



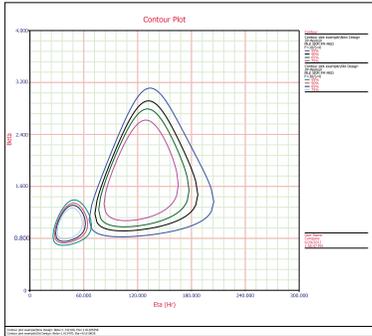
WEIBULL++[®]

The standard for reliability life data analysis™

ReliaSoft's Weibull++ is the industry standard in life data analysis (Weibull analysis) for thousands of companies worldwide.

The software provides a complete array of data analysis, plotting and reporting tools for standard life data analysis (LDA) with integrated support for a variety of related analyses such as degradation data analysis, warranty data analysis, non-parametric life data analysis, recurrent event data analysis and reliability test design.

Weibull++ is part of the Synthesis Platform[®].



State	Time to F or S (Hr)	Subset ID
F	40	unit 107
F	72	unit 103
F	75	unit 122
F	98	unit 106
F	124	unit 109
F	142	unit 121
F	161	unit 112
F	166	unit 108
F	176	unit 116
F	190	unit 110
F	193	unit 123
F	200	unit 100
F	214	unit 111
F	227	unit 114
F	240	unit 120
F	264	unit 115
F	269	unit 104
F	284	unit 101
S	300	unit 117
S	300	unit 118
S	300	unit 105
S	300	unit 119
S	300	unit 102
S	300	unit 118
S	300	unit 110

Design a reliability demonstration test

What metric would you like to demonstrate? Metric: Reliability value at a specific time

Demonstrate this reliability (%) 90

With this confidence level (%) 90

At the time (h) 100

Assume the failure rate behavior is governed by this distribution

Distribution: 2P-Weibull

With this Beta: 2

Solve for this value

Value: 100

Required test time: 0

With this sample size: 100

With a maximum of this many failures: 0

Results

Test Time per Unit (Hr)

File Home My Portal Project Insert View Life Data Sheet Options

Batch Auto Run Fill Median Ranks Insert Data Sheet

Specify Points Auto Group Data Insert Additional Plot

Calculate Plot Quick Calculation Pad Distribution ReliaSoft 3D (LK Function)

Alter Parameters Goodness of Fit Results Insert General Spreadsheet

Options Folio Sheets Format and View

Project Manager

Current Project

Filter based on creator

All

Project 1

Weibull++ Folios

Folio1

Folio2

Specialized Foliros

Degradation (W1)

NonParametricLDA1

Warranty1

Event Log1

ParametricRDA1

NonParametricRDA1

Multiplots

Overlay Plot1

SBSPlot1

RBD

Diagram1

Tools

Test Design Folio1

Reports

Workbook1

Current Project

Project List

State	Time to F or S (Hr)	Subset ID
F	245	unit A1
F	535	unit A6
F	793	unit A15

Plot

OVERLAY PLOT

Plot Type: Probability - Weibull

Units: Hour (Hr)

Auto Refresh:

Keep Aspect Ratio:

Confidence Bounds:

Target Reliability:

Scaling

Y: 1 99

X: 100 10000

Select Data Sheets

Warranty Analysis: Warranty1

Quantity Returned	Usage at Return Date	Date In-Service	Subset ID
1	9743	1/1/2010	101A
2	6057	2/1/2010	102A
3	7651	3/1/2010	103A
4	5083	5/1/2010	105A
5	5993	5/1/2010	105A
6	7432	5/1/2010	105A
7	8739	5/1/2010	105A
8	3158	6/1/2010	106A
9	1136	7/1/2010	107A
10	4946	8/1/2010	106A
11	3965	9/1/2010	109A
12	3117	10/1/2010	110A
13	3250	11/1/2010	111A
14	4651	12/1/2010	112A
15	3124	12/1/2010	112A
16	4013	1/3/2010	101A
17	1		
18	1		
19	1		
20	1		
21	1		
22	1		
23	1		
24	1		
25	1		
26	1		
27	1		

WARRANTY

Usage

Constant

Distribution

Usage Distribution Period

1 Years

Distribution

2P-Weibull

Parameters

Beta: 3.5

Eta: 8900

Interval Width Estimator

Input

End Usage: 15000

Number of Intervals: 15

Number of Suspensions: 60

Calculated Interval Width: 1000.0000

OK

Close

SOFTWARE HIGHLIGHTS - RELIASOFT'S WEIBULL++

Data Types (individually or in groups)

- Complete (Failure Time)
- Right Censored (Suspension Time)
- Left Censored
- Interval Censored
- Free-Form

Distributions

- Weibull
- Normal and Lognormal
- Exponential
- Gamma and Generalized Gamma
- Logistic and Loglogistic
- Gumbel
- Bayesian-Weibull
- Mixed Weibull
- Competing Failure Modes (CFM)

Analysis Types

- Rank Regression on X (RRX)
- Rank Regression on Y (RRY)
- Maximum Likelihood (MLE)
- Non-Linear Rank Regression

Ranking Methods

- Kaplan-Meier
- Median Ranks

Confidence Bounds Methods

- Likelihood Ratio
- Fisher Matrix
- Beta Binomial
- Bayesian (BSN)

Plot Types

- Probability
- Reliability vs. Time
- Unreliability vs. Time
- Failure Rate vs. Time
- pdf Plot
- Contour Plot

- Failures/Suspensions Histogram
- Failures/Suspensions Pie
- Failures/Suspensions Timeline

Integrated Utilities

- Distribution Wizard
- Quick Calculation Pad
- Overlay Plots (aka Multi-Plots)
- Side-by-Side Plots
- 3D Plots
- Monte Carlo Data
- SimuMatic®
- Block Diagrams
- Stress-Strength Analysis
- Data Set Life Comparison
- Reliability Test Design
- Maintenance Planning Tool
- Synthesis Workbooks (spreadsheet and word processing combined)
- Function Wizard
- Non-Linear Equation Root Finder
- Non-Linear Equation Fit Solver
- Quick Parameter Estimator
- Quick Statistical Reference

Related Analyses

- Warranty Analysis
 - Nevada
 - Times-to-Failure
 - Dates of Failure
 - Usage
- Degradation Analysis
 - Linear
 - Exponential
 - Power
 - Logarithmic
 - Gompertz
 - Lloyd-Lipow
 - User-Defined Model
- Destructive Degradation Analysis
- Event Log Conversion

- Recurrent Event Data Analysis
 - Mean Cumulative Function
 - General Renewal Process
- Non-Parametric Life Data Analysis
 - Kaplan-Meier
 - Simple Actuarial
 - Standard Actuarial

Import Types

- Microsoft Excel® Files
- Text Files (*.txt, *.csv, *.prn, *.smc)
- Weibull++/ALTA 6, 7 Files

Centralized Data Storage

- Standard Repository
- Microsoft SQL Server®
- Oracle®
- Simultaneous Access by Multiple Users
- Shared Analysis Settings and Data
- Flexible User Access Levels

Integration

Integration with all other Synthesis Platform applications.

Multiple Languages Supported

For details, please visit:
<http://www.ReliaSoft.com/languages>

Available Services

- Detailed User Documentation
- Practical Example Files
- Theoretical eTextbook
- Step-by-Step Example Guide
- Training for Theory + Software
- Professional Consulting Services

Real Power for Real Applications

The Weibull++ software provides an extensive array of tools to help you understand and communicate how a product will perform over time. Some of the many useful applications include the ability to:

- Compare suppliers or designs based on reliability.
- Demonstrate that an item meets specified reliability.
- Make predictions about performance during the useful life (or warranty) period.
- Use plots and other reports to effectively communicate performance estimates to management.

Why Upgrade to Version 10? (for details, visit <http://Weibull.ReliaSoft.com/version10.htm>)

- Major upgrades to the Synthesis Platform®, such as an integrated Project Planner with expanded actions tracking, automated watches and alerts, easier to find and filter analyses, batch properties editor for managing resources, better integration with Active Directory® for user account management, and the option to implement a Synthesis Enterprise Portal website.
- Fractional failure analysis, destructive degradation analysis and the ability to create your own user-defined degradation models.
- A completely upgraded 3D plot utility, interactive plot zoom, the ability to open multiple projects simultaneously, new Synthesis Workbooks for custom reports and the option to import data from an external database (via the Synthesis Data Warehouse).