

TARGET PLATE THICKNESS CALCULATIONS

GUITAR
PLATE

013 (Classical)
Left Top

MEASURED TOP DATA

		SI units
Mass (gm)	150	gram 0.150 Kg
LL (mm)	558	mm 0.558 m
Lc (mm)	201	mm 0.201 m
h (mm)	3.9	mm 0.004 m
F Long (Hz)	63.6	Hz 63.6 Hz
F Cross (Hz)	105.2	Hz 105.2 Hz
F diag (Hz)	47	Hz 47.0 Hz
Density (Kg/m3)		342.92 Kg/m3

<u>Poissons Ratios</u>	
African Mahogany	0.0098
Honduras Mahogany	0.0104
Sugar Maple	0.0276
Red Maple	0.0273
Black Walnut	0.0257
WR Cedar	
Redwood	
Sitka Spruce	0.0149
Eng Spruce	0.035
Average	0.0215

CALCULATIONS

Youngs Modulus (along grain EL)	8366120222.54 Pa	8.37 Gpa
Youngs Modulus (across grain EC)	385379654.85 Pa	0.39 Gpa
Shear Modulus (GLC)	761734120.26 Pa	0.76 Gpa
Elong/Ecross		21.71
Vibrational Stiffness (f)	60	
Overall Top Length (a)	490 mm	0.49 m
Overall Lower Bout Width (b)	390 mm	0.39 m

Panel Type	Vib Stiffness (f)
SS Top	75
SS Back	55
Trad Class Top	60
Trad Class Back	50

Target Thickness	2.44 mm	0.096 thou
------------------	----------------	-------------------