

SEMICONDUCTOR MATERIALS

SEMICONDUCTOR UNDERFILLS

CAPILLARIES: HIGH LEAD PACKAGES: DSP, PROCESSOR, ASICs

PRODUCT	DESCRIPTION	FLOW SPEED	VISCOSITY, cPs	T _g , °C	CTE ₁₁ , ppm/°C	MODULUS, GPa	% FILLER	RECOMMENDED CURE
FP4549™	Fast-flowing, low stress underfill for fine-pitch flip-chip applications.	Very Fast	2,300	140	45	5.5	50	30 min @ 165°C
FP4547™	Fast-flowing, low stress underfill for fine-pitch flip-chip applications.	Medium	18,000	135	80	11	69	60 min @ 165°C
FP4548FC™	Lead-free flip-chip packages (L3 - 260°C); low-k/Cu flip-chip packages with Hi-Pb bumps, flux compatible.	Medium	25,000	115	22	9.5	65	60 min @ 165°C
FP4545FC™	Low viscosity version of FP4548FC™.	Fast	9,000	115	30	7.1	55	60 min @ 165°C
FP4581™	Lead-free flip-chip packages (L3 - 260°C); low-k/Cu flip-chip packages with Hi-Pb bumps, flux compatible.	Fast	17,000	65	38	7.6	57	120 min @ 165°C
FP4583™	High purity, FC underfill, high lead applications.	Fast	14,000	79	40	6.9	57	120 min @ 165°C
FP4585™	High purity, FC underfill, high lead and no-lead applications.	Fast	40,000	94	25	7.3	60	120 min @ 165°C

CAPILLARIES: Pb-FREE PACKAGES

PRODUCT	DESCRIPTION	FLOW SPEED	VISCOSITY, cPs	T _g , °C	CTE ₁₁ , ppm/°C	MODULUS, GPa	% FILLER	RECOMMENDED CURE
FP4548FC™	Lead-free flip-chip packages (L3 - 260°C); low-k/Cu flip-chip packages with Hi-Pb bumps, flux compatible.	Medium	25,000	115	22	9.5	65	60 min @ 165°C
FP4585™	High purity, FC underfill, high lead and no-lead applications.	Fast	40,000	94	25	7.3	60	120 min @ 165°C
UF8806J™	For large flip chip in package applications. Ultra low alpha emissions.	Fast	1,200	140	46	5.3	40.0	90 min @ 165°C
UF8806G™	Moisture resistant. For die sizes <25 mm and ceramic packages. Ultra low alpha emissions.	Fast	4,500	136	27	7.9	60.0	60 min @ 195°C
UF8826™	For eutectic lead-free or high lead low k applications. Medium modulus, low CTE.	Fast	16,000	132	40	3.4	30.0	90 min @ 165°C
UF8826TJ™	For lead-free packaging. Optimized modulus and self-filleting properties.	Fast	15,000	128	40	4.6	30.0	90 min @ 165°C
UF8828™	For eutectic lead-free and low k applications. Higher modulus.	Fast	15,000	128	30	6.5	50.0	90 min @ 165°C
UF8829™	For small die in lead-free and low k applications. Higher modulus, lowest CTE.	Fast	10,000	122	28	7.5	60.0	90 min @ 165°C

OVER-MOLDED FLIP-CHIP FCCSP

PRODUCT	DESCRIPTION	FLOW SPEED	VISCOSITY, cPs	T _g , °C	CTE ₁₁ , ppm/°C	MODULUS, GPa	% Filler	RECOMMENDED CURE
FP4581™	Lead-free flip-chip packages (L3 - 260°C); low-k/Cu flip-chip packages with Hi-Pb bumps, flux compatible.	High	17,000	86	33	7.6	55	120 min @ 165°C
FP4583™	High purity, FC underfill, high lead applications.	Fast	14,000	79	40	6.9	55	120 min @ 165°C
FP4585™	High purity, FC underfill, high lead and no-lead applications.	Fast	40,000	94	25	7.3	60	120 min @ 165°C

SEMICONDUCTOR MARKET SOLUTIONS

SEMICONDUCTOR UNDERFILLS

FLIP-CHIP ON FLEX

PRODUCT	DESCRIPTION	FLOW SPEED	VISCOSITY, cPs	Tg, °C	CTE _z , ppm/°C	MODULUS, GPa	% FILLER	RECOMMENDED CURE
FP4526™	Ceramic packages and FC on flex, eutectic, Hi-Pb and no-lead applications; not for JEDEC performance.	Fast	4,700	133	33	8.5	63	30 min @ 165°C
FP4530™	SnapCure™ flip-chip underfill for FC on flex. Designed for gap size down to 25 microns.	Very Fast	3,000	148	44	5.5	50	7 min @ 160°C
FP4549™	Fast-flowing, low stress underfill for fine-pitch flip-chip applications.	Very Fast	2,300	140	45	5.5	50	30 min @ 165°C
FP0114™	Fine filler version of FP4526™ for gap of 1 mil.	Fast	5,000	135	33	8.5	63	30 min @ 165°C
DC0114™	Die edge coating to prevent silicon chipping in HDD applications.	NA	20,000	135	70	NA	13	30 min @ 165°C
FP4549HT™	Aluminum nitride-filled version of FP4549™ for high thermal applications.	Fast	17,500	128	26	8.5	66.5	60 min @ 165°C
FP4531™	SnapCure™ fast flow underfill for CSP applications.	Not Tested	10,000	161	28	7.6	62	7 min @ 165°C

NO FLOW FOR SMALL DIE APPLICATIONS: EUTECTIC

PRODUCT	DESCRIPTION	VISCOSITY, cPs	Tg, °C	CTE _z , ppm/°C	MODULUS, GPa	% FILLER	RECOMMENDED CURE
FF2200™	No-flow underfill for Eutectic applications.	3,600	128	75	2.8	Unfilled	Reflow leaded alloys

NO FLOW FOR SMALL DIE APPLICATIONS: NO-LEAD PACKAGES

PRODUCT	DESCRIPTION	VISCOSITY, cPs	Tg, °C	CTE _z , ppm/°C	MODULUS, GPa	% FILLER	RECOMMENDED CURE
FF2300™	No-flow underfill for Eutectic and lead-free applications.	3,100	81	75	2.6	Unfilled	Eutectic or lead-free reflow

