



# Epoxy Comparison Chart

<b>Uncured Working Properties</b>	<b>Standards</b>	<b>832B</b>	<b>832C</b>	<b>832TC</b>	<b>832HT</b>	<b>834FRB</b>	<b>834ATH</b>	<b>8322</b>
A:B Mix Ratio (by Vol.)		2:1	2:1	1:1	1.7:1	2:1	2:1	4:1
Viscosity Mixture (cP)	ASTM D2983	3 300	2 700	18 000	40 000	2 600	5 900	TBD
Part A (cP)	ASTM D2983	2 200	1 900	36 000	46 000	1 900	4 600	2 500
Part B (cP)	ASTM D2983	5 800	5 800	14 000	5 800	4 800	12 900	20
Working Life (h)		1	1	2	1	1	2	2
Cure time <i>at room temp.</i> (h)		24	24	96	24	24	24	
<i>at 65 °C</i> (h)		1	1	2	1	1	1 h @80 °C	2 h @80 °C
Shelf Life (year)		≥ 3	≥ 3	≥ 3	5	≥ 3	5	≥ 3
<b>Cured Properties</b>								
<b>Standards</b>	<b>832B</b>	<b>832C</b>	<b>832TC</b>	<b>832HT</b>	<b>834FRB</b>	<b>834ATH</b>	<b>8322</b>	
Color		Black	Translucent	Black	Black	Black	Black	Clear
Hardness	Shore D	80D	84D	82D	87D	83D	85D	86D
Flame Retardant	UL 94V-0	No	No	No	No	UL 94V-0	UL 94V-0	No
UL Certification File #						E334302	E334302	
<b>Mechanical Properties</b>								
Tensile strength (lb/in <sup>2</sup> )	ASTM D638	8 250	8 100	2 700	7 900	3 400	4 100	TBD
Elongation %	ASTM D638	3.3%	6.4%	1.9%	3.4%	—	6.2%	TBD
Compressive Strength (lb/in <sup>2</sup> )	ASTM D695	22 400	26 500	4 100	11 900	24 800	14 500	12 000
Flexural Strength (lb/in <sup>2</sup> )	ASTM D790	16 500	5 500	5 300	14 600	9 500	7 400	TBD
Lap shear strength (lb/in <sup>2</sup> )	ASTM D1002	606 (SS)	640 (SS)	1 830 (SS)	1 790 (Al)	3 500 (SS)	2 000 (Al)	1 800 (SS)
<b>Electrical Properties</b>								
Volume Resistivity (Ω·cm)	ASTM D257	5.3E12	1.2E16	2.6E15	9.3E15	1.4E15	7E14	TBD
Dielectric Strength for 1/8" (V/mil)	ASTM D149	442	406	370	432	540	380	TBD
Breakdown Voltage for 1/8" (V)	ASTM D149	55 300	50 700	46 200	54 000	43 000	47 000	TBD
Dielectric Constant @1 MHz	ASTM D150	2.77	2.99	4.41	2.83	TBD	TBD	—
Dielectric Dissipation @1 MHz	ASTM D150	0.017	—	0.011	0.014	TBD	TBD	—
Comparative Tracking Index	ASTM D3638	—	—	—	—	>600 V	400 V to 599 V	—
<b>Thermal Properties</b>								
Tg, Glass Transition Temp. (°C)	ASTM D3418	49	35	25	68	39	51	109
CTE before Tg (ppm/°C)	ASTM D257	79	77	66	74	50	84	18
CTE after Tg (ppm/°C)	ASTM D257	196	195	167	151	178	178	127
Thermal Conductivity (W/[m·K]) @ 25 °C	ASTM E1530	0.259	0.276	0.682	0.228	0.283	0.365	0.237
Constant Service Temp (°C)		-30   +140	-30   +140	-30   +175	-30   +225	-30   +175	-30   +175	-40   +80
Max Intermittent temperature (°C)		+175	+175	+200	+250	+200	+200	+100
Heat Deflection Temperature (°C)	ASTM D648	47	44	35.4	53.9	—	53.7	—

TBD-To be determined