**1. Materials**

* Balsa wood must be 1/8”x1/8”
* Maximum material allowed 240”
* The balsa wood may be notched, cut, sanded.
* No other materials may be used other than Balsa wood.
* The bridge may NOT be stained, painted, or coated in any fashion with any foreign substance.

**2. Design Criteria**

* The bridge must span a gap of 12”
* The bridge shall be no longer than 16”
* The bridge shall have a minimum width of 2.25” and a maximum width of 3.25”
* The bridge shall have a Superstructure maximum height of 3.125”
* The bridge shall have a Substructure maximum of depth of 3.125”
* Maximum weight 18 grams
* Using glue to reinforce joints is not allowed.
* The bridge’s roadbed structure must have an opening in the center to allow for the testing device’s bolt to attach to the testing plate. The testing plate will be ½” x 2” x 10

**3. Loading**

* The load will be applied at the center of the bridge onto the bridge roadway structural members.
* The load will be suspended below the bridge or applied downward to the top of the testing plate via the testing device.

**4. Testing**

* The bridge will be placed on the support surfaces and load will be steadily applied until failure occurs.
* Failure is defined as the inability of the bridge to support additional load or a deflection of 1”, whichever occurs first.
* The bridge with the highest structural efficiency, **E**, will be determined the winner, where

Load supported

**E** = --------------------

Mass of Bridge

**5. Notebook**

A notebook or folder must be provided with the following information:

* Note: Without this notebook teams will not be eligible for first place award.
* Technical drawings. (10 Points)
* Photographs and documentation of the design and building process. (10 Points)
* This notebook must be entered on standard 8.5x11 papers, 12pt standard font, and up to 25 pages. (5 Points)
* The Final Ranking will be determined by adding the two scores together, (The contest score and the Notebook score) to determine the first place award.

Reference Link:

[www.balsabridge.com](http://www.balsabridge.com) - Photos, Info, and Links regarding Balsawood bridge Design & Construction