

Supporting information

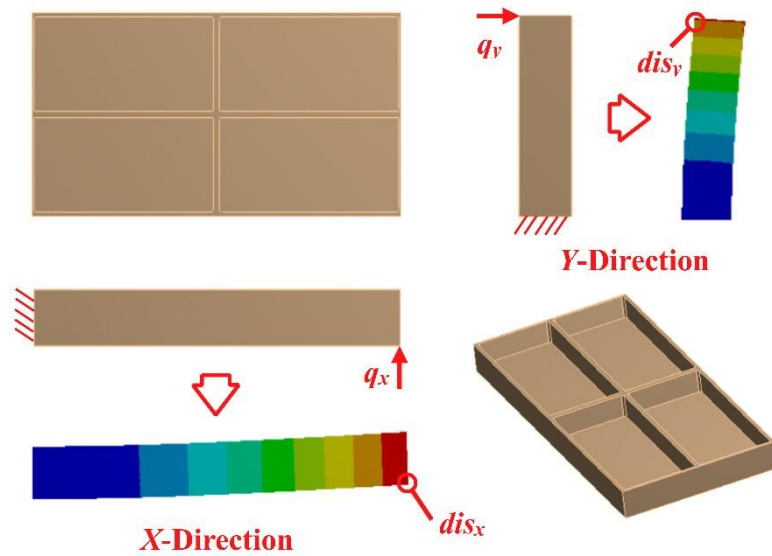


Fig.S1 Solution process of equivalent bending stiffness [31]

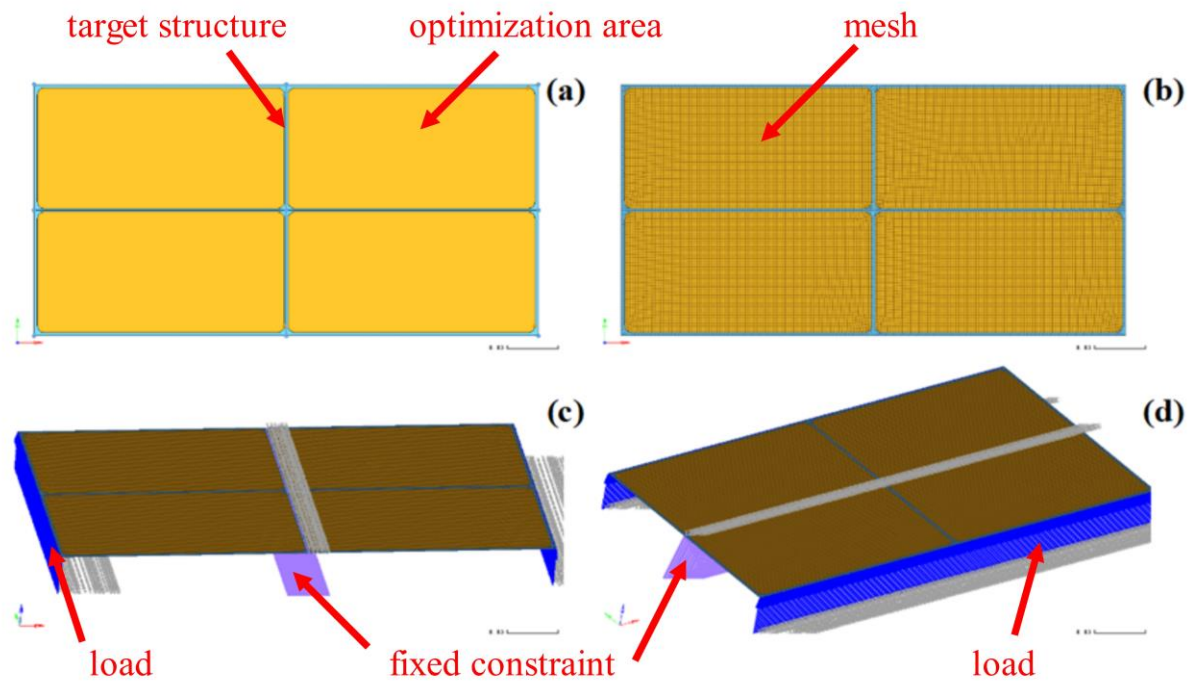


Fig.S2 FE model for topological optimization of A-type part: (a) two-dimensional section, (b) finite element mesh, (c) boundary condition of condition 1, and (d) boundary condition of condition 2.

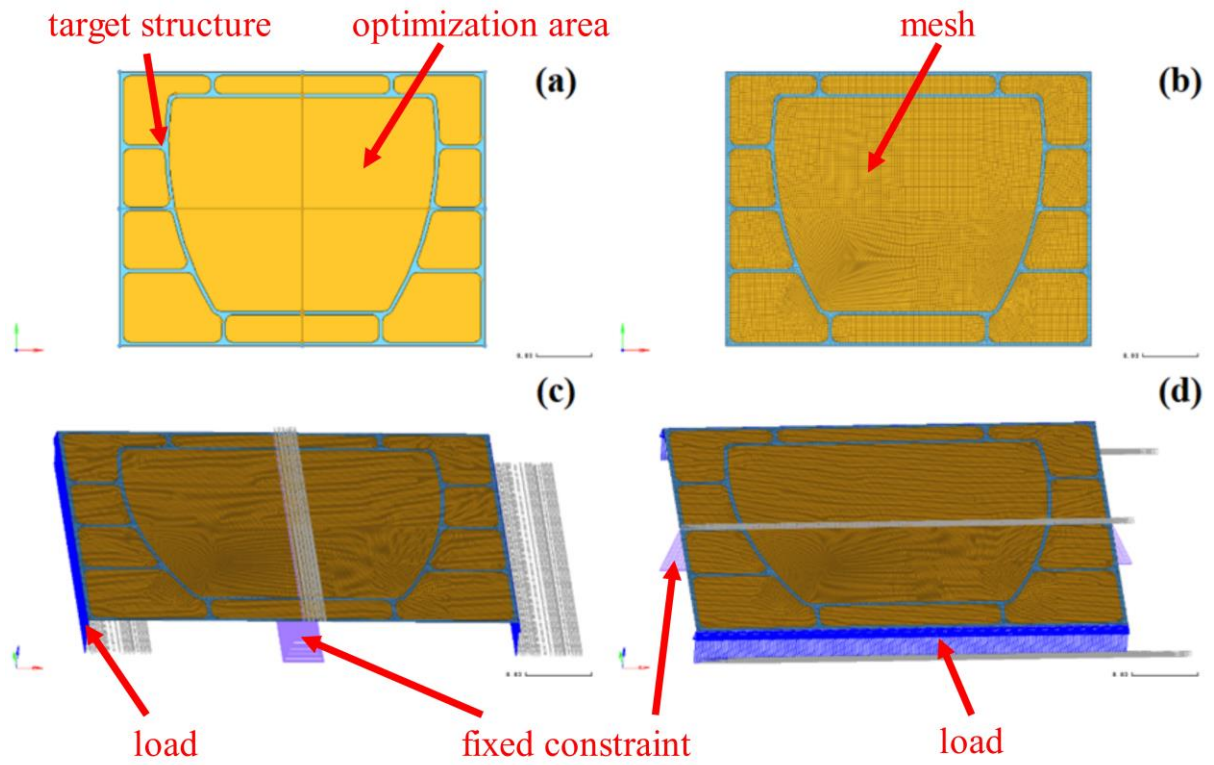


Fig.S3 FE model for topological optimization of B-type part: (a) two-dimensional section, (b) finite element mesh, (c) boundary condition of condition 1, and (d) boundary condition of condition 2.

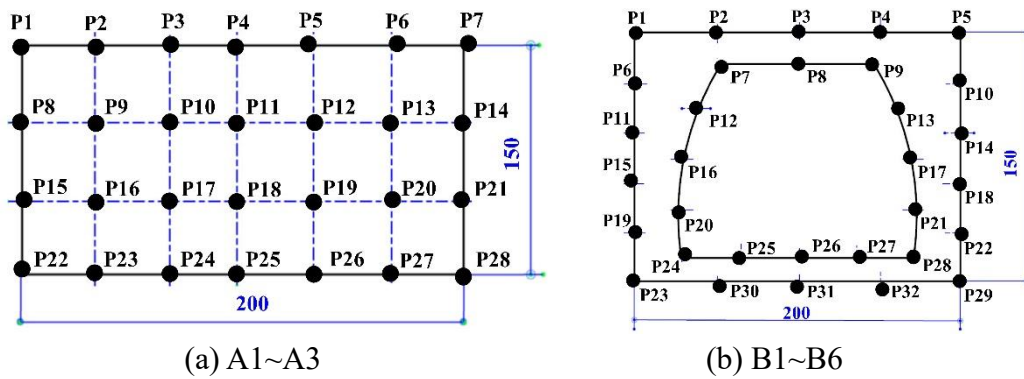


Fig.S4 Location and distribution of deformation measurement points

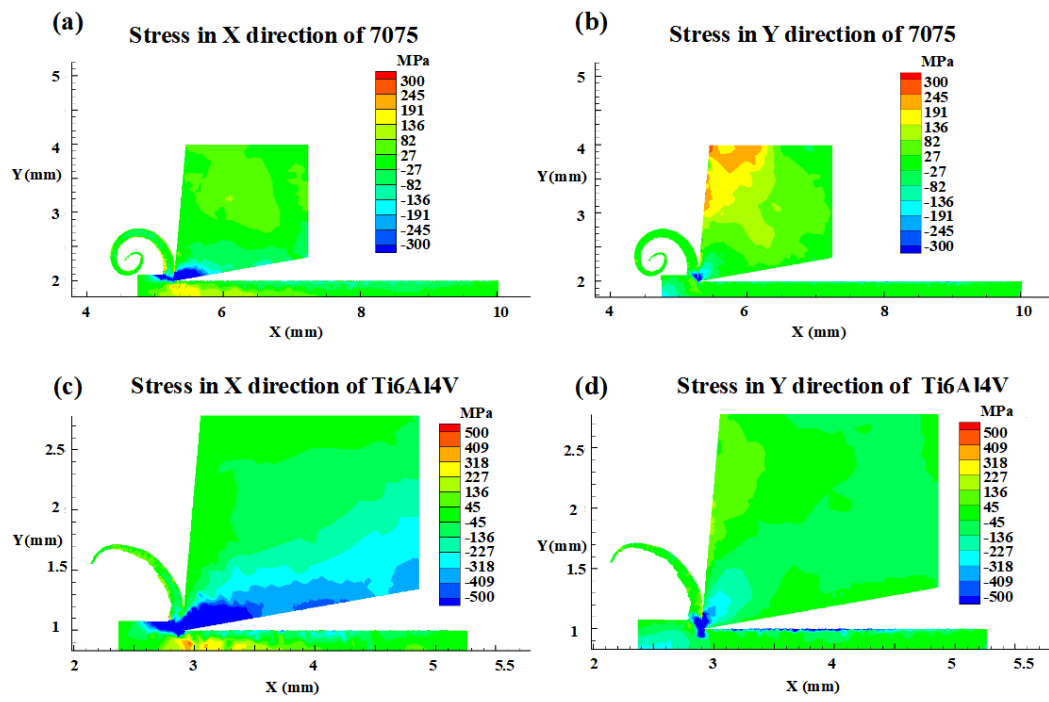


Fig.S5 FEM machining induced residual stress results.