



# 2026 Bridge Contest

Review of the Qualification Process



# What Are Bridge Qualifications?

When your bridge is brought to BNL, our engineers fill out an inspection report to determine if it qualifies

This inspection report is a guide and does not replace the official specification document found at [www.bnl.gov/bridgebuilding](http://www.bnl.gov/bridgebuilding)



## 2026 Model Bridge Inspection Report

School Name		Mass	
Student Name		Load at Failure*	
Bridge Number		Efficiency	

\*If load > 50 kg, 50 kg will be used in the efficiency calculation

LOC	ITEM	CRITERIA	Q	DQ
1	Materials	Only 3/32-inch (2.4 mm) square basswood and any commonly available adhesive, with no stain/paint/coating		
2a	Mass	Max 25.00 grams		
2b	Span ( <b>S</b> )	Rests on support surfaces with span ( <b>S</b> ) of 300. mm		
2b	Elevation ( <b>E</b> )	Rests on support surfaces with elevation separation ( <b>E</b> ) of 10. mm		
2c	Lower Extension	No part of the bridge below the upper support surface, except directly above the lower support surface		
2c	Length ( <b>L</b> )	Max 400. mm		
2c	Height ( <b>H</b> )	Max 150. mm		
2c	Width ( <b>W</b> )	Max 80. mm		
2d	Load Plane Height ( <b>P</b> )	10. mm $\leq$ <b>P</b> $\leq$ 50. mm above the <i>upper</i> support surface		
2d	Loading Points (x3)	Center and 50. mm on either side of center in the same horizontal plane		
6a	Load Application Vertical Clearance	Loading plate and rod clearance at all load points from above and below		
2e	Symmetry	Bridge is symmetrical longitudinally (visual inspection)		

### FOR REFERENCE ONLY

This sheet does not replace the official rules and regulations, which can be found at [www.bnl.gov/bridgebuilding](http://www.bnl.gov/bridgebuilding)

The measurements referred to in this presentation are based on the 2026 bridge specifications and are subject to change each year

# Checking Materials and Mass

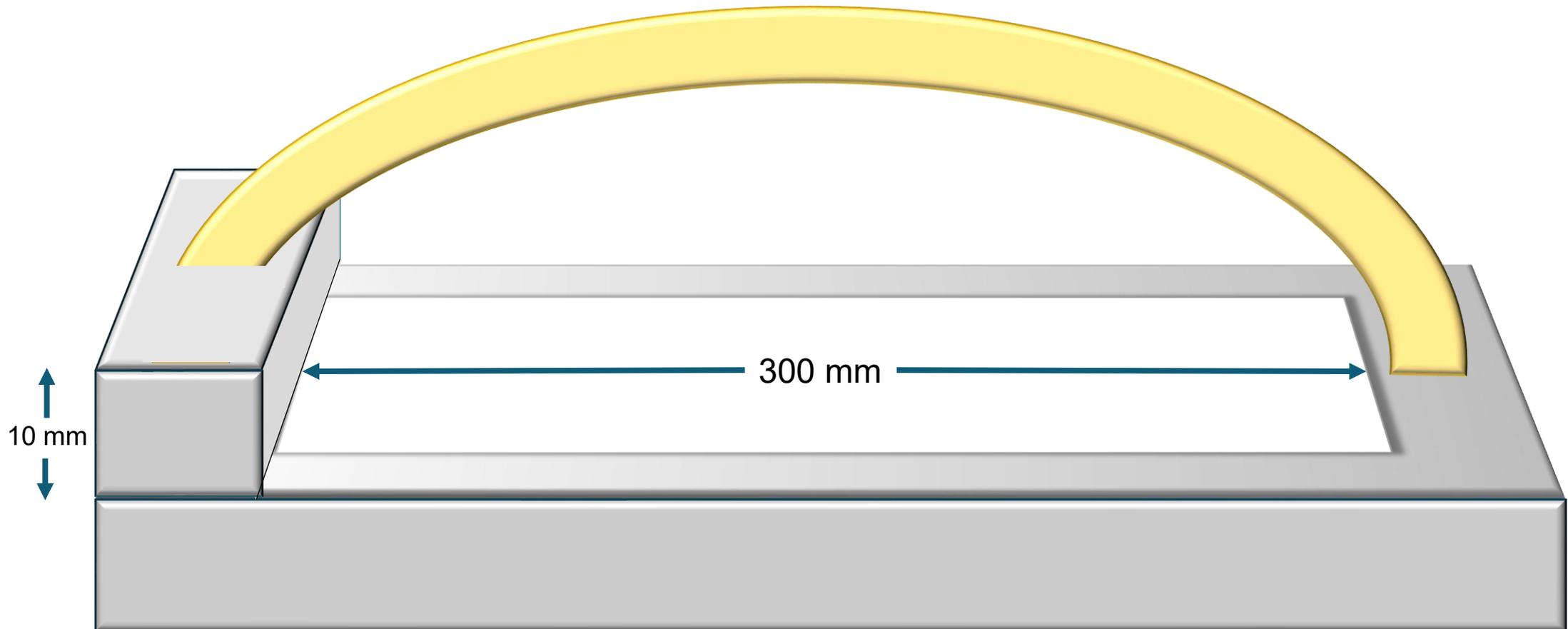


- Your bridge will first be weighed on a digital scale
  - It must be 25.00g or less
- Engineers will confirm that it is made with 3/32-inch square basswood
- They will also check that it does not have a coating (stain, paint, etc.)

# Checking the Bridge Span

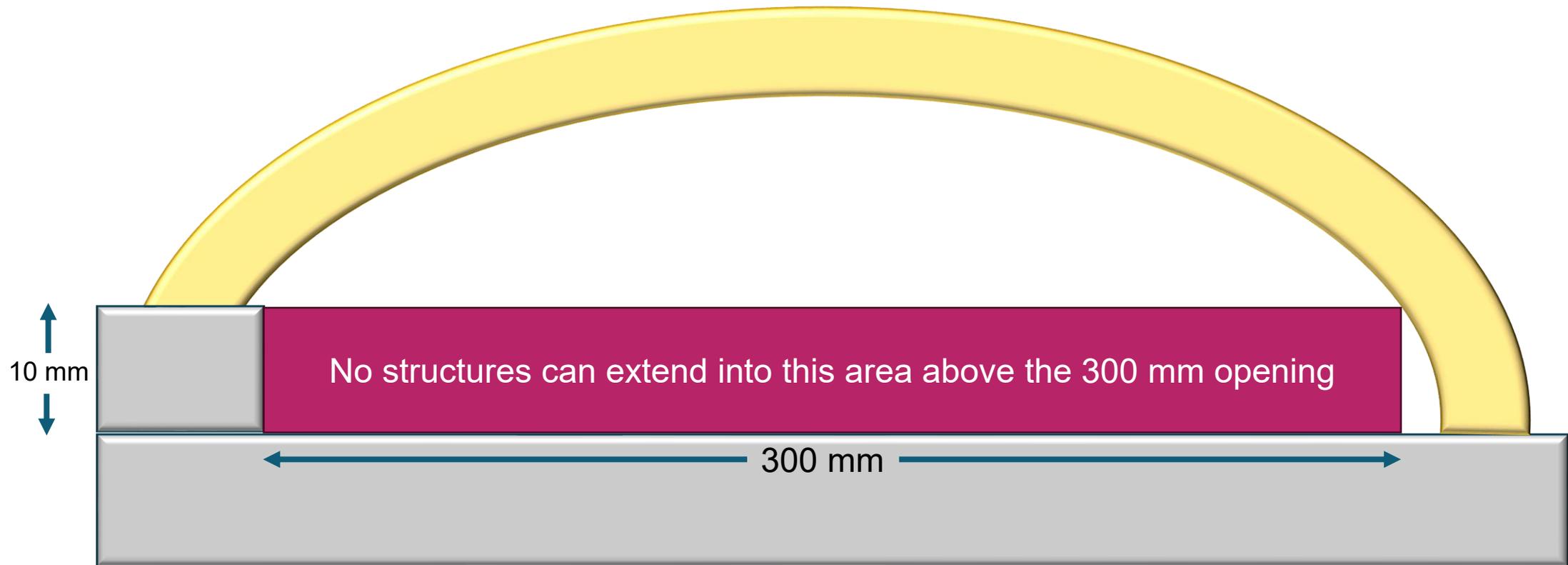
Your bridge must sit on this block without falling into the opening.

No part of the bridge can be below the upper support surface (shown on left), except directly above the lower support surface (shown on right)



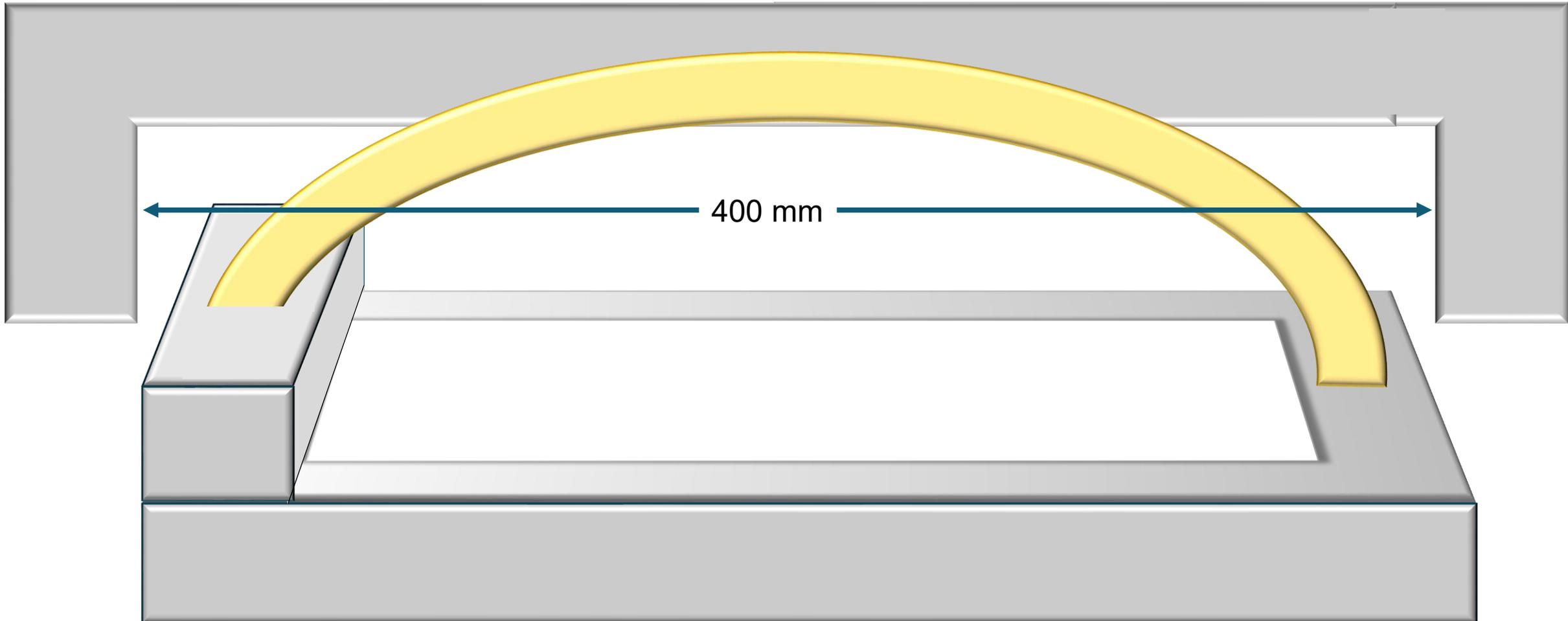
# Lower Extension

No part of the bridge can be below the upper support surface (shown on left), except directly above the lower support surface (shown on right)



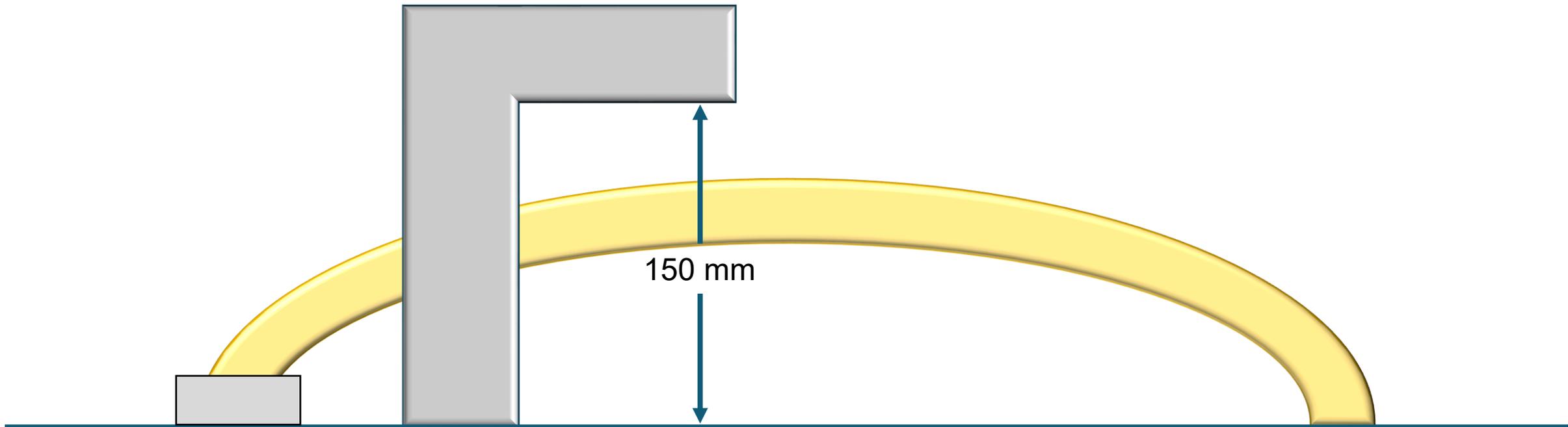
# Checking the Bridge Length

The length of the bridge must fit between the two ends of the U shape.



# Checking the Bridge Height

The bridge must fit under this shape at all points.

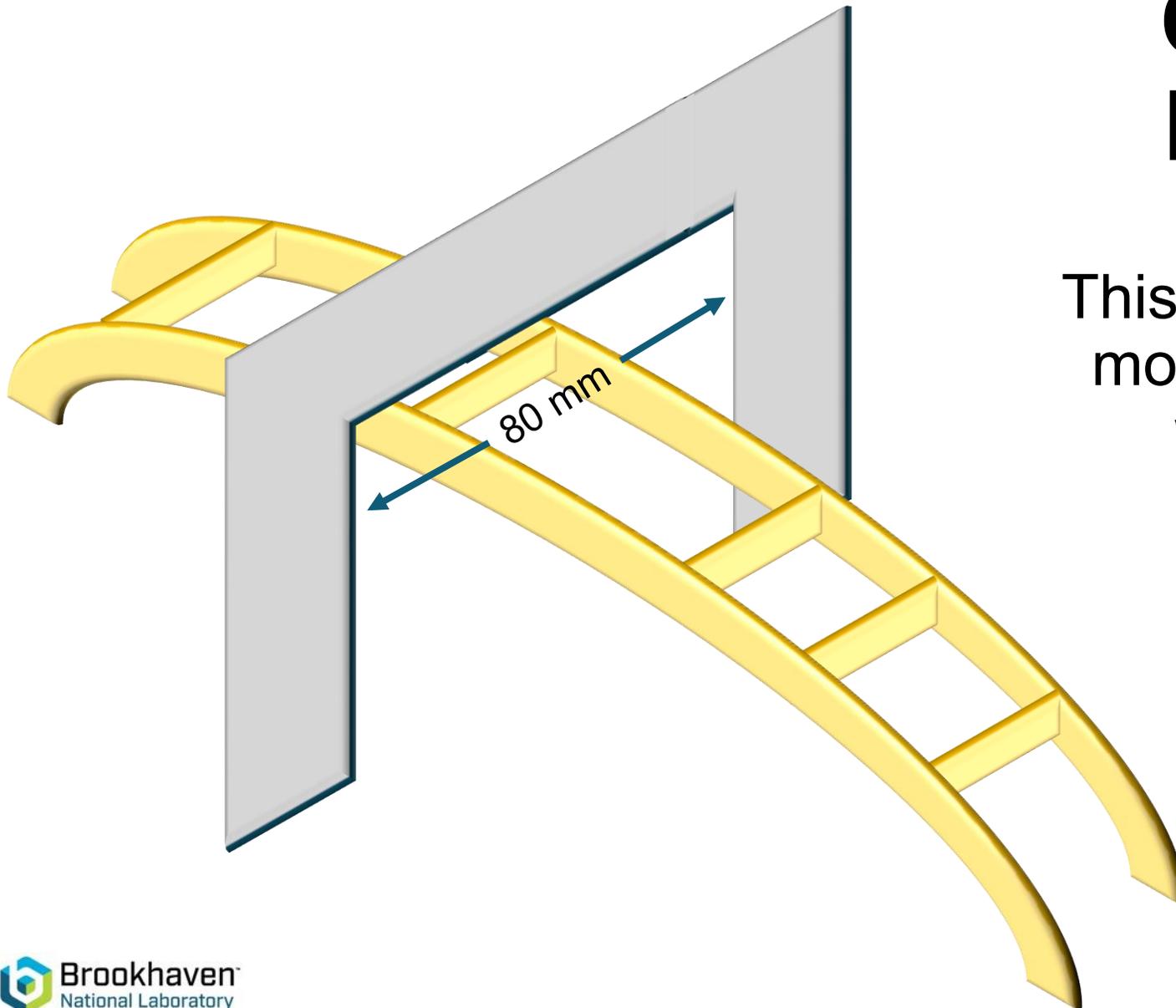


## NOTE:

One side of the bridge will be placed on a 10 mm tall block so that it sits flat for measurements

# Checking the Bridge Width

This U shape must be able to move along the entire bridge without getting caught.



NOTE:

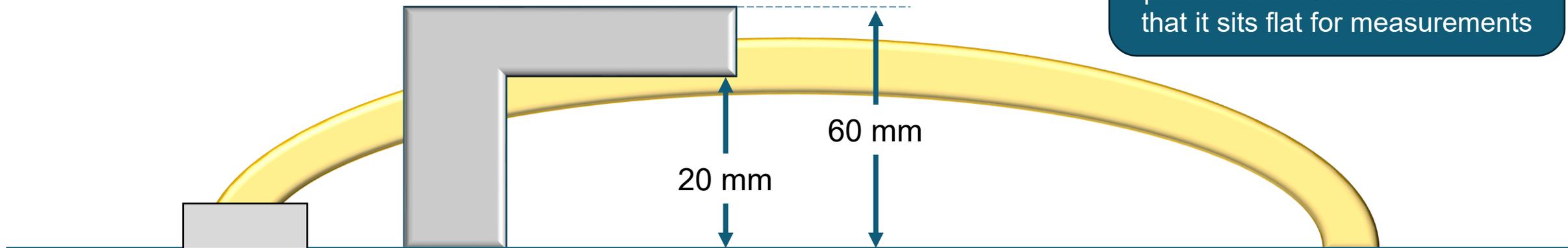
One side of the bridge will be placed on a 10 mm tall block so that it sits flat for measurements

# Checking the Load Plane Height

The loading plane (where the loading plate will sit) must be located **WITHIN** the top and lower lip of this shape, which spans 20 to 60 mm from the table (which is 10 - 50 mm from the upper support surface).

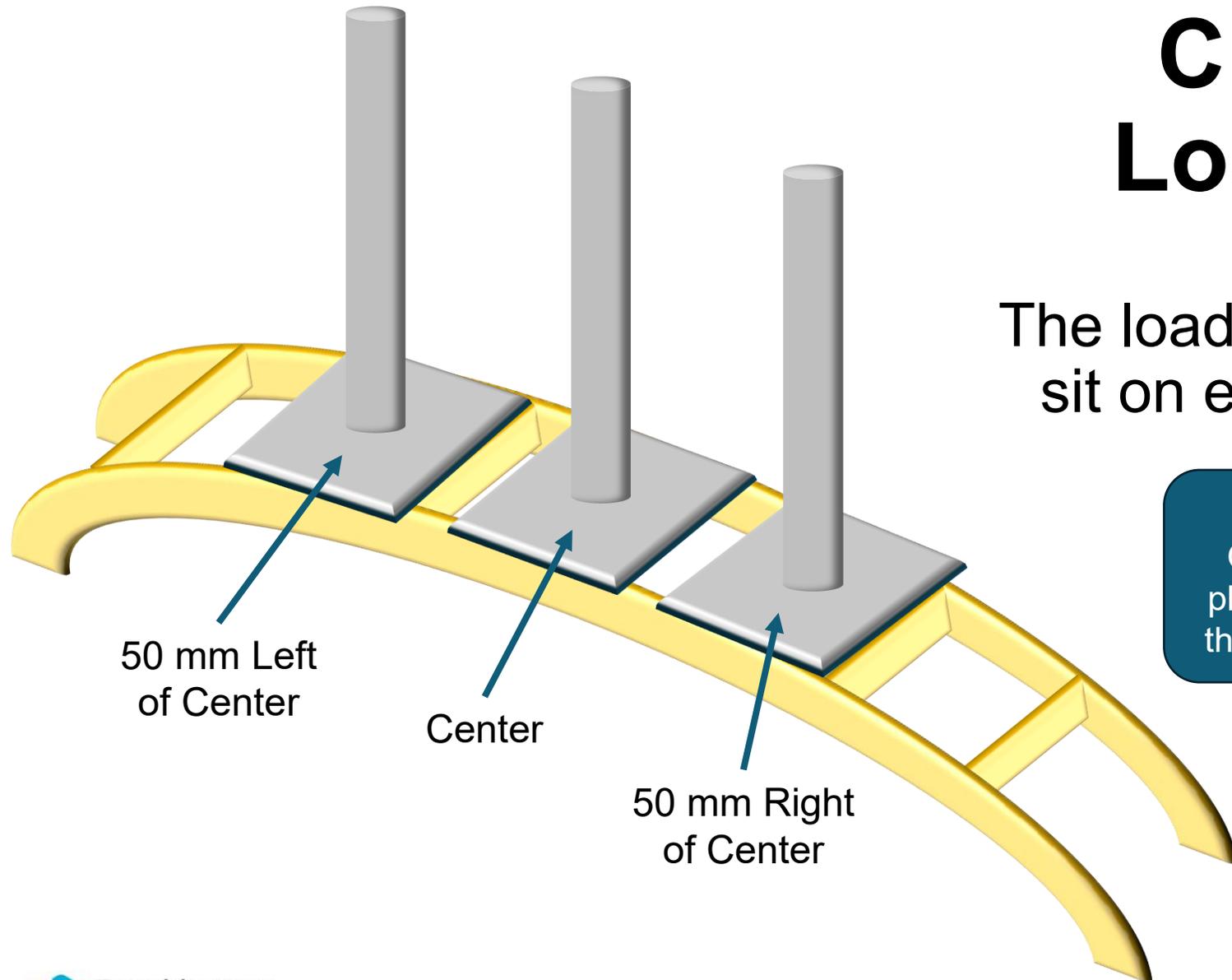
NOTE:

One side of the bridge will be placed on a 10 mm tall block so that it sits flat for measurements



# Checking the Loading Points

The loading plate must be able to sit on each of the loading points



## NOTE:

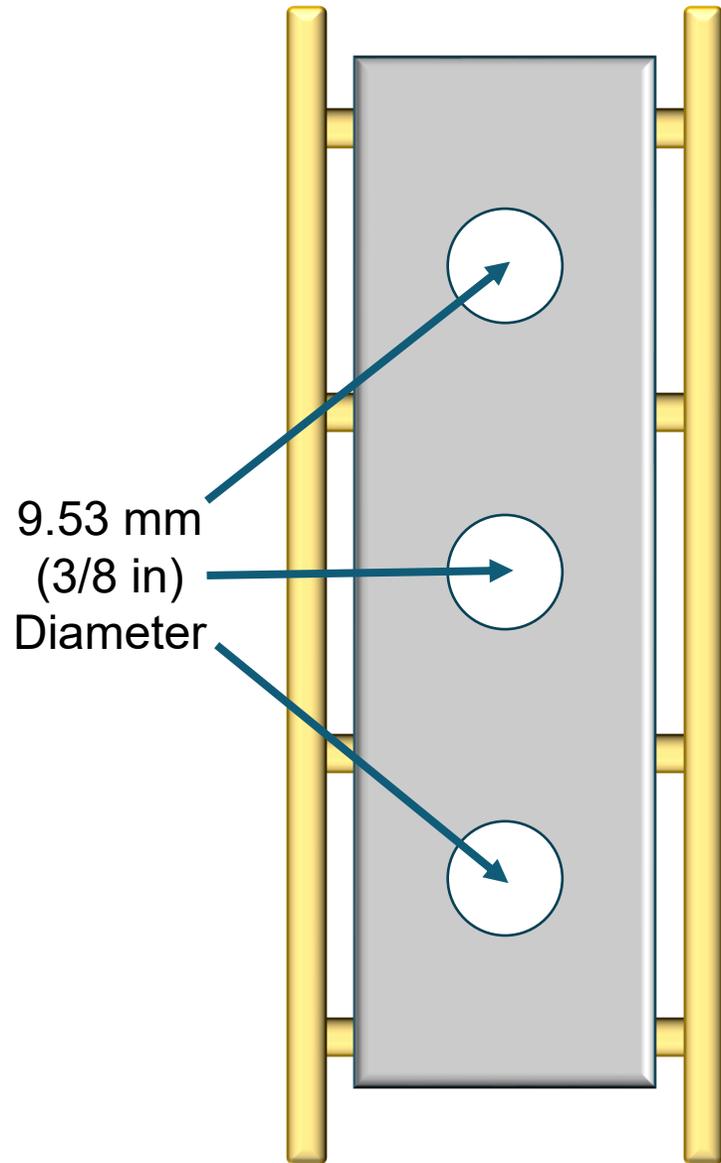
One side of the bridge will be placed on a 10 mm tall block so that it sits flat for measurements

If the loading points are in between the two sides of the bridge, the entire plate must fit in between the sides

# Checking the Loading Points

This shape with a hole at each loading point will be placed on top of the center of your bridge.

No parts of the bridge can be visible in the holes.



## NOTE:

One side of the bridge will be placed on a 10 mm tall block so that it sits flat for measurements

# Checking the Symmetry

A visual inspection will confirm that the bridge is symmetric and that **your name is legibly written** on the side of the bridge

**NOTE:** Bridge numbers will be assigned at qualifications this year



**NOTE:**

One side of the bridge will be placed on a 10 mm tall block so that it sits flat for measurements

At the contest, efficiency is calculated by dividing the load supported by the mass of the bridge (i.e., how many times its own weight the bridge can support)

$$\text{Efficiency} = \frac{\text{Load Supported (up to 50,000 g)}}{\text{Mass of the Bridge in grams}}$$

This presentation does not replace the official rules and regulations,  
which can be found at: [www.bnl.gov/bridgebuilding](http://www.bnl.gov/bridgebuilding)