

Sharif University of Technology
The Department of Civil Engineering
Spaghetti Bridge Competition

Students may build their bridges before the competition. The bridges are to be constructed entirely out of spaghetti and hot melt glue. The bridge will be loaded until they collapse. The bridges will be judged based on the ratio of the maximum load held before collapsing compared to the weight of the bridge. For the complete details see the official rules as shown below:

1. Only one entry per group.
2. The entire bridge must be constructed solely of pasta (see number 3 below), hot melt glue and the official U-Bolt and Platform (see number 8 below).
3. Any solid, round, commercial pasta (e.g. spaghetti, spaghetti or vermicelli) may be used as long as its *initial* diameter is not greater than 3 mm and not less than 1 mm. Noodles can be made of wheat or rice pasta.
4. Only hot melt glue (any grade is acceptable) shall be used as a spaghetti bonding material. Other types of bonding materials such as epoxy are not permitted.
5. Bridges must span a gorge measured from vertical contact to vertical contact. The horizontal surface of the gorge on each side is used for support. The vertical edge of the gorge may **not** be used (no thrust support from side banks permitted). **All** bridges have to be able to support their own weight when spanning the gorge.

Gorge width:

1000 millimeters

6. The vertical depth of your bridge may not exceed 500 mm. This dimension does not include the official U-Bolt apparatus described in number 8 below.
7. The bridge may not be heavier than the maximum weight listed below, including the Official U-Bolt and Platform. This maximum weight does not include any additional wires or cables installed to transmit the load to the Official U-bolt. Where the additional wires or cables cannot be removed, they will be included in the official weight of the bridge.

Maximum Weight

750 grams

8. The “Official U-Bolt and Platform” must be built into your bridge. The Official U-Bolt and Platform must not be modified in any way. They are used to attach the massive loads to your construction. You must allow for the load carrying attachment to be hung, directly or indirectly, from the U-Bolt. The official U-Bolt is centrally located on a 7 mm x 50 mm x 100 mm wood platform. The platform shall be located at the mid-span of your bridge **at, or above**, the horizontal surface of the gorge.
9. The Winners in each category are determined as follows (all decisions are final):

Strength Competition - Each bridge will be loaded by a person from the group that built the bridge. The weight may be applied in increments as decided by the builder group. A minimum 10 second waiting period is required between load applications. The final Official Load is the last load that the bridge

withstood for a period of 10 seconds prior to destruction. Timing is provided by the Official Timekeeper. The winner is the legal bridge with the highest Official Load divided by the bridge weight [1].

Reference:

1. Camosun University (2013, December 3). Spaghetti Bridge Competition. Retrieved March 15, 2014, from <http://camosun.ca>.