



Weibull Life Data Analysis Software

Relyence® Weibull software provides complete life data analysis as part of the technically advanced Relyence tool suite. Quickly enter your life data and calculate results to quantify how your products are performing and answer questions such as: is my reliability increasing or decreasing?, what do I expect its reliability to be in the future?, and what is my product's expected life?

KEY HIGHLIGHTS

- Full Life Data Analysis
- Weibull Analysis
- Reliability Growth Analysis
- Support for 10 distribution types
- Multiple estimation methods
- Multiple ranking methods
- Analytics Calculator
- Data import & export
- Role-based permissions
- PC, Mac, tablet, smartphone
- Available on the Web or installed
- Zero-client, browser-based

Life Data Analysis. Relyence Weibull is built to maximize the analysis of your life data by enabling you to discover failure trends, predict future failure characteristics, and evaluate your failure data using statistical techniques based on the Weibull distribution and other mathematical distributions. Enter your life data in a variety of available formats, select the calculation settings you desire, and Relyence Weibull will generate your plot and compute the resulting distribution parameters. Relyence Weibull also includes Reliability Growth Analysis, or RGA, to evaluate product performance based on improvements.

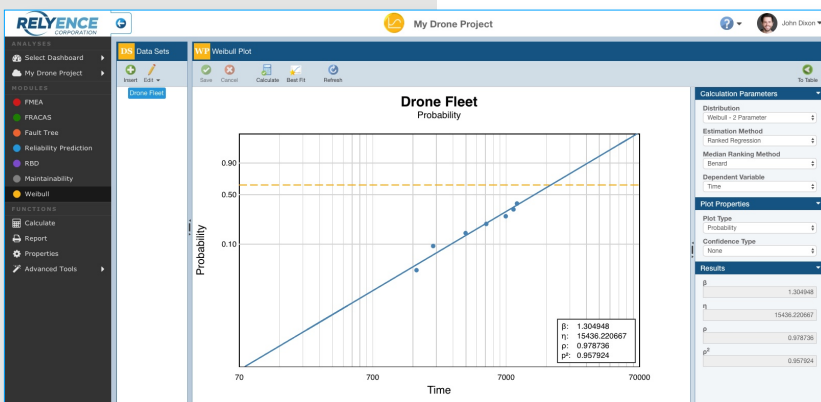
Powerful Mathematical Engine. Relyence Weibull's advanced computational engine provides both power and flexibility. Distributions supported include Weibull 2-parameter, Weibull 3-parameter, Lognormal, Normal, Exponential 1-parameter, Exponential 2-parameter, Gumbel+, Gumbel-, Rayleigh 1-parameter, and Rayleigh 2-parameter. Supported Estimation Methods include MLE (Maximum Likelihood Estimation), MMLE (Modified Maximum Likelihood Estimation), and Ranked Regression. Additionally, Median Ranking Methods supported include Median, Benard, Mean, Hazen, and Kaplan-Meier.

Capabilities to Rely On. Relyence Weibull includes a host of powerful capabilities. Reliability Growth Analysis using the Crow-AMSAA technique is supported. The built-in Analytics Calculator enables you to perform a variety of computations such as Bearing Life (BX), Mean Life, Reliability, Probability of Failure, and Warranty Time. Integration with other Relyence software tools allows you to augment your Reliability Predictions with real-world life data, link a block in your Reliability Block Diagrams (RBDs) to a Weibull data set, and even generate a Weibull data set from your FRACAS data. In addition, our device independent platform is browser-based and enables you to perform your analyses on your PC, Mac, tablet, or smartphone.

Weibull Plots. Relyence Weibull's highly intelligent mathematical engine quickly computes distribution result parameters and generates an interactive graphical plot that visually depicts key trends. You can select from a variety of plot types, including Probability,

Reliability vs Time, Unreliability vs Time, Failure Rate vs Time, and PDF (Probability Density Function) plots. You can optionally choose to include confidence bounds on your plots as well.

Deployment Choice. Relyence Weibull, as all Relyence software tools, is built on the Relyence Platform - a highly adaptable and mobile-friendly framework constructed with today's workplace in mind. Relyence Weibull can be installed on-premise at your location, hosted in the Microsoft Cloud to take advantage of Microsoft's industry-leading Azure platform, or hosted in your own private secure cloud. All platforms offer the same features and functions. The choice is yours!



Weibull Life Data Analysis Software

Full Life Data Analysis in one powerful tool.

Reliability Growth Analysis

Weibull Data Points

Data Set and Calculation Parameters

The screenshot displays the 'Data Points' table with the following data:

Rank	Time	Quantity	Failure	Suspension
1	72.000000	1.000000		
2	216.000000	1.000000	<input checked="" type="checkbox"/>	
3	480.000000	1.000000	<input checked="" type="checkbox"/>	
4	504.000000	1.000000	<input checked="" type="checkbox"/>	
5	840.000000	1.000000	<input checked="" type="checkbox"/>	
6	1008.000000	1.000000	<input checked="" type="checkbox"/>	
7	1248.000000	1.000000	<input checked="" type="checkbox"/>	
8	1344.000000	1.000000	<input checked="" type="checkbox"/>	
9	2136.000000	1.000000	<input checked="" type="checkbox"/>	
10	2520.000000	1.000000	<input checked="" type="checkbox"/>	
11	4392.000000	300.000000	<input type="checkbox"/>	<input checked="" type="checkbox"/>
+	0.000000	1.000000	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The 'Data Set Properties' panel shows the following settings:

- Data Format: Exact Times
- Enter the quantity for data points:
- Include data points for suspensions:
- Distribution: Weibull - 3 Parameter
- Estimation Method: Ranked Regression
- Median Ranking Method: Benard
- Dependent Variable: Probability

The 'Results' panel shows the following values:

- β : 0.709820
- η : 289922.567839
- γ : 18.463643
- ρ : 0.993799
- ρ^2 : 0.987637

Weibull Data Set

Best Fit Distribution Results

Extensive Help including Videos

Account Management

The 'Best Fit Distribution' table shows the following results:

Rank	Distribution	Residual
1	Weibull - 3 Parameter	0.9938
2	Rayleigh - 2 Parameter	0.9938
3	Lognormal	0.9937
4	Weibull - 2 Parameter	0.9931
5	Rayleigh - 1 Parameter	0.9931
6	Exponential - 2 Parameter	0.9955
7	Exponential - 1 Parameter	0.9955
8	Gumbel	0.8876
9	Normal	0.8732
10	Gumbel	0.8822

The 'Weibull Plot Results' shows a plot of Probability vs Time for a Quadcopter Drone. The plot includes a trend curve and upper/lower confidence bounds. The calculated distribution results are:

- β : 0.70982
- η : 289922.567839
- γ : 18.463643
- ρ : 0.993799
- ρ^2 : 0.987637

Best Fit Distribution

Plotted Data Points and Trend Curve

Plot Properties and Results

Upper and Lower Confidence Bounds

Weibull Plot Results

Calculated Distribution Results