1/8" sheet
1/4" sheet
3/16" sheet
1/4" medium-hard sheet
horn anchored
with light glass
light glass fillets
around fin/boom joints
laminated
very hard 1/32" balsa
or 0.020" basswood
0.8 oz Kevlar or
2 oz glass hinge,
sheared bias,
glued into slits
15mm rudder horn
10mm servo horn
1/4" sheet
1/4" medium-hard sheet
horst anchored
with light glass
Bubble Dancer
Vertical Tail
MD 30 Nov 01

Hinge spar construction:
1) Sand bevels in 3/8" sheet stock
2) Cut slits and join by installing hinge
3) Trim hinge spar and LE widths, taper to 5% chord thickness
   (0.28" bottom, 0.35" root, 0.15" top)

Design (never-exceed) Loads
vert. tail load 10 lb @ 90 mph, CL=1.0
root bend.mom. 33 lb-in
root bend.Ixx 6.4e-3 in^4
root stress 900 psi
hinge mom. 4 lb-in
rib stress 250 psi
hinge mom. 10 lb-in (ground strike, est.)
rib stress 500 psi

6-8 lb balsa throughout, unless noted otherwise

6:1 TE wedge angle
1/8" sheet
1/16"
1/32"