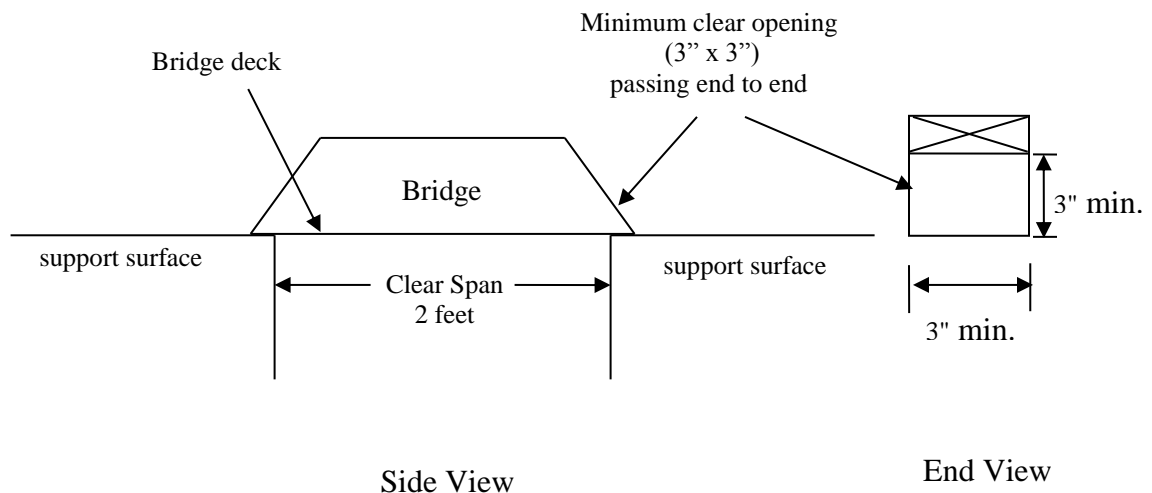


Idaho State University / National Engineers Week 2015 Spaghetti Bridge Official Rules

RULES:

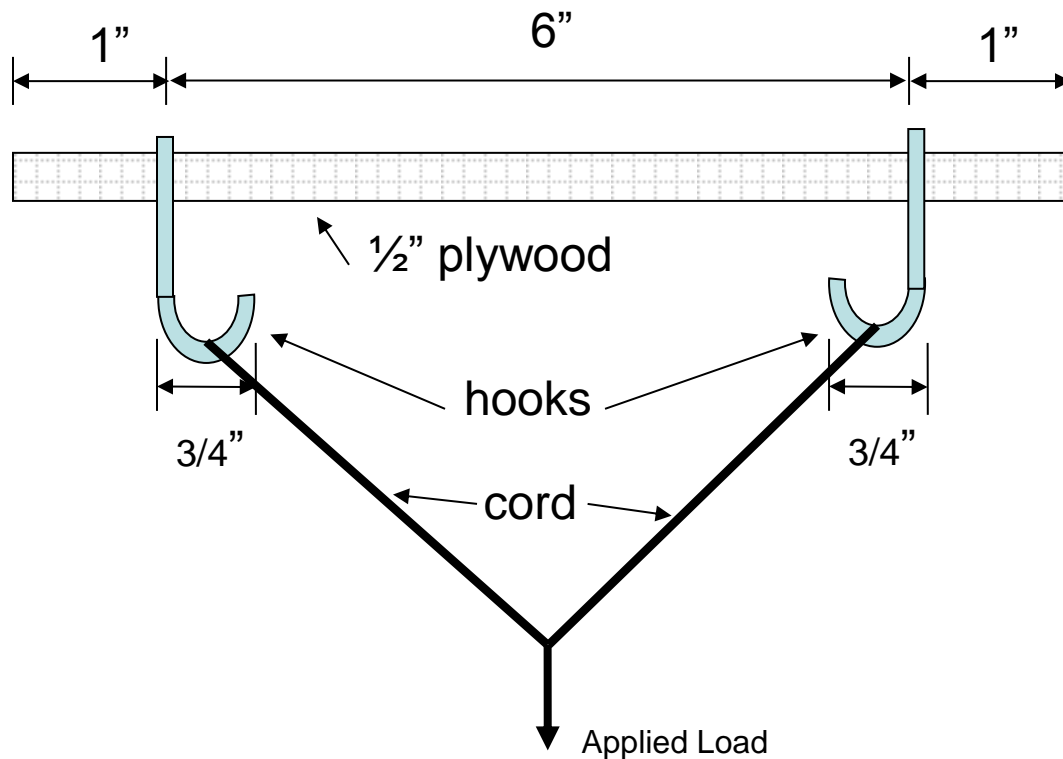
1. Maximum group size is four people; only one entry per group.
2. The bridge is to be built from spaghetti and glue. The spaghetti shape must be long and thin (e.g. lasagna noodles will not be allowed). Circular/round, angel hair and linguine type are acceptable. Glue can be any kind.
3. The bridge shall be **free-standing** and must span two level surfaces with a clear span of two (2) feet (Bridge must have a span greater than 2 feet) to accommodate load application.



3. The bridge shall be no more than 1.5 feet in height, measured vertically from the lowest point to the highest point.
4. The bridge shall have a clear opening passing through the bridge (end to end) to allow for the placement of a loading deck. The following conditions shall be met.
 - a) Clear opening from end to end shall allow a 3 inches wide x 3 inches high block to pass unobstructed from end to end.
 - b) Supports for the loading deck: The loading deck will consist of a piece of plywood $\frac{1}{2}$ inch x 3 inches wide x 8 inches long with connection hooks placed in the middle (centerline) 1 inch from each end. On the bridge deck, two clear openings (hole/slot) of at least $\frac{3}{4}$ " must be provided for the hooks of the loading deck to pass through the bridge deck. The loading deck will be placed in the middle of the bridge deck with hooks extending below the bridge deck from which a load measuring device will be hung. See diagram below for

placement of hooks on loading deck. The loading device will be connected to the hooks via string/cord.

Load bearing platform



5. Final bridge weight shall not exceed 18 oz. (1 lb. and 2 oz.). It is expected that up to 1 lb. of spaghetti will be used with approximately 2 oz. of glue (dry weight). A 3 oz. bottle of glue will generally dry to less than 2 oz. Glue can be of any type. Bridges will be weighed prior to loading and their load capacity compared with the overall weight. The winning bridge will be determined by the highest applied load/bridge weight ratio. Since the glue cannot be easily weighed separately, if in the opinion of the judges the amount of glue is excessive and exceeds 2 oz., the bridge will be disqualified. Bridges made primarily of glue/epoxy are not allowed.
6. An incremental load will be applied to the loading platform via the hooks. Failure is defined as when the bridge breaks or the structure twists such that it can no longer support the load free standing.
7. Bridges may be spray-painted, painted or decorated if a team so chooses. However, the final bridge weight with all spaghetti, glue and paint shall not exceed 18 oz.
8. Bridges must hold at least the load bearing platform and cords/chains to be considered in the competition.