

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: October 1st, 2026 - October 8th, 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

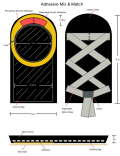
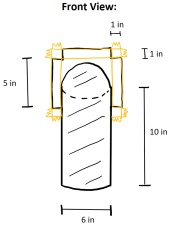
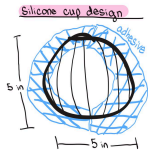
- Ordered materials for the device (silpoly sheet and silicone adhesive strips)
- Made an appointment for and attended a design consultation at Wendt
- Explored Wendt and made a plan to do product manufacturing and testing (with cutting, sewing, etc.) using Wendt facilities and materials.
- Created a rough prototype for the ostomy bag cover.

Difficulties/advice requests

None at this time

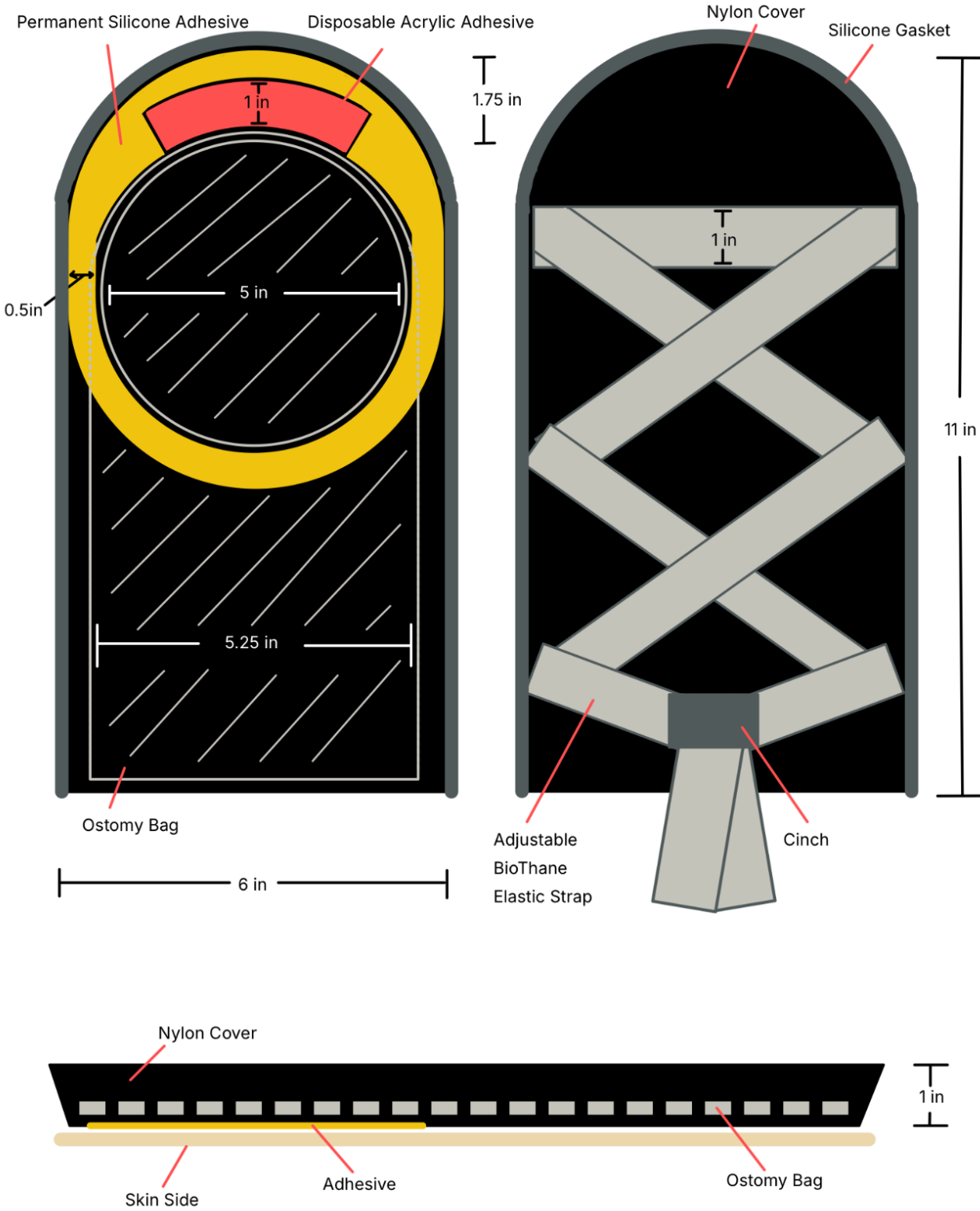
Current design

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
Prototype Materials										
	Silicone Scar Sheets	LotFancy	N/A	Walmart	N/A	10/10/2026	1 pack	\$27.41	\$27.41	https://www.walmart.com/ip/LotFancy-Silicone-Scar-Sheets-10-Pcs-Silicone-Scar-Tape-for-Scar-Treatment-Reusable-4-x-7-in/5440459187
	1.1oz Silpoly (Black)	Ripstop by the Roll	N/A	Ripstop by the Roll	N/A	10/10/2026	1 yd	\$17.43	\$17.43	https://ripstopbytheroll.com/products/1-1-oz-silpoly
Category 2										
									\$0.00	
									\$0.00	
								TOTAL:	\$0.00	

Major team goals for the last week

1. Buy all materials needed for design at this step in the process.
2. Start design fabrication.
3. Look back at the advice given to us from the preliminary presentation to see what we can implement.

Major team goals for the next week

1. Reiterate the first prototype by making improvements.
2. Run testing protocols on purchased materials/prototype.

Last week's individual goals

- Addison Tanner: Help to get our materials ordered as fast as we can so that we can begin fabricating our design. Run some tests on silicone materials when running it under water to see how adhesive they are. As always, continue to research and learn more.
- Eve Vosters: Conduct more research on waterproof materials for the bag of the ostomy pouch cover that will ensure waterproofness and comfortability when the wet material comes in contact with the clients skin. Continue

revising and running tests on the silicone adhesive owned to find out more characteristics of the adhesives and its downfalls to determine what aspects of it need to be improved.

- Kira Schienke: Order materials for prototype. Conduct testing with said materials.
- Lana Schardt: Continue research and help the team begin fabricating a prototype with purchased materials. Conduct tests with the prototype outlined in our preliminary report and help collect data.
- Lilli Tanner: Help the team order materials and begin fabricating. Continue researching and help conduct tests with the materials and/or prototype to begin collecting data.
- Cassity Dechenne: Help to get materials ordered asap and start fabricating with the ordered materials. Look through the instructions for the Invention Disclosure Report and see if it is necessary. Continue research.

Next week's individual goals

- Addison Tanner: Construct a timeline with Cassity and Kira to help continue guiding the design process. Conduct research to make sure we don't have an issue with waterproofness between the objects of our final design. Brainstorm ways on how to fabricate our ring as the Makerspace said our original way would not work. Divide up who is going to fabricate what part.
- Eve Vosters: Become more familiar with fabrication techniques, including heat sealing, sewing, and ensuring the waterproofness of the bag while using various fabric addition techniques. Conduct research on the best ways to ensure the waterproofness of joints between different materials. Brainstorm ways to fabricate the ring that will connect the bag to the adhesive and what material should be used for this purpose. Improve the prototype using materials ordered.
- Kira Schienke: Create a progress timeline with Addy and Cassity to identify important due dates and share these with the team. Use campus resources and online resources to become more familiar with necessary fabrication techniques. Assist in creating the team's first prototype.
- Lana Schardt: Work to fabricate low-fidelity prototypes with the team to practice sewing and 3D printing techniques, and determine whether any additional materials need to be ordered.
- Lilli Tanner: Fabricate our design with alternative materials to practice fabrication techniques and figure out changes we may need to make to our design before fabricating with our final materials. Continue researching materials and fabrication techniques.
- Cassity Dechenne: Use Wendt cheap nylon fabric to practice sewing the bag portion of our design. Construct a timeline of due dates with Addie and Kira to help guide the design process. Continue research. Divide up responsibilities for figuring out fabrication of different aspects of the design.

Timeline

 OstoSeal Project Timeline

Activities

Name	Date	Activity/Previous Week's Accomplishments	Time (h)	Week Total (h)	Sem. Total (h)
Addison Tanner	10/15/2026	• Completed the CITI training that is required for BME 300s	2.5	6	22.5
		• Researched sewing and fabrication techniques	1.5		
		• Constructed a rough prototype using materials and equipment at the Makerspace	1.5		
		• Filled in lab archives advisor meetings	0.5		

Eve Vosters	10/15/2026	- Continued research on viable bag materials and fabrication techniques for making the waterproof material into the shape of the bag. - Completed Biosafety and Chemical Safety trainings, and completed the lathe section of the Intro to Machining training. - Constructed a rough prototype using materials and equipment at Wendt to get a better idea of the feasibility of the design of the bag.	1.5 4 1.5	7	25
Kira Schienke	10/15/2026	- Continued research on competing designs by analyzing existing products built to protect different equipment - Prepared questions for the makerspace consultation - Attended makerspace design consultation to solidify fabrication protocol	1 0.5 1	2.5	17
Lana Schardt	10/15/2026	- Scheduled and attended the Design Consultation Appointment at the Makerspace to discuss our fabrication plans with an expert - Completed Lathe and Mill Trainings - Continued research into fabrication techniques - Ordered materials	1 6 .5 .5	8	21.5
Lilli Tanner	10/15/2026	- Continued research on materials and design fabrication techniques - Attended a design consultation at Wendt to discuss our materials and fabrication plan - Completed Lathe training	1.5 1 2	4.5	19
Cassity DeChenne	10/15/2026	- Continued research on fabric and design fabrication options. - Attended a design consultation at Wendt to figure out testing and fabrication protocols.	1.5 1	2.5	19