

# Vacuum Infusion Process Layout Design

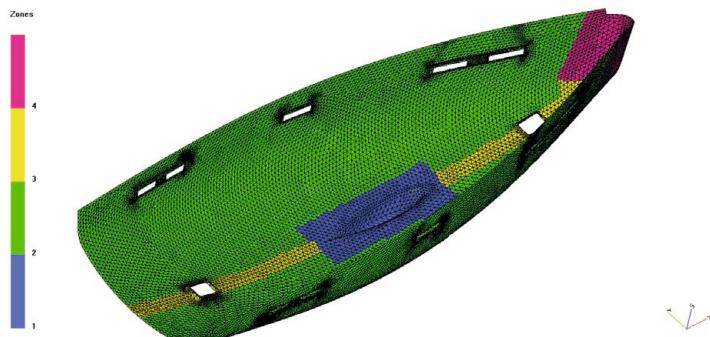
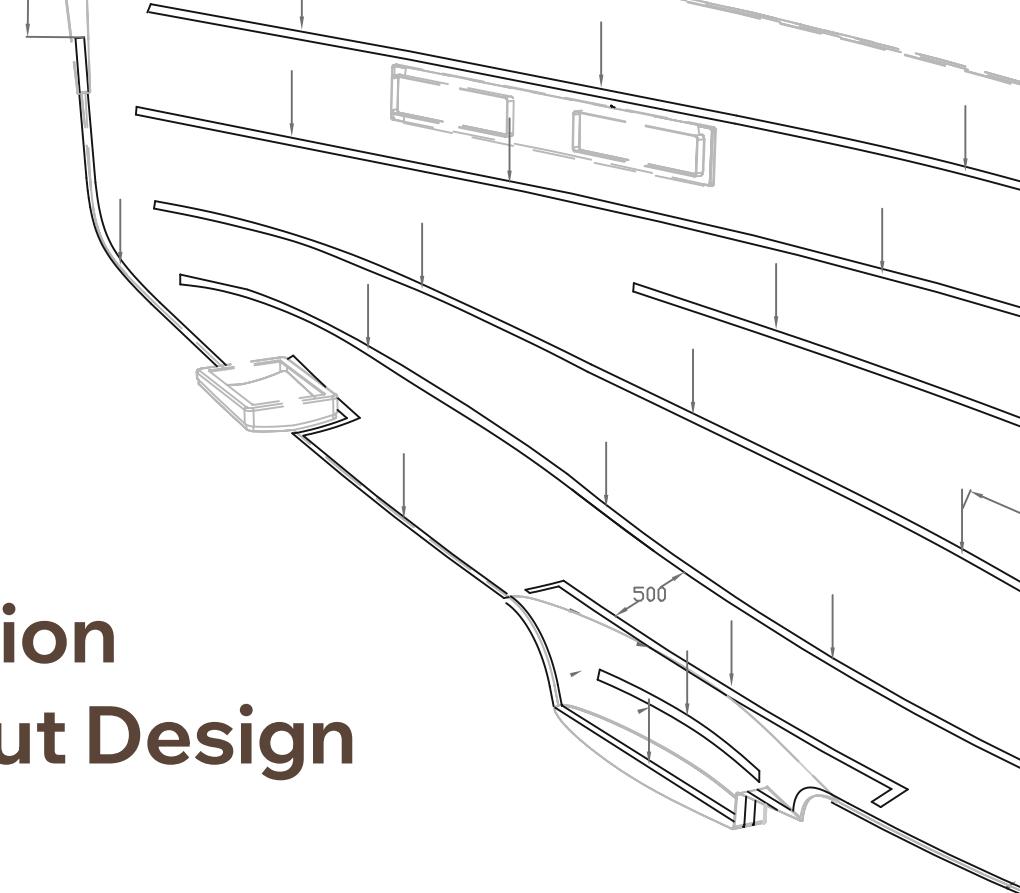
study case

In this occasion, **CR Yachts**, a Sweden yard with many years of experience on the sailing cruising yachts industry, required an improvement on his building process for his new 490 DS version, designed by BRYD.



The main challenge of Nordic boats is the thicker thickness needed in their bottom, which translates to higher heat generation during the infusion process.

COMMANTECH developed all the infusion design processes with the corresponding layout and supplies necessary to build the hull of this boat.



## Permeability calculation

FIBER TYPE  
QUADRIAXIAL 872 + 100 M

Qty of layers	5	units
Pinj	101500	Pa
$\mu$	0.19	Pa.s
$\phi$	0.52	
Vf	0.48	
tff [s]	xf front [m]	$x^2$
0	0	0
50	0.15	0.0225
115	0.24	0.0576
265	0.33	0.1089
375	0.385	0.148225
660	0.47	0.2209
900	0.52	0.2704
$K_{exp}$	5.8404E-10	$m^2$
$m$	0.0003	

