Aerobatic Wing

Honeycomb variant

Composite layups

After iterative process of defining the baseline composite layups and adding additional plies to different parts of the wing, a satisfactory composite layups were achieved. Wing surface was separated into two sections: inner one that's also thicker, and outer one, which is reduced in thickness and consequently lower in ply number. With this layup configuration, wing has total mass of 52,49 kg. Image below represents wing after defining composite layups.

Structure section	Layup	Thickness
Middle skin (outer)	[45/0/-45/HC/-45/0/45]	5,93 mm
Middle skin (inner)	$[[45/0/-45/30]_5/[+-45/30]]/HC/[[30/-+45]/[30/-45/0/45]_5]$	
Leading Edge	= Middle skin (outer)	5,93 mm
Front Spar Cap + Skin + Reinforcement	$[+-45/[0/30/0/-30]_{28}/[45/0/-45/30]_{2s}]$	20,15 mm
Front Spar Web	$[+-45/90]_2/Foam/[90/-+45]_2]$	3,86 mm
Aft Spar Cap + Skin + Reinforcement	$[+-45/[0/30/0/-30]_8/[45/0/-45/30]_{2s}]$	7,75 mm
Aft Spar Web	[+-45/90/Foam/90/-+45]	2,93 mm
Ribs	$[+-45/90/+-45]_s$	1,55 mm