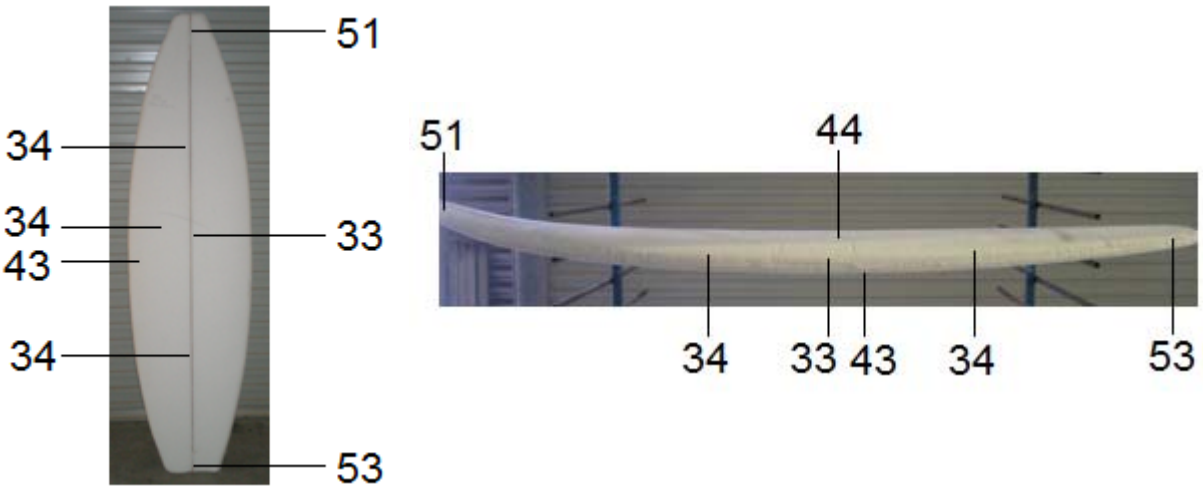
Density of blanks

Here are the mean values of samples taken from different part of a south coast Mega Lite blank (in kg/m^3):



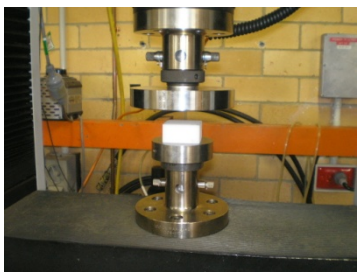
The samples I use for the testing below all come from the centre of the blank, where the foam density is the most consistent.

South Coast Mega Lite: 33.0 kg/m^3

South Coast Mega Lite pro: 31.0 kg/m^3

South coast Standard: 38.1 kg/m^3

Compression testing

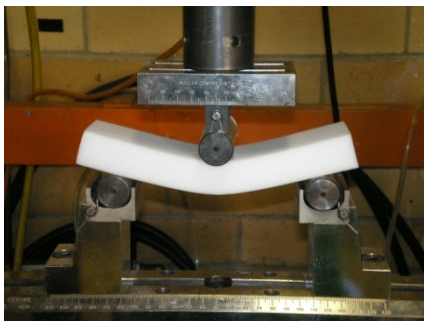


Physical property	Unit	Class			Test method
		ML	ML Pro	Std	
Compressive stress after 60 sec at 50% deformation	kPa	**180**	**151**	**234**	ASTM D3574-C

What does it mean?

This test tells us how hard it is to compress the foam. The higher the value, the better the foam bears compression (and 'kick back'). It is very interesting to combine light foam with high compression resistance even though the compressive strength is directly related to density.

Flexural testing



Test method: ASTM C393 three point bending.

The load applied by the foam on the upper cylinder is recorded as the bottom two cylinders move upwards at a speed of 10mm/min. The test ends when the specimen breaks. Three specimens per sample are tested. We record the maximum load, the load at failure and the displacement.

Sample	Load max (N)	Load at breakage (N)	Displacement (mm)
ML	**39**	**37**	**51**
ML Pro	**36**	**35**	**56**
Std	**73**	**72**	**34**

What does it mean?

The higher the maximum load, the harder it is to bend the sample and the bigger the elastic domain of the foam is (which means the foam will come back exactly how it was before bending, without internal crushing). The load at breakage gives us information on how long it takes to completely break the sample after the first internal breakages. The displacement tells us how much the foam can bend before total rupture and hence the ductility.

Logically, the heavier foam breaks first but is harder to bend. The ML sample, again shows a nice combination of resistance and elasticity for a low density.