

Supplementary File

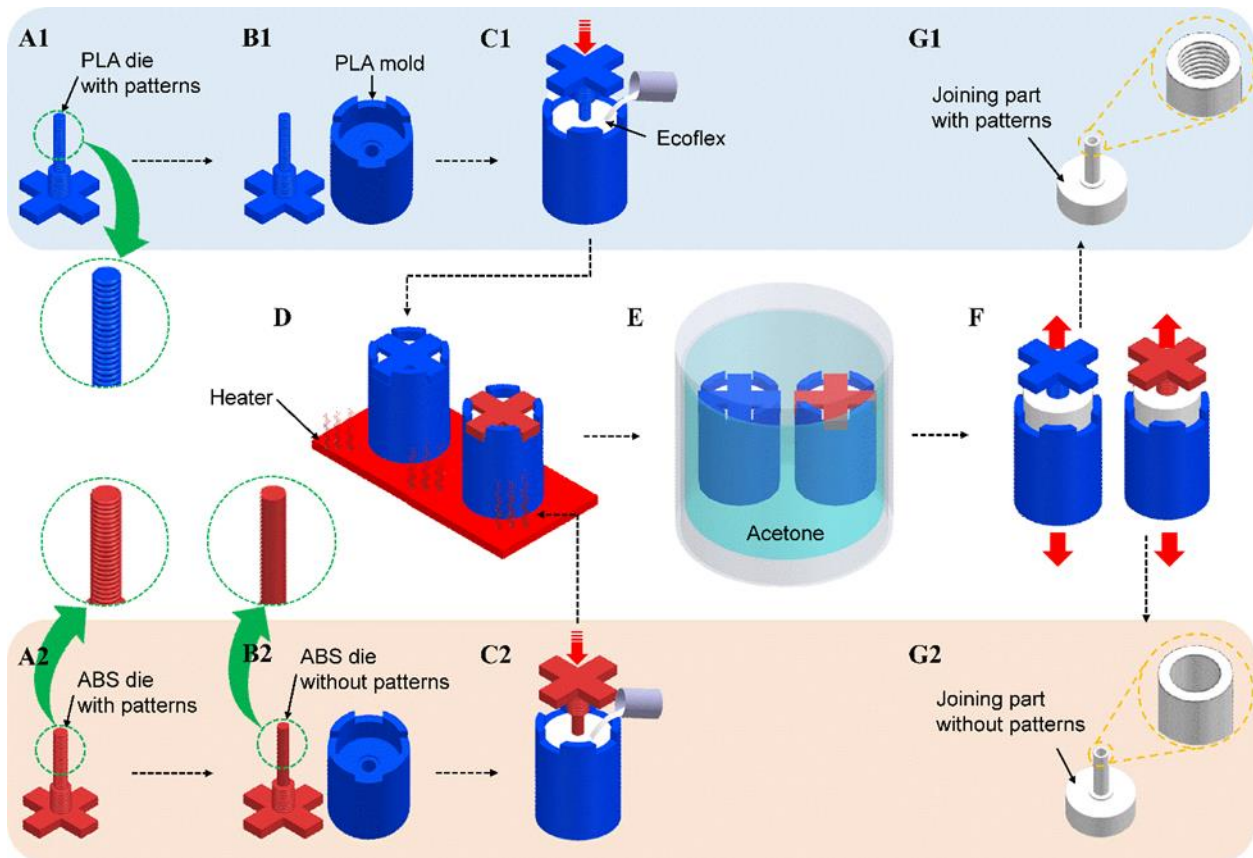


Figure S1. Overall schematic of specimen manufacturing process to investigate the effect of the pattern on mechanical bonding between the EAD and DJ stent. (A1), (A2) Printing of the PLA and ABS filament dies using an FDM-type 3D printer, respectively. (B1) Printing of the PLA filament mold. (B2) Polishing of the patterns on the ABS die using acetone and printing of PLA mold. (C1), (C2) Pouring of the Ecoflex into the PLA molds, degassing, and pushing on each prepared die. (D) Baking on a heater at 50 °C for 20 min to cure the Ecoflex. (E) Delamination of the PLA and ABS to separate the Ecoflex by soaking in acetone for 12 h. (F) Separation of the Ecoflex by hand. (G1), (G2) Finalization of fabricated joining parts with and without patterns on the inner surface.

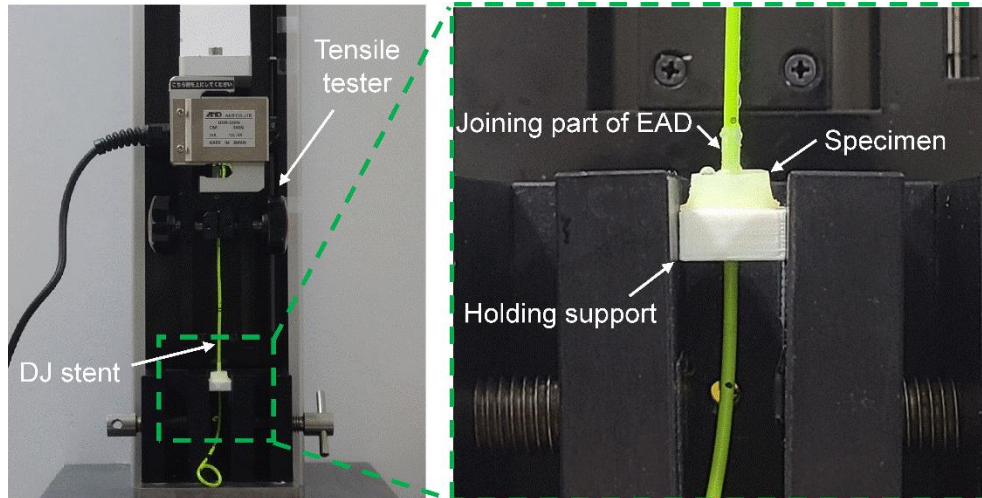


Figure S2. Experimental setup to measure adhesion forces between joining part of EAD and DJ stent. The specimen was bonded to PLA holding support using epoxy resin (2-ton epoxy, DEVCON home). The maximum load was measured while the DJ stent was pulled up with a speed of 50 mm/min up to a displacement of 40 mm.

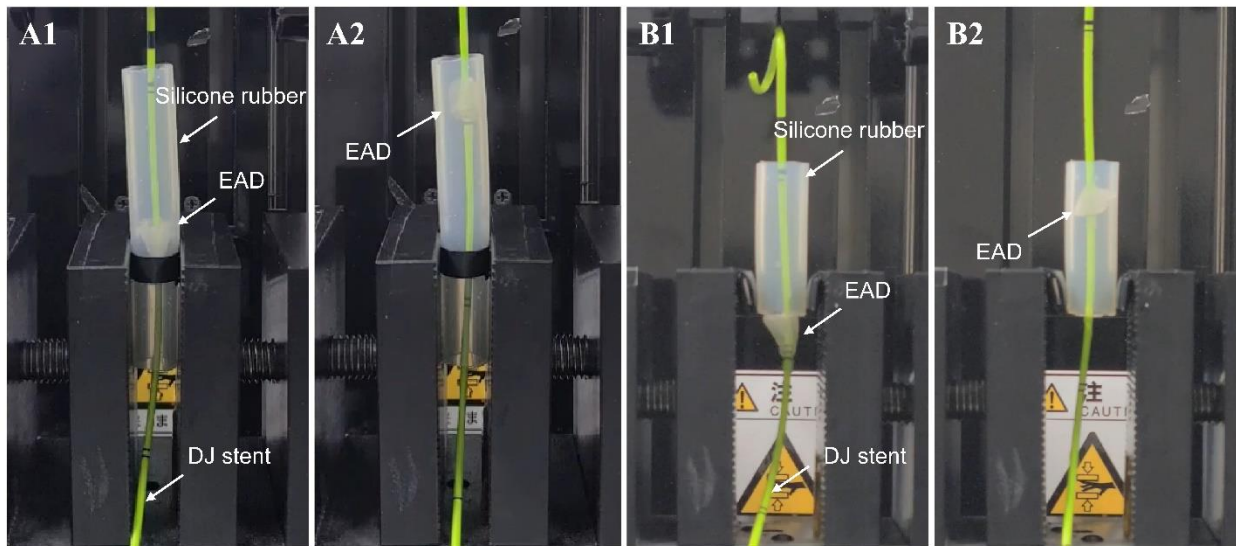


Figure S3. Experimental setup to measure friction forces between the EAD and silicone rubber with 10-mm diameter. State of EAD at Position A (A1) before and (A2) after pulling up to a displacement of 40 mm. State of EAD at Position B (B1) before and (B2) after pulling up to a displacement of 40 mm.