honeycomb and other potting applications. Qualified to BMS 5-28, Type 7, Class 1.

Epocast® 1652-A/B, Tan, 177°C (350°F) Syntactic

High-strength epoxy with a 30-60 minute work life. Exhibits superior elevated temperature performance after a room-temperature cure. For core filling and splicing honeycomb composite structures. Qualified to GM 4006, Type 1, Class B and SS-9587, Type 2.

Epocast® 1656-A/B, Light Tan, Long Work Life Syntactic

Thick paste epoxy with a 50-90 minute work life. Maintains excellent physical performance characteristics at elevated temperatures up to 121°C (250°F) after curing at 25°C (77°F). For core splicing and strengthening radii and corners in reinforced plastic structures. Meets the requirements of GM-4006, Type 1, Class B.

Epocast® 89537-A/B, Grey, Glass Fiber-reinforced Syntactic

Sag-resistant, self-extinguishing, extrudable paste with a 70-minute work life. Exhibits superior elevated temperature performance (up to 177°C/350°F) after a room-temperature cure. Designed for reinforcing fasteners and attachments, core splicing and edge reinforcing. Qualified to BMS 5-28, Type 7, Class 2.



High-density, Two-component Syntactics

Epocast® 1511-A/B, Grey, Fast-setting Syntactic

Non-flow epoxy paste with high compressive strength and a 40-60 minute work life. Cures at room temperature. Designed for edge filling honeycomb structures and metal bonding. Qualified to BMS 5-28, Type 3.

Epocast® 1636-A/B, Grey, 177°C (350°F) Syntactic

Self-extinguishing, pourable epoxy with outstanding strength and a long 2-hour work life. Easy to handle and machine after a room-temperature cure. For reinforcing honeycomb structures. Qualified to BMS 5-28, Type 6.

Ultra-low Density, One-component Syntactic

Epocast® 1610, Off-white, Self-extinguishing Syntactic

Non-flow, epoxy syntactic with a 30-day work life at room temperature. Can be co-cured with composites in 90 minutes at 121°C (250°F). Designed for insert potting and replacing precured foam or wood blocks in honeycomb panels. Qualified to BMS 5-28, Type 10.



High-strength, One-component Frozen Syntactics

Epocast® 927, Yellow-white, 177°C (350°F) Syntactic

Self-extinguishing, high-strength syntactic with good sag resistance. Requires an elevated-temperature cure. Designed for reinforcing honeycomb core sandwich structures. Qualified to BMS 5-28, Type 12 and GM 4006, Type 3, Class B.

Epocast® 938, Off-white, 177°C (350°F) Syntactic

Self-extinguishing epoxy with excellent high-temperature compressive strength after an elevated-temperature cure. Designed for reinforcing honeycomb core sandwich structures. Qualified to BMS 5-28, Type 13.

Epocast® 1612-A1, Off-white, 177°C (350°F) Syntactic

Epoxy syntactic with a long 8-hour work life after thawing at room-temperature. Requires an elevated-temperature cure. Designed for fastener or attachment potting and panel-edge reinforcing. Qualified to BMS 5-28, Type 12.

Medium-density, One-component Frozen Syntactics

Epocast® 1614 Products, Off-white, 177°C (350°F) Syntactics

Thixotropic structural syntactics with good mechanical properties. Feature an 8-hour work life after room-temperature thaw. Require an elevated-temperature cure. Supplied in cartridges and patties. Designed for reinforcing honeycomb core and panel edges for high-temperature service. Qualified to BMS 5-28, Type 14; RMS 027, Type 7 and Type 9; and PWA 452.

Epocast® 1661, Off-white, 177°C (350°F) Syntactic

Easy-to-handle, heat-resistant syntactic with an 8-hour work life after room-temperature thaw. Supplied in cartridges and patties. Requires an elevated-temperature cure. For insert potting, edge filling and reinforcing honeycomb core. Qualified to PW 36757-2.

Epocast® 1627, Grey, Low CTE Syntactic

High-performance syntactic with an extremely low 11.2×10^{-6} coefficient of thermal expansion. Requires an elevated-temperature cure. Formulated for fabricating and reinforcing a broad range of composite structures. Qualified to BMS 5-28, Type 27.



Typical Syntactic Properties

PRODUCT DESIGNATION	SELECTED SPECIFICATIONS	CONSISTENCY @ 25°C+	WORK LIFE, min @ 25°C+	RECOMMENDED CURE SCHEDULE, °C+	SERVICE TEMP, °C+	COMPRESSIVE STRENGTH, MPa @ 25°C+	DENSITY, grams/cc (lbs/ft³)
Ultra-low Density, Two-component Syntactics							
Araldite® 1641-A/B	MSRR 1076	Thixotropic paste	180	24 hr @ 25°C + 2 hr @ 100°C	66	13	0.50 (31)
Epocast® 1628-A/B	BMS 5-28, Type 28	Soft paste	60	48 hr @ 25°C *	71	20.7	0.50 (31)
Epocast® 1628-A/B-60	CCS 1129	Soft paste	60	48 hr @ 25°C *	71	20	0.50 (31)
Epocast® 87005-AC/B-61		Extrudable dry paste	80	48 hr @ 25°C *	93	17.2	0.50 (31)
Low-density, Two-component Syntactics							
Araldite® 252-A/B	ASNA 4072, issA	Non-flow paste	60	16 hr @ 25°C *	66	35	0.65 (40)
Epocast® 169-A/9615	SS-9587, Type 1	Pourable semi-paste	30	24 hr @ 25°C *	71	13.8	0.68 (42)
Epocast® 1618 Products	BMS 5-28, Type 18, Class 1	Extrudable, low-flow paste	15	24 hr @ 25°C *	93	34.5	0.70 (44)
Epocast® 1626 Products	BMS 5-28, Type 26	Extrudable, non-sag paste	60	7 days @ 25°C *	93	17.2	0.65 (40)
Epocast® 1633-A/B	***	Paste	2-5	Gel @ 25°C + 5 hr @ 49°C or 2 hr @ 66°C	71	44.8	0.73 (45)
Epocast® 1638-A/B		Non-flow paste	10 - 20	24 hr @ 25°C *	83	44.8	0.70 (44)
Medium-density, Two-component Syntactics							
CG 1305-R/H	BMS 5-28, Type 7 Class 1	Pourable	60	7 days @ 25°C *	177	70	0.90 (56)
Epocast® 1652-A/B	GM 4006, Type 1, Class B; SS-9587, Type 2	Thick paste	60	7 days @ 25°C *	177	55.2	0.80 (50)
Epocast® 1656-A/B	GM 4006, Type 1, Class B	Paste	50-90	7 days @ 25°C *	121	55.2	0.80 (50)
Epocast® 89537-A/B	BMS 5-28, Type 7, Class 2	Extrudable paste	70	7 days @ 25°C *	177	58.6	0.90 (56)
High-density, Two-component Syntactics							
Epocast® 1511-A/B	BMS 5-28, Type 3	Soft paste	60	24 hr @ 25°C + 5 hr @ 52°C	93	70	1.30 (81)
Epocast® 1636-A/B	BMS 5-28, Type 6	Pourable	120	7 days @ 25°C *	177	103.4	1.72 (107)
Ultra-low Density, One-component Syntactic							
Epocast® 1610	BMS 5-28, Type 10	Paste	30 days	5 - 7" rise per min from 25°C to 127°C + 60 min @ 127°C	93	13.8	0.50 (31)
Medium-density, One-component Frozen Syntactics							
Epocast® 1614 Products	BMS 5-28, Type 14	2,500 **	8 hr	90 min @ 121°C or 60 min @ 177°C	177	89.6	0.75 (47)
Epocast® 1614-A1	***	1,000 **	8 hr	90 min @ 121°C or 60 min @ 177°C	177	89.6	0.75 (47)
Epocast® 1614-ATF	RMS 027, Type 7 & Type 9; BMS 5-28, Type 14; PWA 452	500 **	8 hr	90 min @ 121°C or 60 min @ 177°C	177	89.6	0.75 (47)
Epocast® 1661	PW 36757-2	300 **	8 hr	90 min @ 121°C or 60 min @ 177°C	177	62.1	0.60 (37)
High-strength, One-component Frozen Syntactics							
Epocast® 927	GM 4006, Type 3, Class B; BMS 5-28, Type 12	1,000 **	24 hr	90 min @ 121°C or 60 min @ 177°C	177	137.2	1.22 (76)
Epocast® 938	BMS 5-28, Type 13	5,000 **	24 hr	90 min @ 121°C or 60 min @ 177°C	177	137.2	1.22 (76)
Epocast® 1612-A1	BMS 5-28, Type 12	4,000 **	8 hr	90 min @ 121°C or 60 min @ 177°C	177	137.9	1.00 (62)
Epocast® 1627	BMS 5-28, Type 27	Paste	24 hr	90 min @ 121°C or 60 min @ 177°C	177	206.9	1.80 (112)

* Cure may be accelerated with heat.

** Grams per minute flow through Semco cartridge under 80 psig pressure @ 49°C (120°F)

*** Qualification pending

25°C = +77°F

49°C = 120°F

52°C = 125°F

66°C = 150°F

71°C = 160°F

83°C = 180°F

93°C = 200°F

100°C = 212°F

121°C = 250°F

127°C = 260°F

177°C = 350°F

Adhesives and Laminating Systems

Huntsman adhesives and laminating systems are formulated for fabricating, assembling and repairing interior and exterior aircraft components.

Huntsman manufactures Araldite®, Epibond® and Epocast® epoxy adhesives and laminating systems in addition to Uralane® urethane adhesives for the fabrication, assembly and repair of interior and exterior aircraft components. The majority of these systems are qualified to aircraft manufacturers' specifications including Boeing and Airbus. Many of the adhesives are also self-extinguishing and exhibit the low flame, smoke and toxicity characteristics required to comply with FAR 25.853 regulations governing materials used in aircraft interiors.

Epoxy Adhesives

Araldite® 204, Black, One-component Paste Adhesive

Extrudable foaming epoxy that is formulated to cure at 120°C (248°F) for one hour. Expands during curing to produce a shear-carrying connection in voids between honeycomb core panels and structural edges. Designed for use at temperatures below 90°C (194°F). Qualified to ABR2-0048 and DGQT1.7.0.35B.

Araldite® 2013, Grey, High-strength Adhesive

Thixotropic, gap-filling epoxy with good environmental and chemical resistance. Features high strength and toughness after a room-temperature cure. For bonding metals as well as ceramics, glass, rubbers and rigid plastics. Qualified to Gurit-Essex 918.200 iss2.

Araldite® 2014, Grey, Heat and Chemical-resistant Adhesive

High-viscosity epoxy with excellent chemical, heat and water resistance. Offers good lap shear strength at elevated temperatures after curing at 25°C (77°F). For metals, composite panels, ceramics and wood. Qualified to ABP2-3094.

Epibond® 156-A/B, Off-white, “Wipe-on” Paste Adhesive

Easy-to-apply epoxy paste with good electrical properties and excellent adhesion. Cures at room temperature. Designed for smoothing porous surfaces on laminated composites, plastics and wood.



Epibond® 420-A/B, Blue-green, or Araldite® 420-A/B, Dark-green, Toughened Adhesives

Durable, high-strength epoxies with a 60-70 minute work life. Formulated for use on composite panels as well as metal, thermoplastics, wood, rubber and glass. Qualified to BMS 5-107 or ASNA 4125 issB.

Epibond® 1210-A/B, Tan, General-purpose Adhesive

Non-flow epoxy with an easy-to-apply, semi-paste consistency. Cures at room-temperature using different hardeners to vary bond-line flexibility and work life. Ideal for bonding metals, plastics and wood. Qualified to LAC 40-4093, Class B.

Epibond® 1210-A/9861, Tan, 149°C (300°F), Low out-gassing Adhesive

Gap-filling, semi-paste epoxy that maintains good physical properties at elevated temperatures with low out-gassing. Offers a 1-hour work life and cures at room temperature; high-temperature performance is improved with a postcure. For bonding metals, composites, thermoplastics and rubbers.



Epibond® 1217-A/B, Translucent White, Fast-setting Adhesive

High-strength epoxy with a 4-8 minute work life that cures in less than 2 hours at room temperature. Formulated for joining steel, aluminum, wood, ceramics and plastic substrates. Qualified to Boeing HMS 16-1068, CL 8 B.

Epibond® 1337-A/9615-A, Grey, Metal-bonding Adhesive

Aluminum-filled, non-flowing epoxy with a long 90-150 minute work life. Easy to handle and apply to metal substrates with a creamy consistency and room-temperature cure. Qualified to DPS 1.07-2, Type 2.

Epibond® 1534-A/B, Amber, Composite Repair Adhesive

High-performance epoxy that can withstand exposure to distilled water, salt water, JP-4 and hydraulic fluids. Cures at room temperature. For bonding fiberglass-reinforced polyesters, metals and dissimilar substrates. Qualified to BMS 5-126, Type 2, Class 1.

Epibond® 1539-A/B, Amber, Composite Repair Adhesive

High-strength epoxy with a 2-hour work life. Cures after 24 hours at room temperature. Designed for bonding polyesters, fiberglass-reinforced plastics and metals. Qualified to BMS 5-126, Type 6, Class 1.

Epibond® 1544 Products, Off-white, Grey, White, Self-extinguishing Adhesives

Low-flow, gap-filling epoxies that cure at room temperature and develop early green strength. Form excellent bonds between dissimilar materials including plastics, metals and composite laminates. Qualified to BMS 5-126, Type 4.

Epibond® 1559 Products, Cream, Dark Grey, Fast-setting Adhesives

Self-extinguishing epoxies that develop handling strength in 10 minutes even at cold temperatures and cure to the touch after 1 hour at 25°C (77°F). Can be used on floor panels and other interior parts that must comply with FAR 25.853. Specified on Airbus SIL 53-035, Appendix 4 and qualified to specifications including SS-8640.

Epibond® 1590-A/B, Beige, Toughened 177°C (350°F) Adhesive

General-purpose epoxy paste with a 30-minute work life. Exhibits good lap shear and T-peel strength after gelling at room temperature followed by 1 hour at 100°C (212°F). Designed for potting, filling and shimming metals, composites and dissimilar materials.

Epibond® 1595-A/B, Blue-green, Toughened 121°C (250°F) Adhesive

General-purpose, non-flow paste with outstanding lap shear and T-peel strengths. The product is easy-to-extrude from its dual-barrel cartridge package and gels quickly after 15 minutes. Full cure is achieved after 5 days at 40°C (105°F) or 1 hour at 100°C (212°F) for making structural joints on metals, composites and other substrates.

Epibond® 8543-C/B, Grey, Low-temperature Cure Adhesive

Extremely fast-setting epoxy that resists sagging. Cures in less than 2 hours at temperatures as low as 7°C (45°F). Designed for bonding metal and plastics. Qualified to BMS 5-123, Type 1, Class 3.

Urethane Adhesives

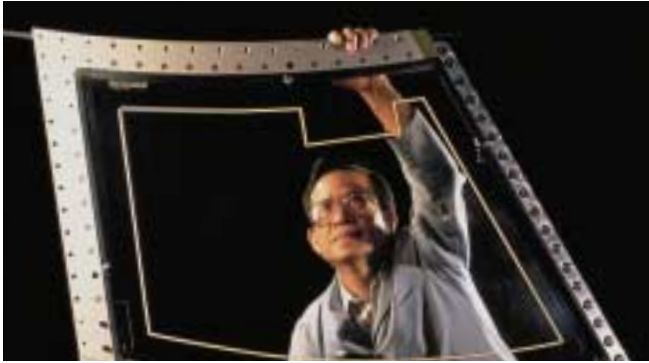
Uralane® 5772-A/B, Dark Amber, Heat-resistant Adhesive

Tough urethane that retains mechanical properties up to 121°C (250°F) after a room-temperature cure. Forms bonds between metals and dissimilar materials. Qualified to GD 0-73668, Type 1.

Uralane® 5773-A/B, Dark Amber, High Peel Strength Adhesive

High-performance adhesive with a 35-40 minute work life. Provides high peel strength to 121°C (250°F) after a room-temperature gel plus 16 hours at 66°C (150°F). For bonding metal substrates and thermoplastics. Qualified to GD 0-73668, Type 2.





**Uralane® 5774-C/B, Beige,
Thermoplastic-bonding Adhesive**

Self-extinguishing urethane that can be handled after 4 hours at room temperature. Supplied in Accumix™ cartridges. Specially designed to produce tough, impact-resistant bonds on “tough-to-join” thermoplastics as well as on metal substrates. Qualified to BMS 5-105, Type 5 and LES 1359.

**Uralane® 5777-A/B, Beige,
Fast-setting Adhesive**

Non-flow, self-extinguishing adhesive with a 15-minute work life. Designed for automated dispensing to support fast production cycles. Ideal for bonding metals, thermoplastics and other substrates used in aircraft interiors. Qualified to GD 0-73668, Type 3.

**Uralane® 5779 Products, White, Tan, Grey,
UV Light Stable Adhesives**

Non-flow, self-extinguishing urethane pastes that can withstand exposure to temperatures up to 71°C (160°F). Cure after 1-2 days at room temperature. Well suited for caulking and sealing “tough-to-join” plastics and metal substrates. Qualified to BMS 5-105, Type 6.



Epoxy Laminating Systems

**Araldite 501-A/B, Blue,
120°C (248°F) Epoxy**

Low-viscosity epoxy with a 90-minute work life and good mechanical strength. Cures after 2 hours @ 70°C (158°F). Developed for repairing composite aircraft components. Qualified to ASNA 4047 issB.

**Epocast® 35-A/927, Amber,
204°C (400°F) Epoxy**

Resin system with 4-5 hour work life for high-temperature laminating and composite repair. Requires an elevated-temperature cure. Qualified to BMS 8-214, Type 1.

**Epocast® 50-A/946, Amber,
High-strength Epoxy**

Self-extinguishing, unfilled resin system with a 15-20 minute work life. Cures at room temperature. Designed for manufacture and repair of composite structures and for filament winding. Qualified to BMS 8-201, Type 2.

**Epocast® 50-A/9816, Amber,
High-strength Epoxy**

Self-extinguishing, unfilled resin system with a 90-180 minute work life. Cures at room temperature. Excellent for repairing composite structures and for filament winding. Qualified to BMS 8-201, Type 1.

**Epocast® 52-A/B, Blue,
High-strength Repair Epoxy**

Low-viscosity resin system with good hot/wet strength and excellent resistance to aircraft fluids and moisture. Cures quickly at temperatures between 65°C (150°F) and 93°C (200°F). For repairing graphite and fiberglass composite components. Qualified to BMS 8-301, Class 1, Grade 2.



Typical Adhesive Properties

PRODUCT DESIGNATION	SELECTED SPECIFICATIONS	MIX RATIO, pbw	MIXED VISCOSITY, Pa.s @ 25°C+	WORK LIFE, min @ 25°C+	RECOMMENDED CURE SCHEDULE, °C+	SERVICE TEMP., °C+	LAP SHEAR STRENGTH, MPa, al/al 25°C+ 83°C+		BELL PEEL, N/mm
Epoxy Adhesives									
Araldite® 204	ABR2-0048; DGQT1.7.0.35B	One Component	3,500	N/A	1 hr @ 120°C	90	12	10	n/a
Araldite® 2013	Gurit-Essex 918.200 iss2	100:60	Paste	65	10 hr @ 25°C or 6 min @ 100°C	60	20.7	4.8	4.0
Araldite® 2014	ABP2-3094	100:50	90	40	6 hr @ 25°C or 6 min @ 100°C	140	16.6	16.5	3.0
Epibond® 156-A/B		100:6	Soft paste	20 - 40	3 days @ 25°C or gel @ 25°C + 3 hr @ 66°C	121	13.8	13.4	
Epibond® 420-A/B (Araldite® 420-A/B)	BMS 5-107 (ASNA 4125 issB)	100:40	Semi-paste	70 (60)	7 days @ 25°C or 1 hr @ 121°C	83	20.7	3.4	
Epibond® 1210-A/B	LAC 40-4093, Class B	100:65	Soft paste	50 - 75	48 hr @ 25°C or 2 hr @ 66°C	93	17.2	2	
Epibond® 1210-A/9861		100:20	Semi-paste	35 - 60	48 hr @ 25°C or 2 hr @ 66°C	149	19.3	17.2	
Epibond® 1217-A/B	HMS 16-1068, CL 8 B	100:100	Paste	4 - 8	1 - 2 hr @ 25°C	66	17.2	3.4	
Epibond® 1337-A / 9615-A	DPS 1.07-2, Type 2	100:100	Non-flow paste	90 - 150	48 hr @ 25°C or 1 - 2 hr @ 66°C	83	12.4	2.8	
Epibond® 1534-A/B	BMS 5-126, Type 2, Class 1	100:100	2	120	3 days @ 25°C or 20 - 30 min @ 121°C	83	20.7	4	
Epibond® 1539-A/B	BMS 5-126, Type 6, Class 1	100:95	Paste	120	24 hr @ 25°C or 20 min @ 121°C	83	17.2	5.5	
Epibond® 1544 Products	BMS 5-126, Type 4	100:38	Semi-paste	20	24 hr @ 25°C or gel @ 25°C + 1 hr @ 66°C	93	13.8	4.1	
Epibond® 1559 Products	Airbus SIL 53-035 Appendix 4; SS-8640	100:100	80	6	1 hr @ 25°C or 30 min @ 71°C	83	13.8	1.4	
Epibond® 1590-A/B		100:55	146	30	Gel @ 25°C + 1 hr @ 100°C or 5 days @ 40°C	177	40	24.1	4.5
Epibond® 1595-A/B		100:90	150	15	Gel @ 25°C + 1 hr @ 100°C or 5 days @ 40°C	121	34.5	11	7.5
Epibond® 8543-C/B	BMS 5-123, Type 1, Class 3	100:100	Non-sag paste	3	30 - 60 min @ 25°C or 60 - 120 min @ 7°C	83	13.8	3.4	
Urethane Adhesives									
Uralane® 5772-A/B	GD 0-73668, Type 1	100:23	Semi-paste	15 - 20	7 days @ 25°C or gel @ 25°C + 16 hr @ 66°C	121	14.5	4.5 (a)	4.5
Uralane® 5773-A/B	GD 0-73668, Type 2	100:42	Semi-paste	35 - 40	Gel @ 25°C + 16 hr @ 66°C	121	17.2	6.2 (a)	5.0
Uralane® 5774-C/B	BMS 5-105, Type 5; LES 1359	100:55	Semi-paste	15 - 25	7 days @ 25°C or gel @ 25°C + 2 - 4 hr @ 66°C or 1 - 2 hr @ 93°C	83	13.8	6.9	5.0
Uralane® 5777-A/B	GD 0-73668, Type 3	100:55	Semi-paste	12 - 15	24 - 48 hr @ 25°C or gel @ 25°C + 2 - 4 hr @ 66°C	83	15.2	6.9	2.5
Uralane® 5779 Products	BMS 5-105, Type 6	100:98	Non-sag paste	8 - 15	1 - 2 days @ 25°C or 45 min @ 54°C	71	8.3	—	—
PRODUCT DESIGNATION	SELECTED SPECIFICATIONS	MIX RATIO, pbw	MIXED VISCOSITY, Pa.s @ 25°C+	WORK LIFE, min @ 25°C+	RECOMMENDED CURE SCHEDULE, °C+	NOMINAL SERVICE TEMP., °C+	LAP SHEAR STRENGTH, psi, al/al 25°C+ 83°C+		LAMINATE FLEXURAL STRENGTH, MPa @ 25°C+
Epoxy Laminating Systems									
Araldite® 501-A/B	ASNA 4047 issB	100:15	3-4	90	2 hr @ 70°C	120	—	—	530
Epocast® 35-A/927	BMS 8-214, Type 1	100:25	7	4 - 5 hr	2 hr @ 121°C or 4 hr @ 83°C	204	11	6.9	717
Epocast® 50-A/946	BMS 8-201, Type 2	100:15	4	15 - 20	3 days @ 25°C or gel @ 25°C + 2 hr @ 66 - 93°C	93	18.6	4.1	310
Epocast® 50-A/9816	BMS 8-201, Type 1	100:15	5	90 - 180	3 days @ 25°C or gel @ 25°C + 2 hr @ 66 - 93°C	93	31	4.1	310
Epocast® 52-A/B	BMS 8-301, Class 1 Grade 2	100:41	4	60	3 hr @ 66°C or 2 hr @ 93°C	177	(see technical data sheet)		

+7°C = 45°F 25°C = 77°F 40°C = 105°F 54°C = 130°F 60°C = 140°F 66°C = 150°F 70°C = 158°F 71°C = 160°F 83°C = 180°F
 90°C = 194°F 93°C = 200°F 100°C = 212°F 120°C = 248°F 121°C = 250°F 140°C = 284°F 177°C = 350°F 204°C = 400°F (a) @ 121°C (250°F)

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Handling Precautions**Caution**

Our products are generally quite harmless to handle provided that certain precautions normally taken when handling chemicals are observed. The uncured materials must not, for instance, be allowed to come in contact with foodstuffs or food utensils, and measures should also be taken to prevent the uncured materials from coming in contact with the skin, since people with particularly sensitive skin may be affected. The wearing of impervious rubber or plastic gloves will normally be necessary; likewise the use of eye protection. The skin should be thoroughly cleansed at the end of each working period by washing with soap and warm water. The use of solvents is to be avoided. Disposable paper towels – not cloth towels – should be used to dry the skin. The work area should be well ventilated. These precautions are described in greater detail in Huntsman Manual No. 24264/e *Hygienic Precautions for Handling Plastic Products of Huntsman* and in the Huntsman Material Safety Data Sheets for the individual products. These publications are available on request and should be referred to for fuller information.

All recommendations for use of our products, whether given by us in writing, verbally, or to be implied from the results of tests carried out by us, are based on the current state of our knowledge. Notwithstanding any such recommendations the Buyer shall remain responsible for satisfying himself that the products as supplied by us are suitable for his intended process or purpose. Since we cannot control the application, use or processing of the products, we cannot accept responsibility therefore. The Buyer shall ensure that the intended use of the products will not infringe any third party's intellectual property rights. We warrant that our products are free from defects in accordance with and subject to our general conditions of supply.

Mandatory and recommended industrial hygiene procedures should be followed whenever our products are being handled and processed. For additional information, please consult the corresponding product safety data sheets.

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