

THE UNIVERSITY OF MEMPHIS®

Herff College of Engineering

EDAY 2019 **THE WALL** **Grades 9-12**

The WALL competition is about teamwork, resource utilization and balancing forces. The goal of the competition is to support one team member in a chair attached to a plywood wall using common duct tape. The winner will be the team that supports the greatest student weight per gram of duct tape used.

Each team may have up to *four* members who are currently attending high school. Only actively participating team members will be allowed in the competition area during the event. The event will take about 15 minutes to complete. Competition times may be selected when registering on the web for the event.

Rules

- All duct tape used in the competition will be supplied by the University of Memphis.
- There is no limit to the amount of duct tape that you may use.
- Each team will be provided with a chair that must be attached to the wall using the duct tape provided.
- After attachment, the lowest point of the chair must be at least six inches above the floor.
- Each team will have ten minutes to affix the chair to the wall.
- The duct tape may be affixed anywhere on the front of the wall.
- On the back of the wall, the duct tape may only be affixed within the shaded areas shown in Figure 1 on the next page. No duct tape may cross over the top of the wall except in the blue areas shown. No duct tape may wrap around the sides of the wall anywhere.

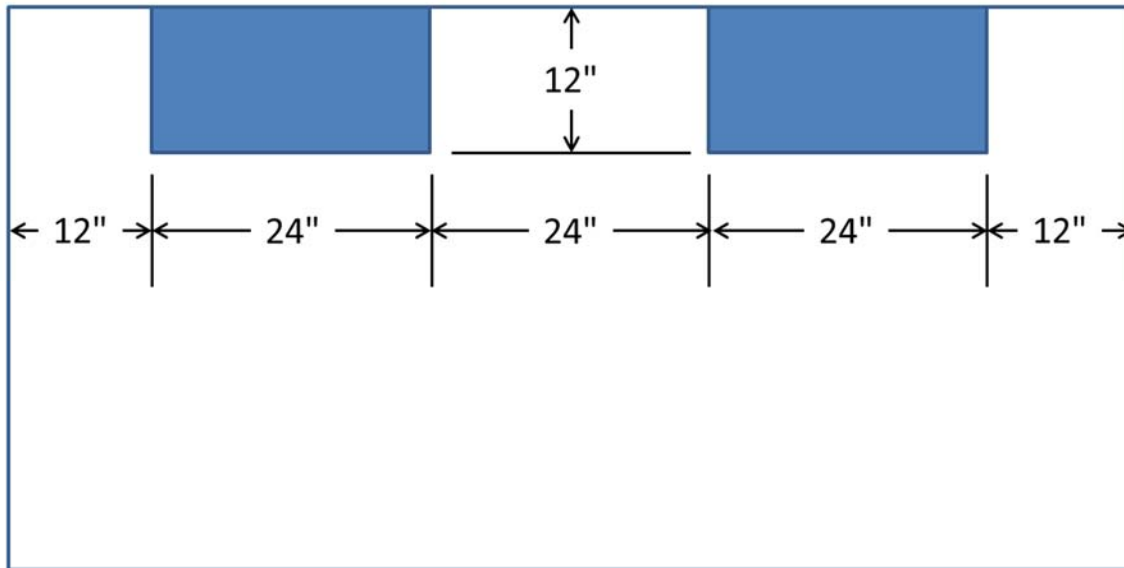


Figure 1 - Tape Placement on Rear of Wall

- Once the chair is in place, one selected team member must sit in the chair with his or her feet off the ground and his or her back flush against the chair back.
- The supported team member may not hold onto any part of the Wall and may not have any support other than the chair.
- The supported team member must remain supported above the floor for at least three minutes. If any part of the chair or the supported team member touches the floor before three minutes have elapsed, the team will be disqualified.
- If the supported team member remains supported for the required time, the team's score will be calculated using the expression shown below:

$$Score = \frac{Weight\ of\ Supported\ Team\ Member\ (lb)}{Mass\ of\ Duct\ Tape\ Used\ (g)}$$

- Tape cores and scraps that are not used on the wall must be saved as they will be used to determine the mass of tape used.
- Final standings and results will be sent to all schools whose chairs held the supported team member for the required time.

Please send any questions about the competition to
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