

Relyence

Weibull

Weibull Life Data Analysis Software

KEY HIGHLIGHTS

- Full Life Data Analysis
- Weibull Analysis
- Support for 10 distribution types
- Multiple estimation methods
- Multiple ranking methods
- Visually impressive Weibull plots
- Cross-module integration
- Data import & export
- Role-based permissions
- PC, Mac, tablet, smartphone
- Available on the Web or installed
- Zero-client, browser-based

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?

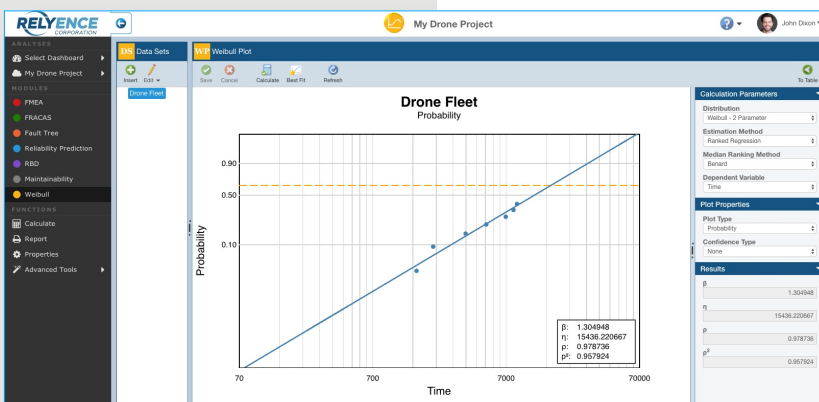
Life Data Analysis. Relyence Weibull is built to maximize the analysis of your life data by enabling you to discover failure trends, predict future failure characteristics, and evaluate your failure data using statistical techniques based on the Weibull distribution and other mathematical distributions. 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. You can also engage the Relyence Best Fit Analyzer to determine your best fit distribution if desired.

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. Data entry is easy and efficient- you can copy and paste from Excel, import from other sources using the built-in step-by-step process, or simply enter your data in directly. Integration with the other Relyence software tools provides unique advantages. Augment your Reliability Predictions with real-world life data for more accurate analyses, link a block in your Reliability Block Diagrams (RBDs) to a Weibull data set, or 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!



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Weibull Life Data Analysis Software

Full Weibull Life Data Analysis in one powerful tool.

Integrated with Other Relyence Tools

Weibull Data Points

Data Set and Calculation Parameters

Time	Quantity	Failure	Suspension
72.000000	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
216.000000	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
480.000000	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
504.000000	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
840.000000	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1008.000000	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1248.000000	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1344.000000	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2136.000000	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2520.000000	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4392.000000	300	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0.000000	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Weibull Data Set

Data Set Properties

Data Format: Exact Times

☒ Enter the quantity for data points

☒ Include data points for suspensions

Calculation Parameters

Distribution: Weibull - 3 Parameter

Estimation Method: Ranked Regression

Median Ranking Method: Benard

Dependent Variable: Probability

Results

β : 0.70982

η : 289922.567839

γ : 18.463643

ρ : 0.993799

ρ^2 : 0.987637

Best Fit Distribution Results

Extensive Help including Videos

Account Management

Plotted Data Points and Trend Curve

Plot Properties and Results

Upper and Lower Confidence Bounds

Best Fit Distribution

Weibull Plot Results

Calculated Distribution Results

Best Fit Distribution

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	0.8522

Weibull Plot Results

Plot Properties and Results

Distribution: Weibull - 3 Parameter

Estimation Method: Ranked Regression

Median Ranking Method: Benard

Dependent Variable: Probability

Plot Properties

Plot Type: Probability

Confidence Type: Double Confidence

Confidence Level: 90

Confidence Method: Exact Matrix

Results

β : 0.70982

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ρ : 0.993799

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