

# Approximating Surface Matrix Band for Dentist to Use for Patients

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Date: February 22nd, 2026 - February 26th, 2026

Client: Dr. Donald Tipple

Advisor: Prof. Beth Meyerand

Team:

Roshan Patel - rgpatel3@wisc.edu (Team Leader)

Anya Hadim - hadim@wisc.edu (Communicator)

Keleous Lange - krlange@wisc.edu (BPAG)

Tanya Predko - tpredko@wisc.edu (BWIG)

Joseph Koch - jmkoch7@wisc.edu (BSAC)

## Problem statement

Surface matrix bands are devices used by dentists to separate adjacent teeth during restorations of interproximal cavities (cavities found in-between two teeth). The matrix band serves to support the restoration material, to provide shape and contour to the tooth being restored, and to protect the adjacent tooth. Ideally, the width of the space between the two adjacent teeth is just large enough to fit one matrix band in order to ensure close proximal contact area, which prevents food impaction and decay. In the case of two cavities on two adjacent teeth, this process is tedious, as the dentist must complete the process from start to finish for each adjacent tooth individually. The goal of this project is to create a dental matrix band that effectively partitions adjacent teeth for more efficient tooth restoration procedures on interproximal cavities by making it possible to complete two adjacent restorations simultaneously.

## Brief status update

We have connected with Dr. Williams and have begun material testing on the new laser cutter.

## Summary of weekly team member design accomplishments

- Roshan Patel
  - Preliminary report
- Anya Hadim
  -
- Keleous Lange
  - Preliminary Report
- Tanya Predko
  - Completed the testing section of the preliminary report
- Joseph Koch
  - Preliminary report updates

## Difficulties / advice requests

N/A

## Current design

N/A

## Materials and expenses

Item	Description	Manufacturer	Mft Pt#	Vendor	Date	#	Cost Each	Total	Link
<b>Category 1: Testing Materials</b>									
Stainless Steel sheet	316 Stainless Steel Shim Stock	McMaster Carr	2317 K51	McMaster Carr	11/07	1	22.55	\$22.55	<a href="https://www.mcmaster.com/2317K51/">https://www.mcmaster.com/2317K51/</a>
								\$0.00	
<b>Category 2: Final Prototype</b>									
								\$0.00	
								\$0.00	
							<b>TOTAL</b>	<b>\$22.55</b>	



<b>Meetings</b>															
Client															
Advisor															
<b>Website</b>															
Update															

Filled boxes = projected timeline  
X = task was worked on or completed

## Previous week's goals and accomplishments

- N/A