TTFTEST.BAS

Rank-order Test-to-Failure

Field data for a population exhibiting an early failure characteristic.

Life in hours	Number of failures N_f	Failure rate $\hat{\lambda} = N_f/N_{pp} \times \Delta t_{fr/hr}$	No. of units surviving period N_{se}	Reliability $\hat{R} = N_{se}/N$
0 - 10	78	$\frac{78}{200 \times 10} = 0.390 \times 10^{-1}$	200 - 78 = 122	$\frac{122}{200} = 0.610$
10 - 20	43	$\frac{43}{122 \times 10} = 0.353 \times 10^{-1}$	122 - 43 = 79	$\frac{79}{200} = 0.395$
20 - 30	25	$\frac{25}{79 \times 10} = 0.317 \times 10^{-1}$	79 - 25 = 54	$\frac{54}{200} = 0.270$
30 - 40	15	$\frac{15}{54 \times 10} = 0.278 \times 10^{-1}$	54 - 15 = 39	$\frac{39}{200} = 0.195$
40 - 50	10	$\frac{10}{39 \times 10} = 0.257 \times 10^{-1}$	39 - 10 = 29	$\frac{29}{200} = 0.145$
50 - 60	7	$\frac{7}{29 \times 10} = 0.247 \times 10^{-1}$	29 - 7 = 22	$\frac{22}{200} = 0.110$
60 - 70	5	$\frac{5}{22 \times 10} = 0.227 \times 10^{-1}$	22 - 5 = 17	$\frac{17}{200} = 0.085$
70 - 80	4	$\frac{4}{17 \times 10} = 0.235 \times 10^{-1}$	17 - 4 = 13	$\frac{13}{200} = 0.065$
80 - 90	3	$\frac{3}{13 \times 10} = 0.231 \times 10^{-1}$	13 - 3 = 10	$\frac{10}{200} = 0.050$
90 - 100	1	$\frac{1}{10 \times 10} = 0.10 \times 10^{-1}$	10 - 1 = 9	$\frac{9}{200} = 0.045$
Over 100	9	- -	9 - 9 = 0	$\frac{0}{200} = 0$
	200			