

Comparison of Dehler 33 with square-top main vs. pinhead main

computed with UliSail by Ulrich Remmlinger

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area mainsail in both cases: 35.4 m²

all dimensions are equal, except:

	pinhed	square-top
mast length above deck	14.46 m	12.46 m
lufflength P	12.8 m	10.8 m
chord at head of mainsail	0. m	1.8 m
leeway	6.8 °	6.95 °

assumptions:

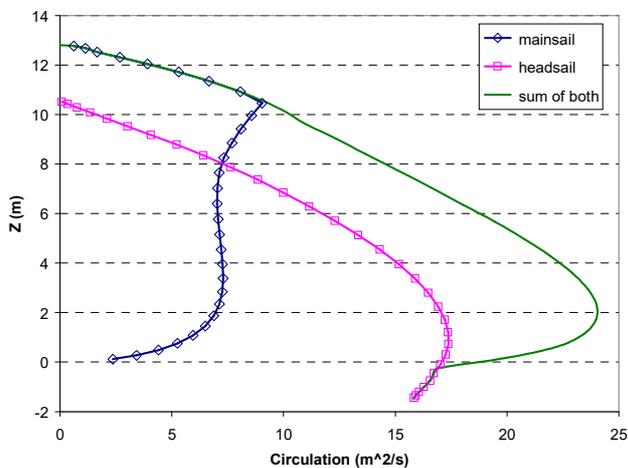
boat speed	6.1 kts
true wind angle	40 °
true wind speed	10 kts

results of optimization:

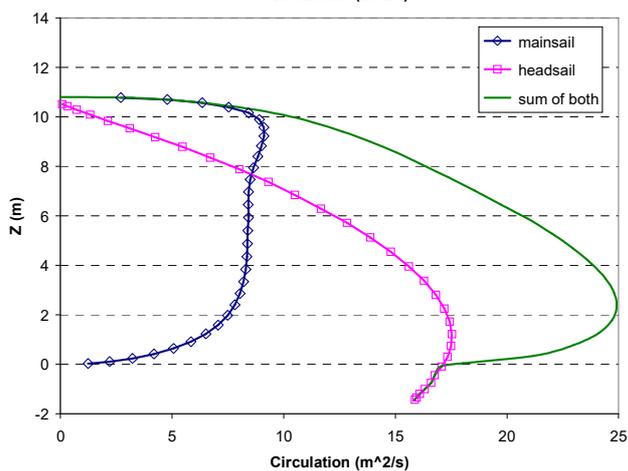
heel angel	26.8°	26.8°
sheeting angle mainsail foot	0°	0°
twist mainsail	14.9°	8.2°
camber headsail at clew	8.8%	8.1%
twist headsail	20.4°	17.0°
driving force	393 N	370 N

square-top main driving force is 6% lower than pinhead!

comparison of the circulation:



pinhead main



square-top main