



SAFESPLASH

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Team 3.3

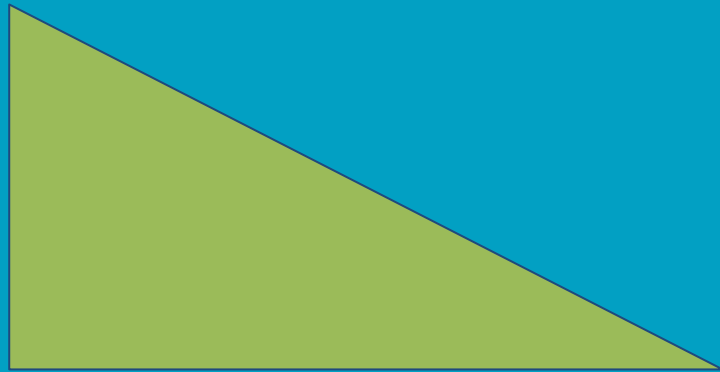
Mission Statement

The project aims to design a device tailored to adults with various disabilities that aids them in safely and comfortably entering/exiting the shower area while ensuring ease for caretakers



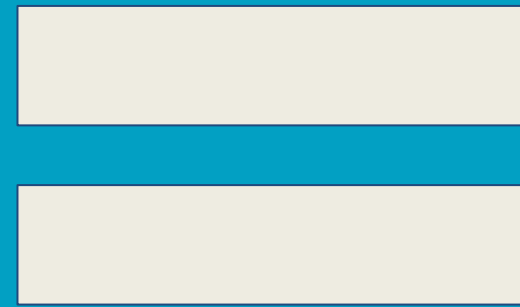
Project Requirements & Specifications

Accessibility



- Supports entering/exiting showers
- Holds shower chairs and supportive devices

Ease of Use



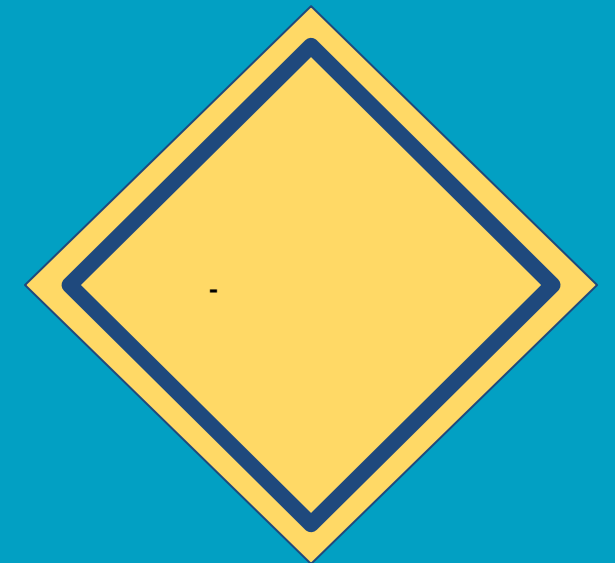
- Easy to set up and store
- Require minimal effort to use

Universality

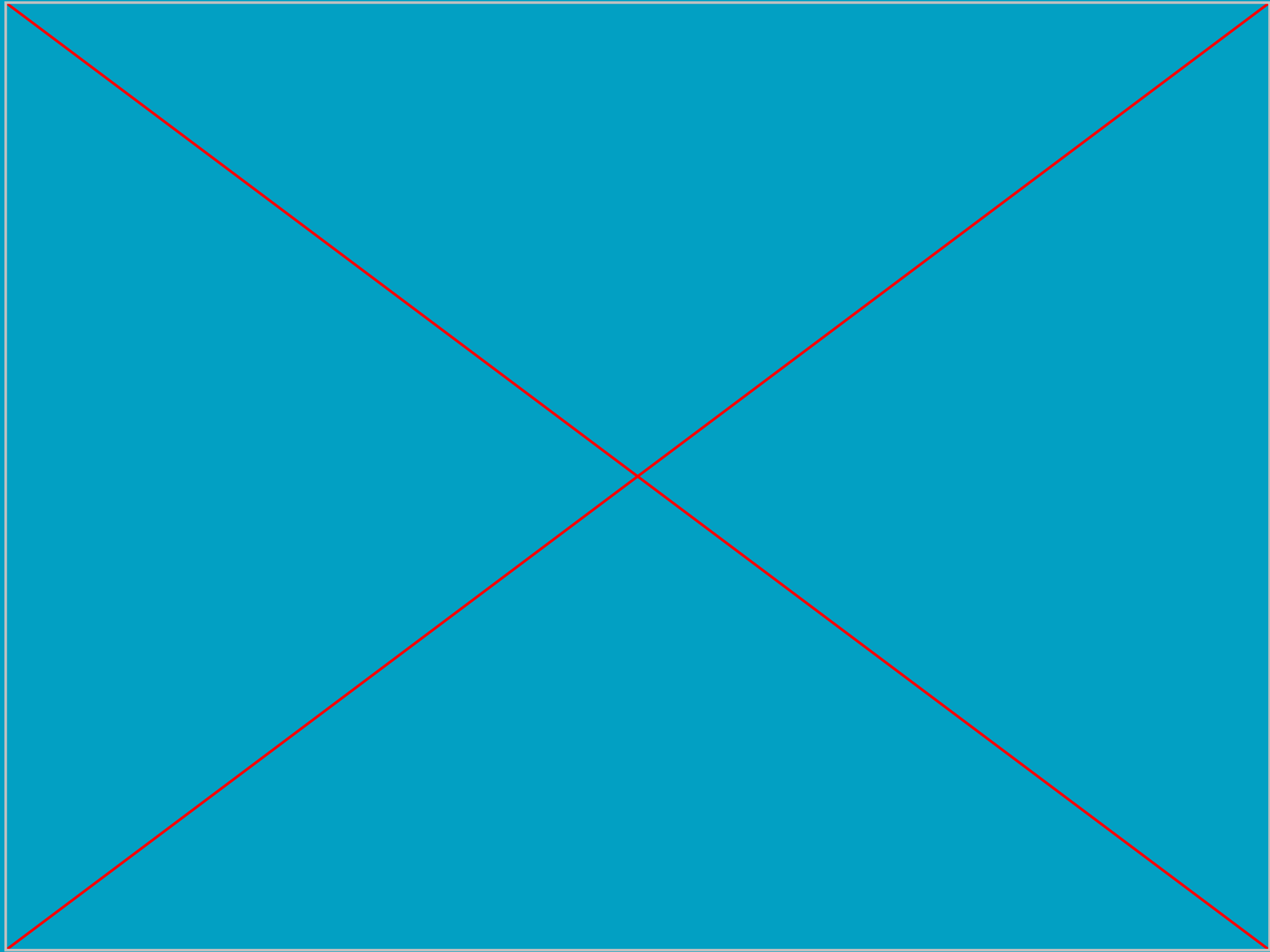


- 2-3" outer ledges
- 1-1 ¾" inner ledges
- Adaptable design ensuring versatility

Safety

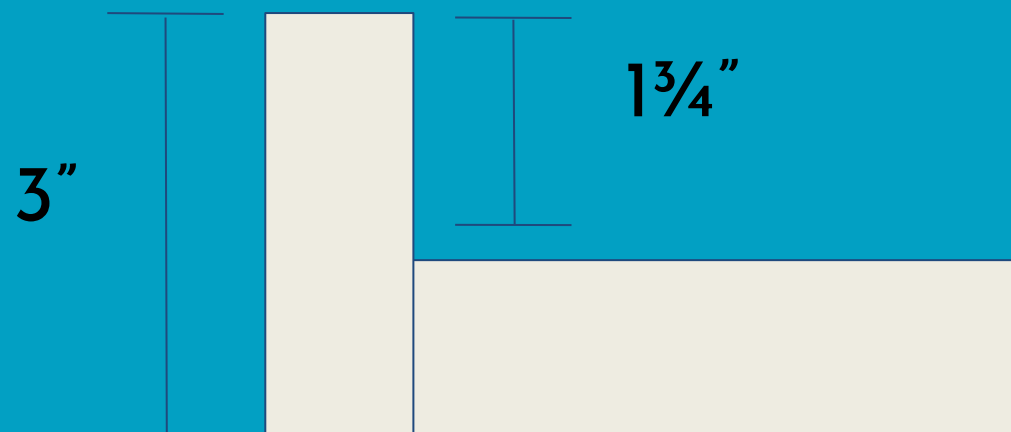
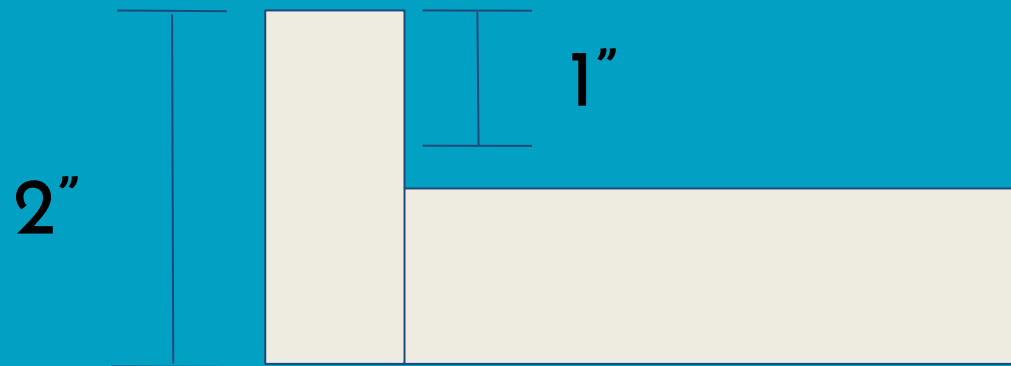


- Can hold 450+ lbs
- Non-slip and durable materials



Demonstration of Use

Design



Long ramp has beam supports- adds stiffness in critical areas, as shown below.

Accommodates inner ledge heights between 1 to 1 ³/₄ inches; not in current solution.



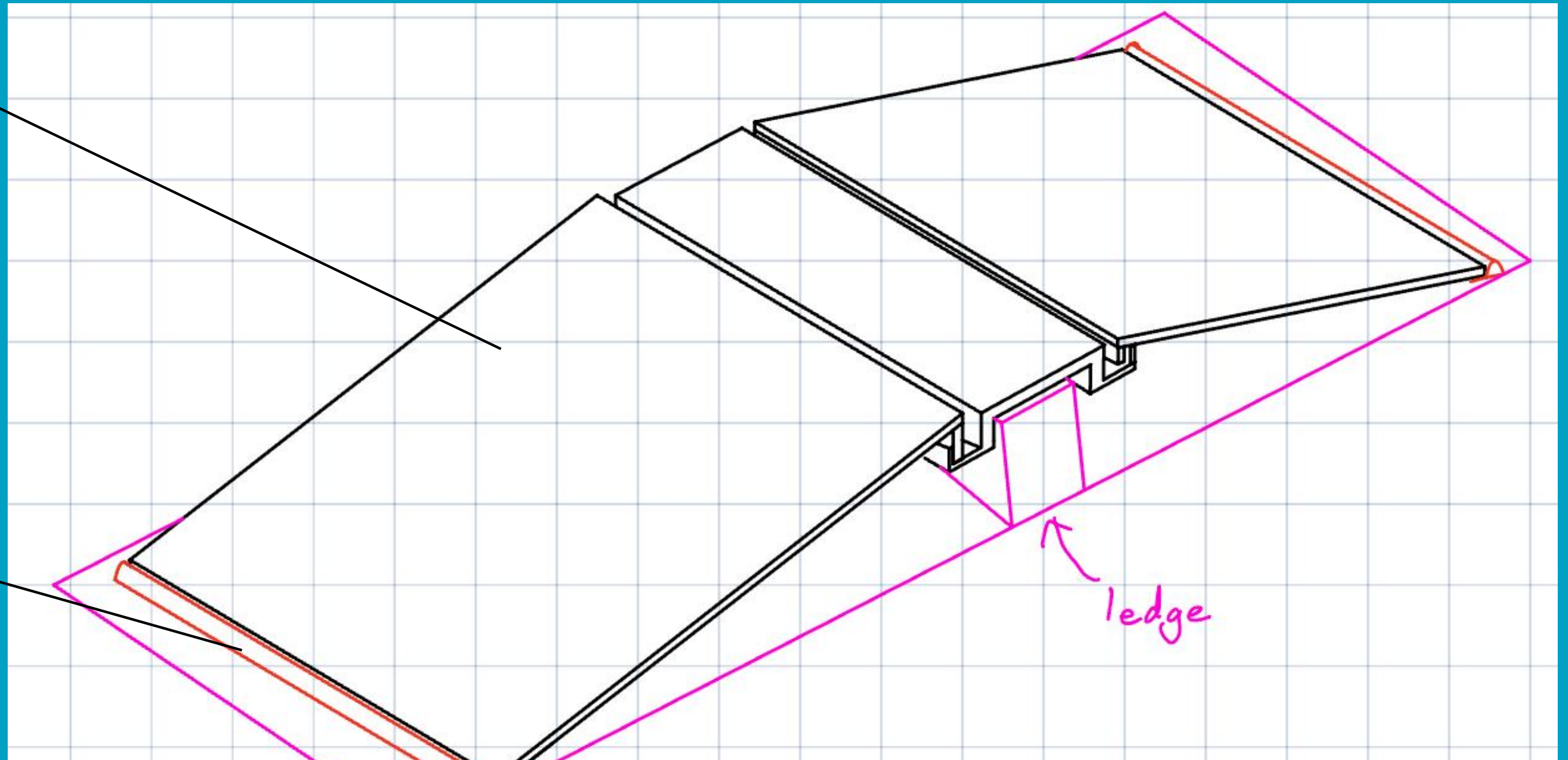
Design

Materials:

- Medium Density Fiberboard
- Flex Seal Liquid
- Rubber



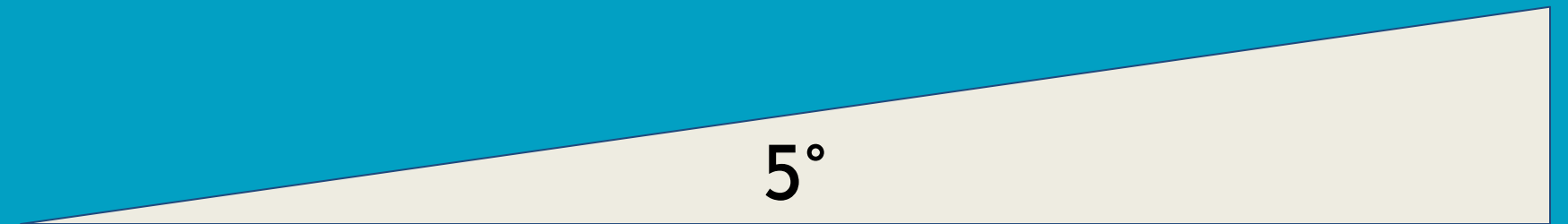
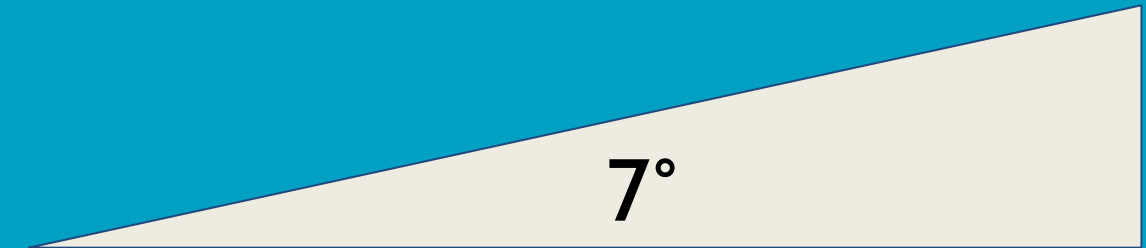
Hook design keeps ramp connected and secure



Access

ADA Requirements:

- 1 in / 8 in
 - Permitted with 3" max rise
- 1 in / 12 in



Edge of Ramp:



Access

Inner ledge length
leaves space for
wheelchair or other
accessible devices to
rotate in shower

Helpful if wheels do
not have full
rotation

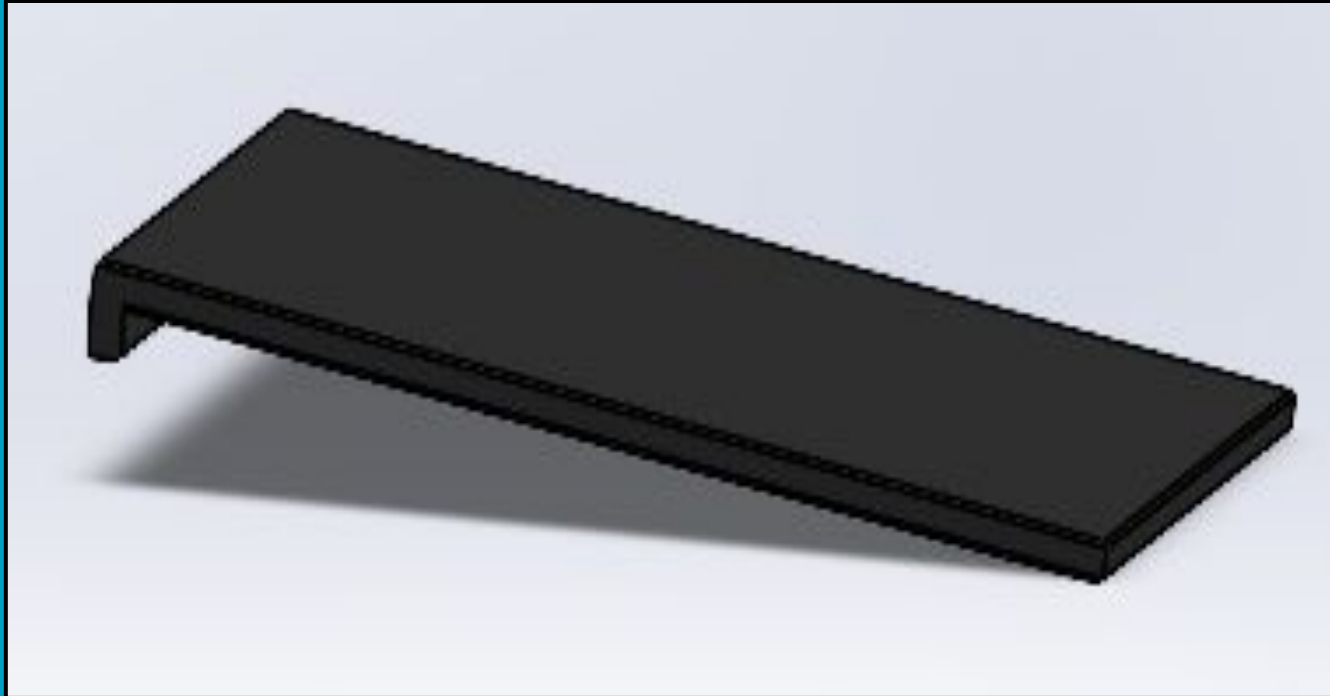


Ease of Use

Average set up time:
1 minute

Average disassembly
time:
2.5 minutes

Easy to transport and
store

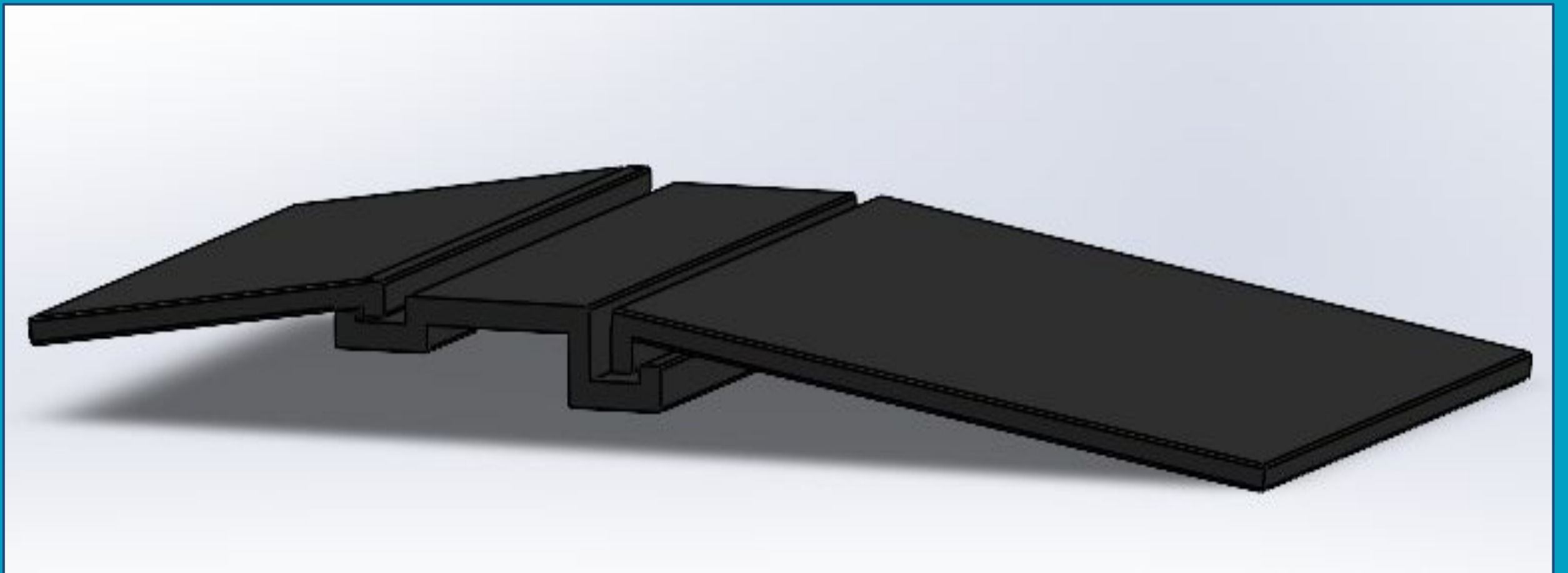


Inner Ramp: 10.5 lbs

Outer Ramp: 14.5 lbs

Ramp Holder: 10 lbs

Ideally 30 lbs → MAX 50 lbs



Future Developments

- Use alternative materials to ensure waterproofing without coating: Injected Molded Polyurethane

- Explore lighter materials that maintain load-bearing capacity (MDF weighs 3 lbs/ft²) -> (IMP weighs .75 lbs/ft²)

- Evolve floor to ramp transition



- Make ramp insert between the ramp holder more secure and achieve minimal gaps





To summarize, we have
created a design that
ensures:

- Accessibility
- Ease of Use
- Universality
- Safety



Questions?

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