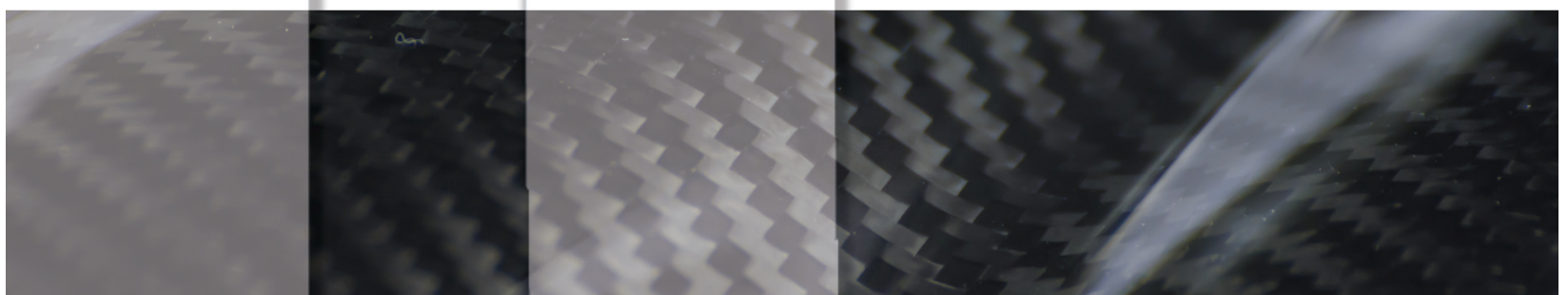


Kaneka

KANEKA AEROSPACE LLC



KANEKA AEROSPACE MATERIALS PRODUCT SELECTION GUIDE



Prepregs and Adhesives

Product	Product Form	Application	Storage Frozen	Out Time	Cure Temp °C / Cure Time	Tg °C Dry/Wet	Characteristics
Kaneka BZ9703	Prepreg	Structure	365 days	20 days @ 24°C	177/2 hours	195/156	Toughened, easy to process benzoxazine system with good hot/wet properties. Low cure shrinkage & exotherm
Kaneka BZ9704	Prepreg	Structure	720 days	180 days @ 24°C	185/3 hours	201/164	Toughened, easy to process benzoxazine system with good hot/wet properties. Low cure shrinkage & exotherm
Kaneka BZ9691	Film Adhesive	Composite Bonding	365 days	14 days @ 24°C	185/3 hours	215/193	Benzoxazine film adhesive. Excellent performance with BZ prepregs and composites
Kaneka SP2410 600S	Prepreg	High Temperature Ablative	TBD	TBD	180/3 hours	160/NA	Benzoxazine based ablative system with phenolic ablative properties but epoxy like processing

Tooling Materials

Product	Application	Initial Viscosity mPa*s	Working Life*	Cure Temp °C	Tg °C	Flexural Strength MPa	Flexural Modulus GPa	Characteristics
Kaneka TP2200	Tooling Prepreg	N/A	N/A	220	250	110	3.8	High Temperature Benzoxazine system for high cycle tools
Kaneka TR6220	VaRTM, RTM	400	100 minutes	149	166	124	3.3	Good for tooling applications. Can be vitrified at RT
Kaneka TR6230	VaRTM, RTM	350	6 hours	177	210	97	3.1	Resin system with a long working life. Good for tooling applications
Kaneka TR6240	Composite Tooling Tabs	1450	1 hour	177	196	97	2.7	Two-part resin system with good thermal aging properties. Good for composite tooling tabs

All testing was performed at room temperature unless stated otherwise.

* Working life is the time it takes for the viscosity to double.

AEROSPACE

Kaneka Aerospace offers specialty high performance composite materials for the aerospace industry. Our prepregs, adhesives, resin, and tooling materials provide distinguishing properties that enable our customers to achieve value beyond lightweight and strength. Kaneka Aerospace has a much wider library of products developed over the past 25yrs. Contact us for specific needs and requirements.

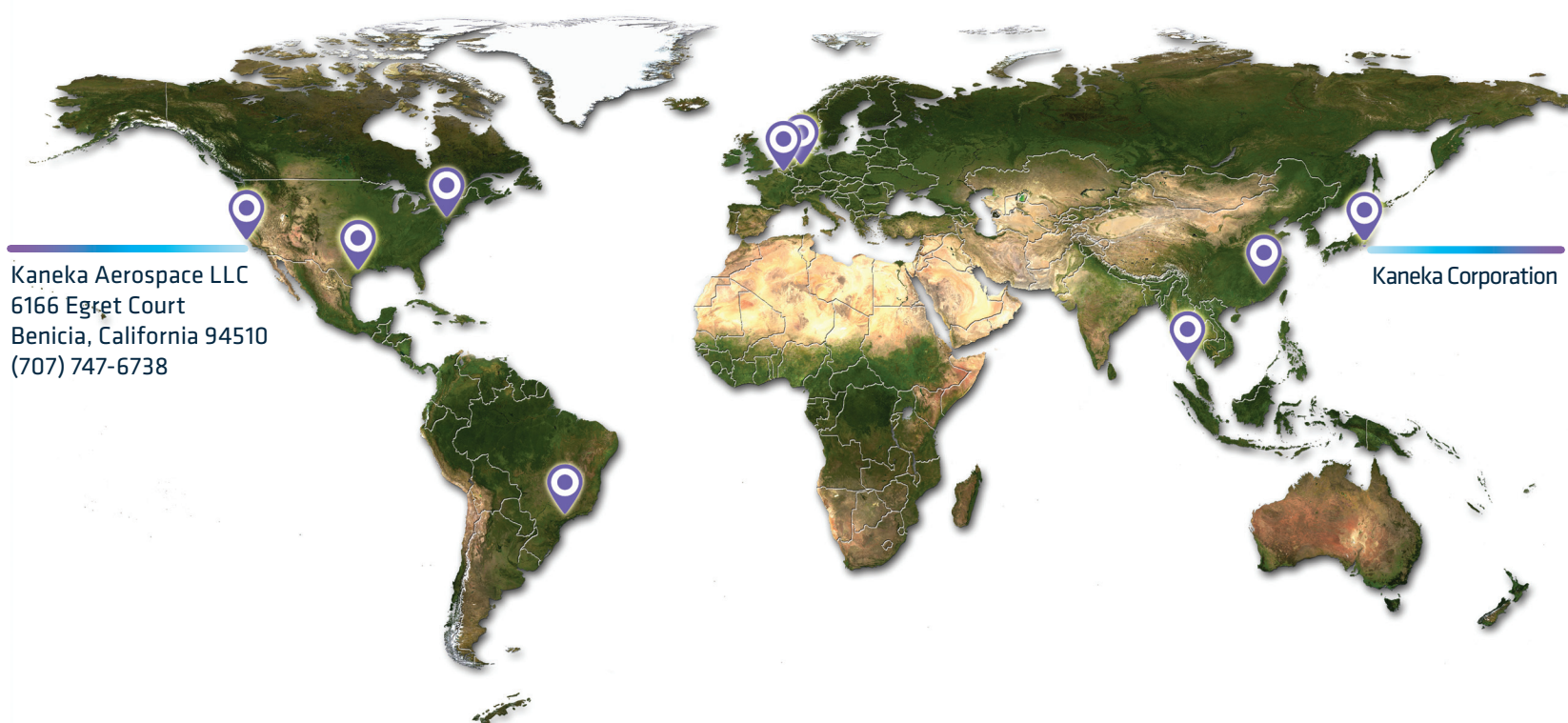
Resins

Product	Application	Initial Viscosity mPa*s	Working Life*	Cure Temp °C	Tg °C	Flexural Strength MPa	Flexural Modulus GPa	Characteristics
Kaneka FW6600	Winding	1230	4 hours	Step cure, See TDS	208	129	3.1	Excellent wetting characteristics. Good strength retention at elevated temperature
Kaneka FW6610	Winding	1000	> 4 hours	Step cure, See TDS	230	114	3.6	High heat resistance, exceptional balance of mechanical properties
Kaneka FW6620	Winding	2215**	4 hours	Step cure, See TDS	> 315	TBD	TBD	High temperature bismaleimide (BMI) hybrid matrix resin
Kaneka GR6820	Winding, Infusion	390	15 hours	Step cure, See TDS	181	139	3.1	Good for high temp & high chemical resistant applications
Kaneka GR6822	Winding	6600	3 hours	149	168	149	2.9	Curing agent used with standard Bis-A resin to achieve higher speed cure with long processing window
Kaneka GR6828	Winding	1750	70 minutes	121	104	127	2.8	Curing agent used with standard Bis-A resin to lower overall system cost
Kaneka GR6840	Wet Lamination	1200	50 minutes	82	81	123	2.9	Toughened system resistant to delamination, good for thick or thin parts
Kaneka GR6842	Wet Lamination	800	58 minutes	82	88	152	3.6	Non-toughened, high modulus system good for thick or thin parts
Kaneka GR6846	Wet Lamination	1240	60 minutes	80	84	130	3.3	Designed for applications where high stiffness and low cost are important
Kaneka GR6860	RTM, VaRTM	370	45 minutes	82	100	131	2.9	Good for sporting goods, infrastructure, marine, etc. Can be cured at RT
Kaneka GR6864	RTM, VaRTM	245	2 hours	93	92	112	2.6	Good toughness, high impact resistance. Good for structural and ballistic applications
Kaneka IR6030	RTM, VaRTM Winding	370	90 minutes	Step Cure See TDS	135	172	3.9	Excellent balance of processability and mechanical properties
Kaneka IR6060	RTM	See TDS	≤15 minutes	180	190	157	3.8	Quick cure system that can be demolded in 30 minutes or less
Kaneka IR6080	RTM, Winding	See TDS	30-60 minutes	230	245	142	3.4	Benzoxazine infusion resin. Can also be used for filament winding. Good toughness
Kaneka SR6410	RTM, VaRTM	See TDS	1-2 hours	182	175	136	4.5	Benzoxazine resin system for high temperature ablative applications
Kaneka SR6440	Prepreg	NA	>60 minutes	177	206	137	3.5	Prepreg resin system with an excellent balance of properties for a wide range of applications
Kaneka SR6450	RTM, Winding	660	4 hours	93	93	140	2.9	Toughened system good for cryogenic applications
Kaneka FR-5	Wet Lamination	1850	42 minutes	80	89	90	4.1	Flame retardant wet lamination resin
Kaneka 200465-P	VaRTM	750	TBD	120	144	113	3.2	Resin system when cured with S-2 Glass® results in a Clear Composite

**At 71°C

Kaneka Aerospace LLC is a subsidiary of Kaneka Corporation of Tokyo/Osaka Japan. Kaneka Corporation is a \$5.5 billion producer of chemical products including resins, pharmaceutical intermediaries, food supplements, synthetic fibers, and fine chemicals. Kaneka Corporation was established in 1949. Initially, its main products were caustic soda, soap, cosmetics, and edible oils. Later, the company diversified into polymers, fermentation, biotechnology, electronics, and other fields. Business activities now span a broad range of markets: synthetic resins, resin products, chemicals, foodstuffs, pharmaceuticals, medical devices, electrical raw materials and synthetic fibers. Our 3,500 employees (10,500 including subsidiaries) are meeting our customer needs on all continents; Kaneka has overseas subsidiaries in the United States, Belgium, Germany, Singapore, Malaysia, Australia, China, Vietnam, India, Taiwan and South Korea.

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