

# Aerobatic Wing

*Honeycomb variant*

## Dimensions and sizing

In this study, a wing for an acrobatic airplane was designed using the reference dimensions and geometry of the Zivko Edge 540 one-seater acrobatic airplane.

Wing was modelled using SolidWorks as surface model.

Front and aft spars are placed on 15% and 70% of the root and tip chord lengths respectively.

Front spar cap has width of 68mm while aft spar cap is 24 mm wide.

Spanwise wing has 4 internal ribs with one root and one tip rib. First two ribs are made with lesser spacing as to facilitate higher twist loads found near the root of the wing.

Control surfaces will be mounted to the end of the ribs #4 and #5. (Further expl. in FEM report)

To stiffen the skin between the spars, honeycomb core will be implemented.

Rest of the relevant dimensions are found in the drawing below.

