

OstoSeal: Waterproof and reusable ostomy pouch shower cover

Client: Mrs. Tami Mlodik

Advisor: Prof. Duc-Huy Nguyen

Team Members:

Eve Vosters (evosters@wisc.edu) - BWIG

Cassity Dechenne (dechenne@wisc.edu) - Co-Leader

Addison Tanner (artanner@wisc.edu) - Co-Leader

Kira Schienke (kschienke@wisc.edu) - Communicator

Lilli Tanner (ltanner5@wisc.edu) - BSAC

Lana Schardt (lschardt@wisc.edu) - BPAG

Date: September 18th, 2026 - September 24th, 2026

Problem statement

This project will work towards the creation of a safe, comfortable and effective ostomy pouch and wafer adhesive cover meant to keep the two components dry during showering. Current methods of keeping ostomy pouches and adhesives are often unreliable or inconvenient which negatively impacts the users quality of life. This cover is intended to work with a schedule of at least daily showers, and must be durable and easy enough to use in order to accommodate this stipulation. This device should be firmly waterproof and compact to support a schedule of daily use. Also, it must fit the variety of pouch sizes and waistline shapes and sizes that a person could have.

Brief status update

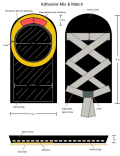
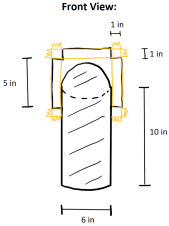
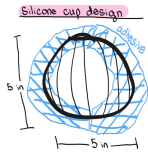
- Brainstormed possible ostomy cover designs.
- Created criteria and ranked our top three designs based on said criteria.
- Finished design matrix.
- Met with the client and set up an ostomy-bag-handover procedure for next week.

Difficulties/advice requests

To Mrs. Mlodik: Would you be able to send us the url of the ostomy bag that we had discussed during our meeting?
Thanks!

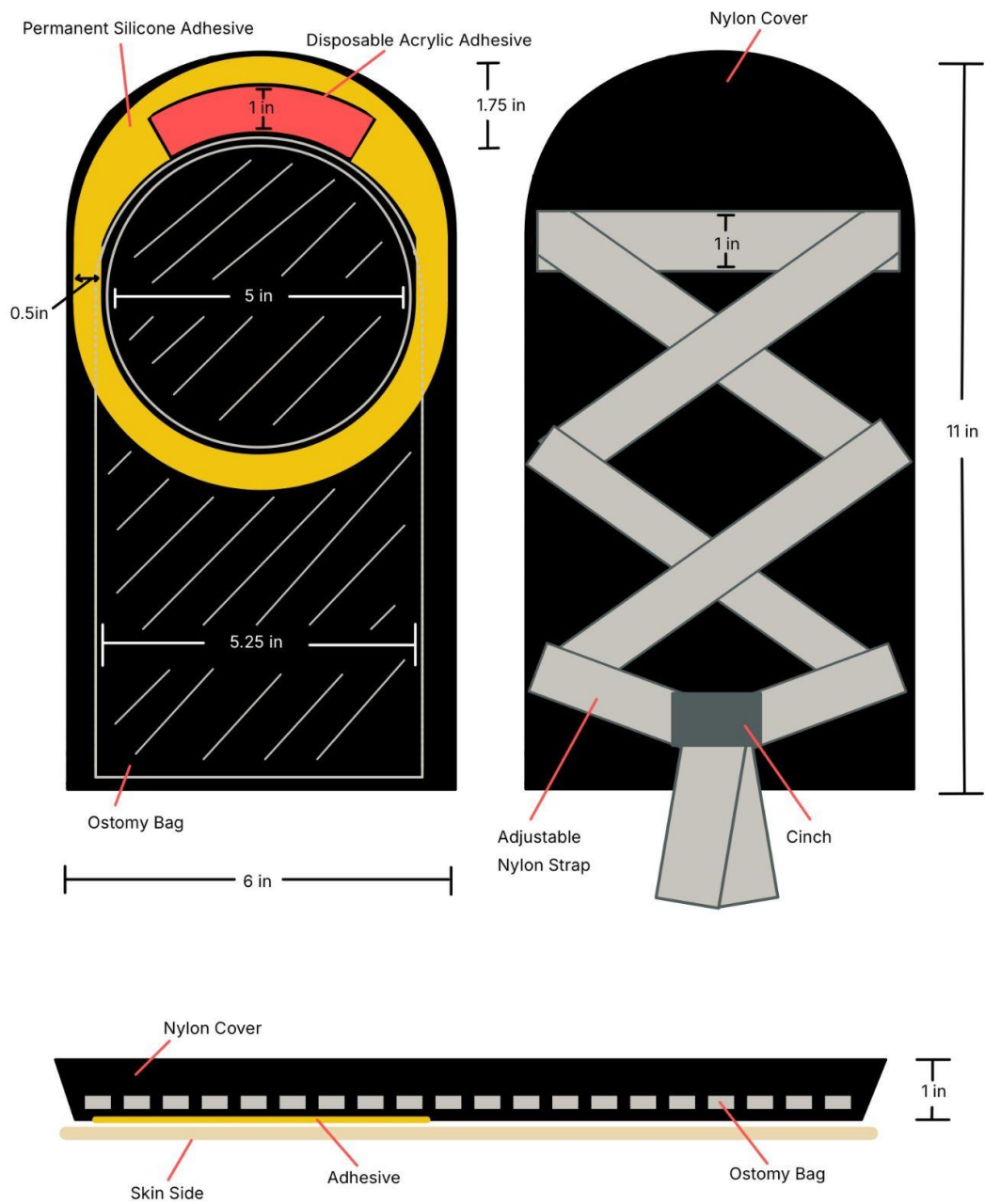
Current design

Ostomy Shower Pouch Design Matrix

		Adhesive Mix and Match 		Adhesive Strips on Flaps 		Silicone Cup Design 	
Criteria	Weight	Score	Weighted Score	Score	Weighted Score	Score	Weighted Score
Waterproofness	25	4/5	20	5/5	25	2/5	10
Ease of Use	20	4/5	16	3.5/5	14	5/5	20
Reusability	15	3/5	9	2/5	6	5/5	15
Comfort	15	4/5	12	4/5	12	2/5	6
Ease of Fabrication	10	3/5	6	4/5	8	5/5	10
Adjustability	10	5/5	10	2/5	4	0/5	0
Cost	5	4/5	4	5/5	5	5/5	5
Total	100	Sum	76	Sum	74	Sum	66

Leading Design

Adhesive Mix & Match



Materials and expenses

No materials or expenses at this time

Item	Description	Manufacturer	Mft Pt#	Vendor	Vendor Cat#	Date	#	Cost Each	Total	Link
Category 1										
									\$0.00	
									\$0.00	
Category 2										
									\$0.00	
									\$0.00	
								TOTAL:	\$0.00	

Major team goals for the last week

1. Brainstorm designs and compile into a design matrix.
2. Continue researching the project.
3. Contact the client to acquire more information on her preferences.
4. Receive feedback on PDS and adjust accordingly.

Major team goals for the next week

1. Distribute roles for the preliminary presentation and put together the slideshow.
2. Practice the presentation as a group in order to ensure a smooth delivery.
3. Finalize our number one design.
4. Measure dimensions on the ostomy bag sample that we receive from the client.

Last week's individual goals

- Addison Tanner: Create my individual designs prior to meeting as a team so that we can create a design matrix. Keep researching the material of the pouch cover as well as the adhesives. Update the product design specifications as needed.
- Eve Vosters: Continue researching materials for the adhesives of our design. Conduct further research on the adhesive used in the article, "An Environmentally Stable, Biocompatible, and Multilayered Wound Dressing Film with Reversible and Strong Adhesion" and see if this adhesive, or anything similar, can be purchased. Brainstorm ideas for preliminary designs using inspiration found from research. Continue to update the team website with any new documents created.
- Kira Schienke: Continue researching disposable adhesives. Learn what the cheapest option is that is still approved for use on skin. Continue developing my design idea combining the use of silicone and disposable adhesives to reduce waste; add specific dimensions and materials to the drawing.
- Lana Schardt: Continue researching material choices for our design, and compare options based off waterproof performance, durability, reusability, comfort and cost. Find places to purchase preliminary materials, and share material options with the client to incorporate her feedback during our prototyping process, as well as making sure she approves preliminary material purchases before we move forward. Start brainstorming my individual design for the project.

- Lilli Tanner: Start thinking about and creating my individual design for the product. Continue researching possible pouch cover materials, continue to consider how adhesive options may work with cover materials. Continue researching standards and specifications, updating product design specifications where necessary.
- Cassity Dechenne: Begin brainstorming for my individual design of the product. Continue researching ostomy pouch cover materials, focusing on user reviews to assess their pros and cons. Check in with team to see how I can improve in my role.

Next week's individual goals

- Addison Tanner: Help the team prepare for the preliminary presentation and also finalize the design that we are going to begin fabricating. Practice the presentation alone along with the group.
- Eve Vosters: Continue brainstorming about adjustability of the designs and conduct further research on viable options for adhesives. Refine designs by comparing dimensions of the clients' ostomy bag to dimensions of the designs already created. Prepare for the preliminary presentation by practicing with the team.
- Kira Schienke: Help our team prepare for the final presentation. Acquire the url of the exact ostomy bag that our client uses, along with a physical ostomy bag from the client. Work with the rest of the team to finalize our number one design.
- Lana Schardt: Help the team finalize our design matrix and begin preparing for our preliminary presentation. Research potential purchasing vendors for our prototyping materials.
- Lilli Tanner: Help create and prepare for the preliminary presentation and finalize our design. Practice presentation alone and with the rest of the team. Continue researching pouch materials.
- Cassity Dechenne: Start and finish working on preliminary presentation and finalize the design that we will begin working on. Practice presentation alone and with group members, plus continue researching ostomy pouch materials/designs.

Timeline

 OstoSeal Project Timeline

Activities

Name	Date	Activity/Previous Week's Accomplishments	Time (h)	Week Total (h)	Sem. Total (h)
Addison Tanner	9/24/2026	• Brainstormed and constructed designs and then met as a group to pick our final designs • Met with the client to ask further questions on the project • Contributed to the creation of the design matrix by helping to rank the three final designs • Continued researching ostomy pouch materials	1 0.5 1 1.5	4	8
Eve Vosters	9/24/2026	• Completed further research on adhesive materials and common skin problems that individuals with ostomies deal • Brainstormed and constructed preliminary designs, resulting in two final designs • Met with the client to clarify	2.5 1.5	6	10

		- certain aspects of the project - Contributed to the creation of the design matrix by helping to rank the three final designs	0.5 1.5		
Kira Schienke	9/24/2026	- Brainstormed design ideas and compared with the team - Developed and drew the Adhesive Mix and Match design - Researched materials to use for waterproof straps for enhanced adjustability for the design - Set up a zoom meeting with the client for further material and budget questions - Worked with the team to decide on categories and scores for the designs in the design matrix	0.5 2.5 1 0.5 0.5	5	9
Lana Schardt	9/24/2026	- Brainstormed potential designs for our project and presented them to our team - Conducted research on materials, ostomy wafer behavior when exposed to water, and 1 vs. 2 piece ostomy bag systems to inform our design process - Helped rank designs on the design matrix and wrote justifications for the criteria	1.5 1.5 1.5	4	8
Lilli Tanner	9/24/2026	- Brainstormed and presented possible design to team for consideration - Met with client to answer further questions for the product - Continued researching pouch cover materials and adhesives - Contributed to completion of the design matrix by helping to rank designs and write justifications	0.5 0.5 2 1	4	9
Cassity DeChenne	9/24/2026	- Reviewed PDS feedback and took note of what to change. - Met with client. Contacted client's daughter to get an example ostomy bag in order to measure dimensions. - Brainstormed product ideas and assembled design matrix. - Continued researching ostomy pouch materials.	1 2 1	4	9