



Epoxy Comparison Chart

Uncured Working Properties	Standards	832B	832C	832TC	832 HT	833FRB	834FRB	8321C	8331	Typical Epoxy Range
A:B mix ratio (by Vol.)		2:1	2:1	1:1	2:1	2:1	2:1	3:1	1:1	
Viscosity Mixture (cP)	ASTM D2983	3,300	3,300	40,000	40,000	11,500	—	260	—	
Part A (cP)	ASTM D2983	2,500	2,500	17,900	54,800	4,000	—	900	—	
Part B (cP)	ASTM D2983	11,000	11,000	23,000	11,000	14,000	—	10	—	
Working Life (h)		1	1	2	1	1	1	1.5	10 min	
Cure time at room temp. (h)		24	24	96	24	24	24	48	5	
at 65 °C (h)		1	1	2	1	1	1	2 h @80°C	15	
Shelf Life (year)		≥ 3	≥ 3	≥ 3	5	≥ 3	≥ 3	≥ 3	≥ 3	

Cured Properties	Standards	832B	832C	832TC	832 HT	833FRB	834FRB	8321C	8331	
Color		Black	Translucent	Black	Black	Black	Black	Water Clear	Silver Grey	
Hardness	Shore D	80	85	82	80	83	83	76	70	
Flame Retardant	UL 94V-0	No	No	No	No	Yes	Yes	No	No	
UL Certification File #						E334302	E334302			

Mechanical Properties										
Tensile strength (lb/in ²)	ASTM D638	8,250	8,100	2,700	7,900	—	6,400	—	900	
Elongation %	ASTM D638	3.3%	6.4%	1.9%	3.4%	—	—	—	0.3%	
Compressive strength (lb/in ²)	ASTM D695	22,400	26,500	4,100	11,900	18,600	—	13,300	1,100	
Flexural strength (lb/in ²)	ASTM D790	16,500	5,500	5,300	14,600	5,800	—	8,700	2,500	
Lap shear strength (lb/in ²)	ASTM D1002	606	640	3,200	1,790	840	—	590	234	

Electrical Properties										
Volume resistivity (Ω·cm)	ASTM D257	5.3E12	1.2E16	2.6E15	9.3E15	2.7E15	1.4E15	2E16	0.18	
Dielectric strength for 1/8" (V/mil)	ASTM D149	442	406	370	454	348	344	460	—	
Breakdown Voltage for 1/8" (V)	ASTM D149	55,300	50,700	46,200	56,800	43,500	43,000	57,000	—	
Dielectric constant @1 MHz	ASTM D150	2.77	2.99	4.41	2.83	—	—	3.13	3.01	
Dielectric dissipation @1 MHz	ASTM D150	0.017	—	0.011	0.014	0.014	—	0.019	0.012	
Comparative Tracking Index	ASTM D3628	—	—	—	—	320	100	—	—	

Thermal Properties										
Tg, glass transition temp. (°C)	ASTM D3638	—	—	25	68	56	—	41	55	50 °C to 90 °C
CTE before Tg (ppm/°C)	ASTM D257	104	72	66	76	—	—	83	39	
CTE after Tg (ppm/°C)	ASTM D257	—	—	167	154	—	—	236	102	
Thermal Conductivity (W/(m·K))	ASTM E1530	—	—	0.682	0.218	—	—	—	0.90	0.12 to 0.177 W/(m·K)
Constant service temp (°C)		-30 +140	-30 +140	-30 +175	-30 +200	-30 +175	-30 +175	-30 +120	-55 +150	
Max withstand temperature (°C)		+145	+145	+225	+275	+225	+225	—	—	
Heat deflection temperature (°C)	ASTM D648	47	44	35.4	53.9	—	—	—	—	