BC CALC®
Analysis for Engineered Wood Products

Quick Start Guide

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INTRODUCTION | Overview of BC CALC® Software

Boise Cascade is proud to introduce BC CALC®, the latest update to our sizing software for Boise Cascade engineered wood products, glulam and solid sawn wood products.

Using BC CALC®, experienced and novice users alike can quickly:

- *Size floor, roof, wall and column members with multiple spans and loading conditions*
- *Analyze holes, notches, and bevel cuts*
- *Pick the best product for a design from a list generated by BC CALC®*
- *Refine performance factors (deflection criteria, subfloor material, etc.)*
- *Print design reports*
- *Store and manage all the designs in a project file*

The cloud-based version of BC CALC® software is similar to the desktop version of BC CALC®, but it runs within your internet browser. While the look and feel is similar to the desktop version, you may notice some differences due to the browser-based access along with enhancements designed to increase productivity and user experience.

This quick start guide introduces basic BC CALC® features to get you acquainted with the new layout and tools.

1. Toolbar Buttons

- The toolbar contains buttons for the most frequently used commands.
  Tip: Hover over any button and a "tool tip" will appear.
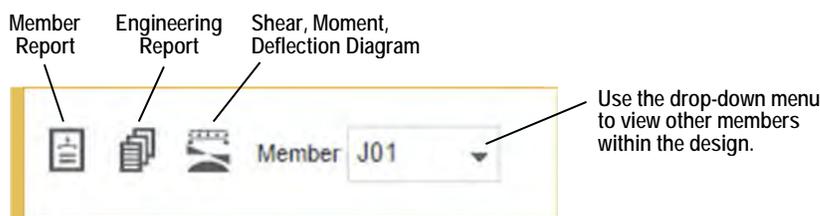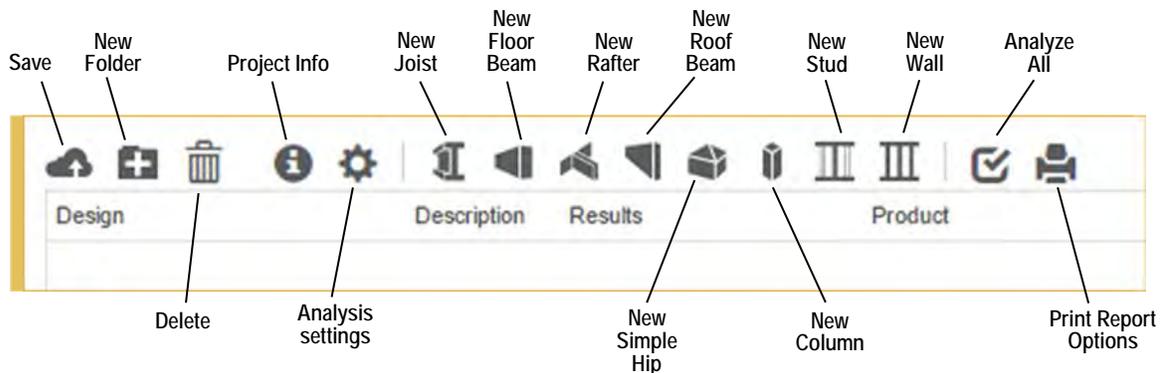
2. Creating a New Analysis

The following new analysis instructions cover four BC CALC® data entry tabs for specifying product and design criteria: **Spans**, **Settings**, **Loads**, and **Products**.

■ In the main menu bar, click **Project** and select **New Analysis**. Note that BC CALC® opens to a blank analysis by default.


■ To start your analysis, click the appropriate member icon. From left to right, the icons represent **joist**, **floor beam**, **rafter**, **roof beam, simple hip, column, stud** and **wall** [❶]. As soon as you click on an icon, a new member design will be created.

■ Double-click on the design (i.e., J01) to continue your calculations [❷].

SPANS TAB

■ Click the *Spans* tab to set your member spans and support information:

– The default setting is for a single span with a 14' (14-00-00) length measured from outside of support to outside of support. Change the *Input Mode* [❶] to select other dimension reference options to match your conditions. When "Custom" is chosen, the *Reference* field [❷] can be changed for each support.

– Use *+/-* buttons [❸] to add or remove spans. As the number of spans increases, additional fields for inputting span and support data become available.

– If a span will be cantilevered, click the appropriate *Cantilever* check box [❹].
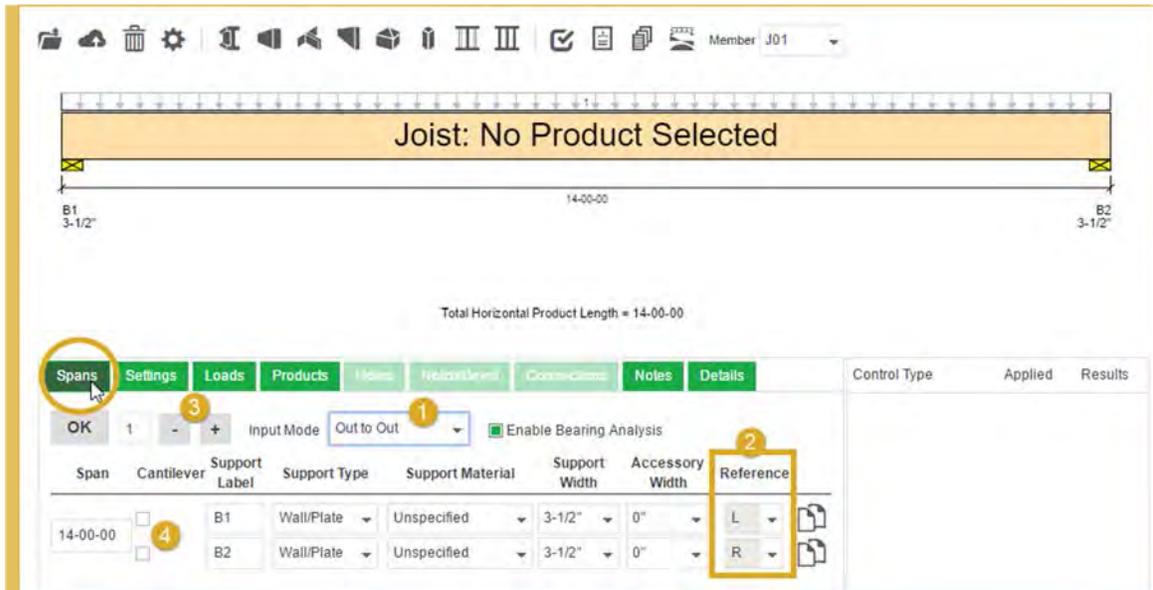
The example below shows a 2-span member [❺] with 14' and 17' spans [❻,❼] neither of which are cantilevered [❽]. Supports are 3½" wall plates with a 1½" accessory (rim board) at each end.

■ Click the *OK* button [❾] to refresh the display and show your changes.
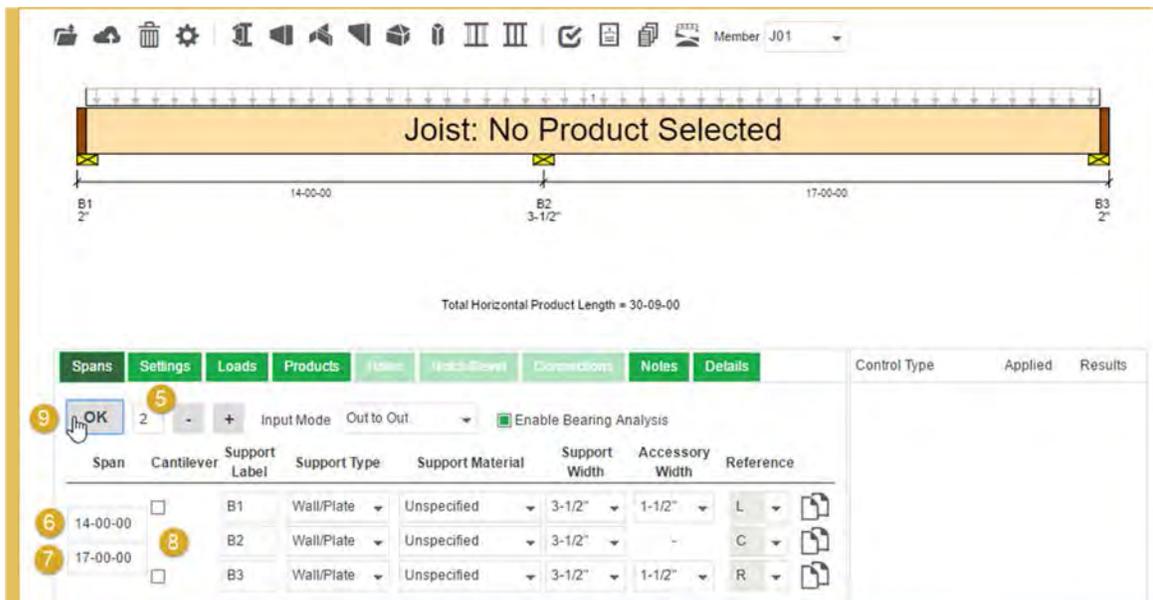
SETTINGS TAB

■ Click the **Settings** tab to set additional design parameters [❶].

■ Use the checkboxes and dropdown menus to select subfloor material, performance modifiers and deflection limits [❷].
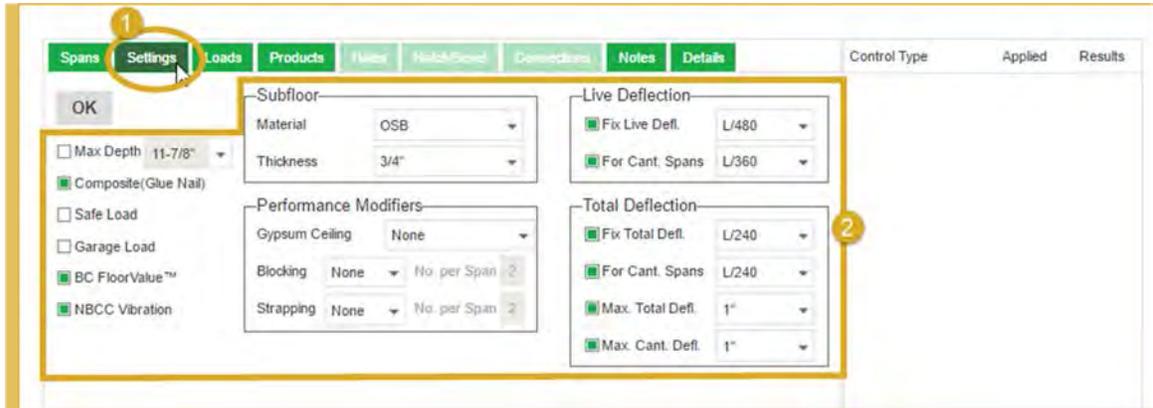
LOADS TAB

■ Click on the **Loads** tab to add or edit loading conditions [❶].

■ A standard load will be set by default [❷]; verify that it is appropriate for your condition.
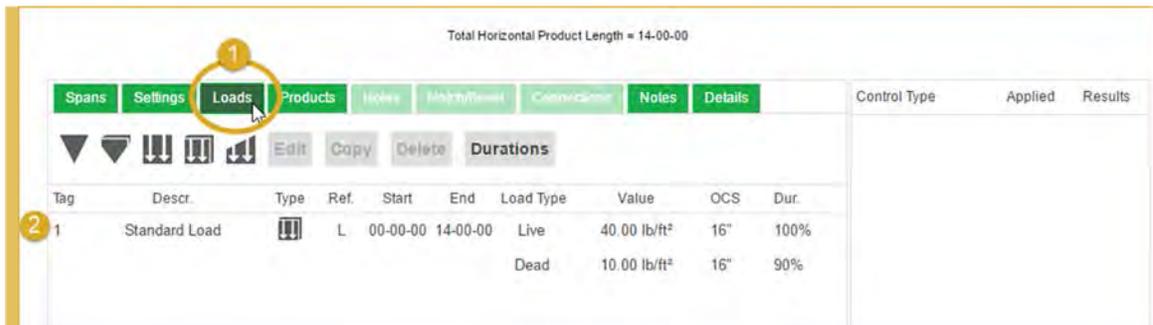
■ If the loading shown needs to be changed, edit the settings by first selecting the table row with the loading you want to change [❶]. When the row turns blue, click on the **Edit** button [❷] to open the **Uniform Area Load** window. Loads can also be edited by double clicking on the row in the loads grid or by clicking on the load in the drawing.

- In the **Uniform Area Load** window, use the check boxes and dropdown menus to change or add your loading specifications [❸,❹]. Load values can also be input by entering the value directly in the field.
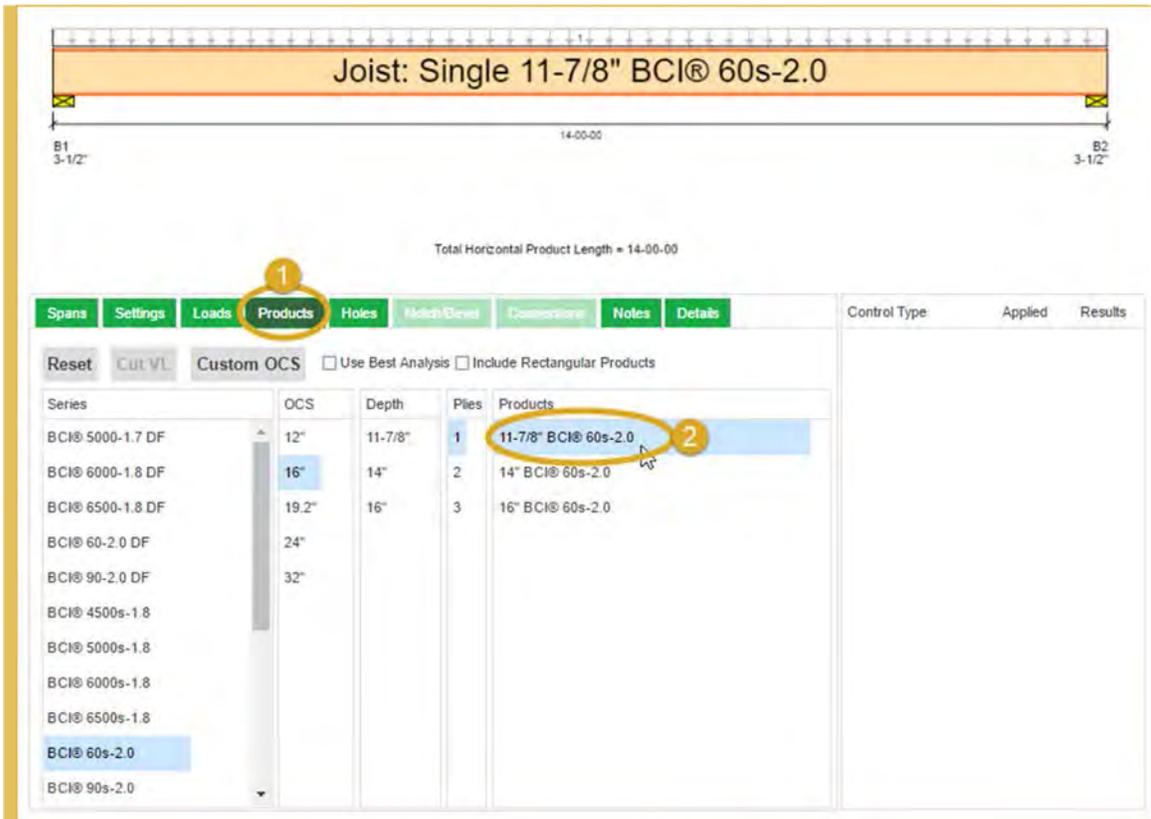
- When finished, click **Save** to save your changes [❺].

Uniform Area Load
Tag: 1

Description	Standard Load	
Start	00-00-00	☐ Reference Right
End	14-00-00	

Component	Value	
☑ Live (100%)	40.00 lb/ft²	❸
☐ Dead (90%)	10.00 lb/ft²	
☑ Roof Live (125%)	40.00 lb/ft²	❹
☑ Snow (115%)	40.00 lb/ft²	
☐ Wind (160%)	40.00 lb/ft²	
☐ Set OCS	16"	

Close   Save ❺
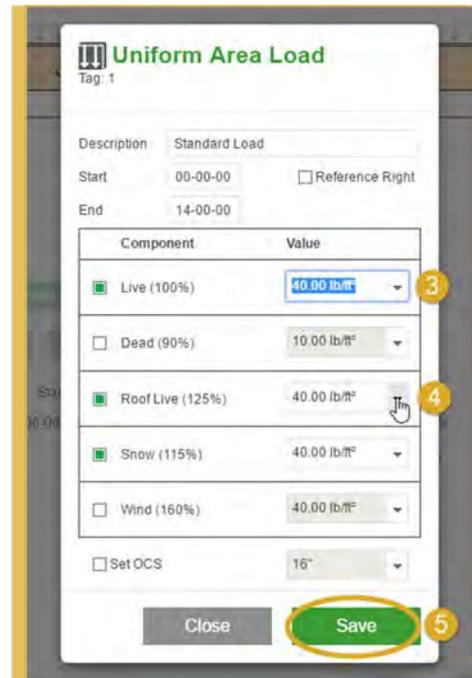
PRODUCTS TAB

- Click on the *Products* tab to select the member series, on-center spacing, depth and plies [❶].

- Filter by series and depth as needed, then select the desired on-center spacing and joist product from the **Products** column [❷].

Joist: Single 11-7/8" BCI® 60s-2.0

14-00-00

B1
3-1/2"

B2
3-1/2"

Total Horizontal Product Length = 14-00-00

❶

| Spans | Settings | Loads | Products | Holes | Notch/Bevel | Dimensions | Notes | Details |

| Control Type | Applied | Results |

Reset | Cut VL | Custom OCS | ☐ Use Best Analysis ☐ Include Rectangular Products

Series	OCS	Depth	Plies	Products	
BCI® 5000-1.7 DF	12"	11-7/8"	1	11-7/8" BCI® 60s-2.0	❷
BCI® 6000-1.8 DF	16"	14"	2	14" BCI® 60s-2.0	
BCI® 6500-1.8 DF	19.2"	16"	3	16" BCI® 60s-2.0	
BCI® 60-2.0 DF	24"				
BCI® 90-2.0 DF	32"				
BCI® 4500s-1.8					
BCI® 5000s-1.8					
BCI® 6000s-1.8					
BCI® 6500s-1.8					
BCI® 60s-2.0					
BCI® 90s-2.0					

RUNNING AN ANALYSIS

■ While still in the **Products** tab, you can either double click on a product or click the ***Analyze Member*** icon [❶]. The **Results** pane will be populated when the analysis is complete [❷].

■ When finished, either click on the ***Folder*** icon [❸] to return to the analysis summary (see image below) or click a member icon in the toolbar to create a new design. If you click a member type that matches the current design's member, you can choose to create a copy of the current design or create a new design.

Joist: Single 11-7/8" BCI® 4500s-1.8

B1
2"
DL 65 lbs
FLL 333 lbs
UP 7 lbs

B2
3-1/2"
DL 255 lbs
FLL 1018 lbs

B3
2"
DL 90 lbs
FLL 394 lbs

Total Horizontal Product Length = 30-09-00

Control Type	Applied	Results
Moment	1706 ft-lbs	56.4%
Neg. Moment	-1927 ft-lbs	63.7%
End Reaction	484 lbs	45.3%
Int. Reaction	1273 lbs	56.6%
End Shear	473 lbs	29.1%
Cont. Shear	664 lbs	40.9%
Total Load Defl.	0.268"	32.0%
Live Load Defl.	0.225"	53.6%
Total Neg. Deflection	-0.052"	n\a
Max Defl.	0.268"	26.8%
Vibration	16' 6-3/4"	89.5%
LOverD	16.9	n\a
Member Bearing (1)	398 lbs	37.2%

Example of the Analysis Summary Window:

| Design	Description	Results	Product	Plies	Control
J01	-	◆	11-7/8" BCI® 4500s-1.8	1	Vibration 78.8%

3. Creating a Project and Saving an Analysis

The following instructions cover creating a project and saving an analysis. Projects are similar to folders and can have one or more analysis files associated with them as attachments.
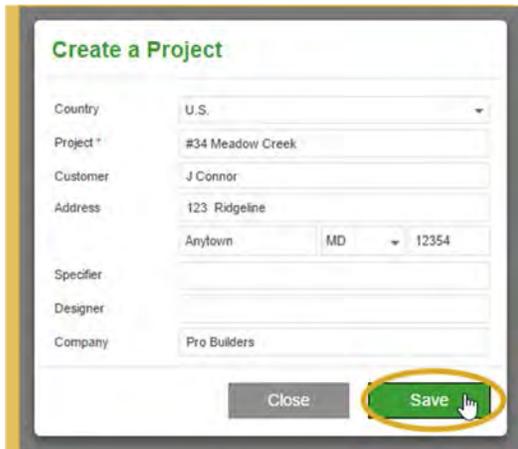
CREATING A PROJECT

Projects can be created at any time without affecting the current analysis data. New projects can be created either under the Project tab in the main menu bar or from within the **Save** dialog box.
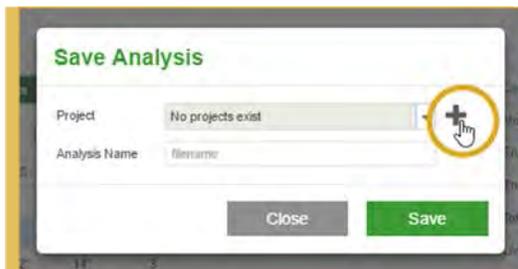
■ In the main menu bar, click **Project** and select **New Project.**
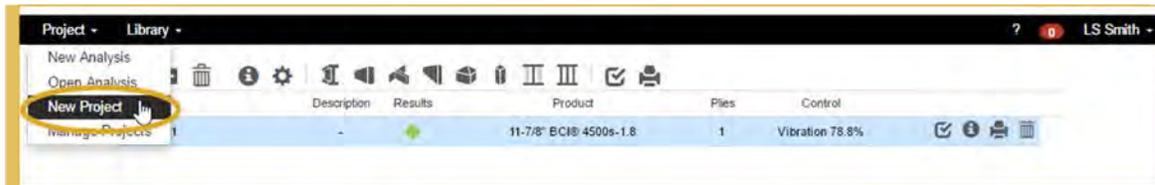
■ Fill in the project information fields in the **Create a Project** dialog box as desired. Note that only the **Project** name field is required. Click **Save** when finished.

■ Alternatively, create a new project from the **Save** dialog box by clicking the **+** icon next to the project name to open the **Create a Project** dialog box.

SAVING AN ANALYSIS

An analysis can be saved at any time. If an analysis with the same name already exists in the selected project, you will be asked if you want to overwrite the existing file.

■ Click on the **Save Analysis (cloud)** icon in the toolbar. Select a project and input an analysis name.