



Moisture Meters:

A good moisture meter is an invaluable tool for gauging how much moisture has been absorbed by a glassfibre hull; but like any instrument, moisture meters have their limitations, and must not be expected to give foolproof readings. Moreover, it must again be stressed that there is *no direct correlation between moisture content and laminate condition*, so moisture meter readings should never be used to make a diagnosis in the absence of other information.

But while a moisture meter can provide a very useful indication of laminate condition, older boats built with orthophthalic resins may require a series of readings over a period of several weeks to see the full picture. Think of the meter as a barometer rather than an 'osmosis meter', and look for trends rather than absolute values

High readings should be expected shortly after lifting, but these will fall steadily to lower values if the laminate is in sound condition. But if readings stay persistently high, this indicates that the laminate has already started to break down, and is unlikely to dry satisfactorily unless full osmosis treatment is carried out.



Fig 18. A Tramex Skipper meter being used on an exposed clear gelcoat. The white spots are caused by an effect known as 'fibre swelling', where bundles of glass reinforcement have absorbed moisture, which forces the filaments apart by capillary action. A pigmented gelcoat would only show small swellings at its surface.

Most current moisture meters determine moisture content by applying a radio frequency signal between two electrodes which are held against the laminate surface. As moisture content increases, electrical capacitance between the electrodes rises, and is interpreted by the meter to give an approximate moisture value.

However, the shape and spacing of these electrodes has a significant effect on the response patterns of different types of moisture meters, often resulting in contradictory and confusing readings.

Be especially wary of instruments with closely spaced electrodes, as these tend to be unduly sensitive to moisture on or near to the surface, and can give very misleading readings where epoxy coatings have already been applied.

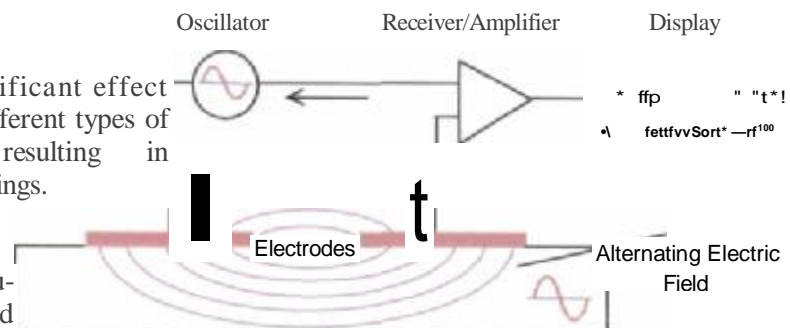


Fig 19. Schematic of a Typical Electronic Moisture Meter