



ACCELERATED AGING PARAMETERS

ASSUMPTIONS: $Q_{10} = 2$, AMBIENT TEMPERATURE = 25°C

Temp °F	Temp °C	1 Year # Weeks	2 Years # Weeks	3 Years # Weeks	4 Years # Weeks	5 Years # Weeks
77.0	25.0	52.00	104.00	156.00	208.00	260.00
78.8	26.0	48.52	97.04	145.55	194.07	242.59
80.6	27.0	45.27	90.54	135.81	181.07	226.34
82.4	28.0	42.24	84.47	126.71	168.95	211.19
84.2	29.0	39.41	78.82	118.23	157.63	197.04
86.0	30.0	36.77	73.54	110.31	147.08	183.85
87.8	31.0	34.31	68.61	102.92	137.23	171.54
89.6	32.0	32.01	64.02	96.03	128.04	160.05
91.4	33.0	29.87	59.73	89.60	119.46	149.33
93.2	34.0	27.87	55.73	83.60	111.46	139.33
95.0	35.0	26.00	52.00	78.00	104.00	130.00
96.8	36.0	24.26	48.52	72.78	97.04	121.29
98.6	37.0	22.63	45.27	67.90	90.54	113.17
100.4	38.0	21.12	42.24	63.36	84.47	105.59
102.2	39.0	19.70	39.41	59.11	78.82	98.52
104.0	40.0	18.38	36.77	55.15	73.54	91.92
105.8	41.0	17.15	34.31	51.46	68.61	85.77
107.6	42.0	16.00	32.01	48.01	64.02	80.02
109.4	43.0	14.93	29.87	44.80	59.73	74.67
111.2	44.0	13.93	27.87	41.80	55.73	69.67
113.0	45.0	13.00	26.00	39.00	52.00	65.00
114.8	46.0	12.13	24.26	36.39	48.52	60.65
116.6	47.0	11.32	22.63	33.95	45.27	56.59
118.4	48.0	10.56	21.12	31.68	42.24	52.80
120.2	49.0	9.85	19.70	29.56	39.41	49.26
122.0	50.0	9.19	18.38	27.58	36.77	45.96
123.8	51.0	8.58	17.15	25.73	34.31	42.88
125.6	52.0	8.00	16.00	24.01	32.01	40.01
127.4	53.0	7.47	14.93	22.40	29.87	37.33



129.2	54.0	6.97	13.93	20.90	27.87	34.83
131.0	55.0	6.50	13.00	19.50	26.00	32.50

To calculate an aging factor with a value other than the values presented in the table, employ the following formula:

$$(52 \text{ weeks/year}) / (Q_{10}^T) = \text{Number of weeks equal to one year}$$

Where: T = Aging Factor = Number of Degrees above Ambient/10
Q₁₀ = Reaction Doubling Rate (usually from 1.6 to 2.0)

This table is based on the published work of Arrhenius. Arrhenius stated that the reaction rate approximately doubled from every 8-10°C increase in temperature. It seems to us, conservative to use a doubling rate of 2.0 for a 10°C increase in temperature if many reactions double at 8°C. Published studies which compare on-the-shelf with accelerated aging data have normally indicated that accelerated aging data is not just more stringent, but greatly so.