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UH-PAM Protocol

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Works for me

dx.doi.org/10.17504/protocols.io.bi8bkhsn

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ABSTRACT

The protocol outlines the fabrication process of UH-PAM, and it prompts you with the details to repeat and reproduce our works.

EXTERNAL LINK

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THIS PROTOCOL ACCOMPANIES THE FOLLOWING PUBLICATION

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BEFORE STARTING

1. Use AutoCAD/SolidWorks/CATIA to modify the attached files.
2. For further information, please contact us as follow:
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- 1 Please download and unzip "UH-PAM Protocol.zip" in the attached file.



- 2 Cut a commercial polyurethane open-cell foam and Plexigals as attached files (UH-PAM_2D Layers.dwg)

We recommend 2D laser cutter (Versa LASER VLS 3.5), in order to properly cut them.
For the print parameters, please follow the table, as below:

	POWER	SPEED	PPI	Z-axis
Segment foam	60%	30%	1,000	12.6mm
Bridge foam	60%	30%	1,000	6.4mm
Flexiglas rings	100%	10%	1,000	1mm

- 3 Print the molds (in the attached files, Mold(1) to (4).stl) by using a 3D printer.
- 4 Pour the mixed liquid into mold (1) and (3), and assemble it with mold (2) and (4), respectively.
- 5 After curing for 15 hours, detach the skins from the molds
- 6 Bond the segment foam with the bridge foam, and build a foam structure.
Here, do not pour the silicone and use a silicone adhesive material (SIL-Poxy® adhesive, Smooth-On Inc).

Otherwise, the foam absorbs the silicone, and its mechanical property would be changed.
- 7 Bond all skin parts and the foam structure, by brushing the Dragonskin 30.
- 8 After curing the silicone, bond both halves of the skin.