



# HIGH TECH MARINE SURVEYS

781-290-6782 • [hightechmarinesurveys.com](http://hightechmarinesurveys.com)

## Thermal imaging solutions better define compromised areas, which allows for accurate repair estimates.

A common misconception surrounding the use of thermal imaging technology is that it allows the user to 'see' through walls, hull skins, cabinets, plumbing, and other obstructions, showing what's going on beneath. Actually, a well tuned thermal image is an accurate representation of the surface temperatures in the field of view highlighting very small temperature differences that, when properly interpreted, can reveal many different conditions occurring beyond the reach of the visual light spectrum.

For example, moisture trapped within a cored hull will absorb and radiate heat at a different rate than the nearby dry core, and this temperature differential will often be readily apparent at the skin using thermal imaging. Similarly, voids, fractures, or dry layup within the laminate schedule will also present a different thermal footprint to the surface than surrounding areas, thereby becoming evident to the trained thermal imager.

### Damage Assessment

A performance racing sailboat is involved in a collision while maneuvering at the starting line. When evaluated at the yard a few days later, there is some question as to the extent of damage. The owner feels that the attending surveyor has underestimated the affected areas. The thermal survey helps to identify the extent of the damage and allows for a more accurate assessment.

#### Carbon Fiber

When a carbon fiber mast is struck by lightning fatigue voids, cracking and delamination can occur and can go unseen.

*Is the mast fatigued?*

*Has it been struck by lightning?*

*Are there stress fractures due to age and exposure to ultraviolet light?*

All of these concerns can be mapped with the use of thermal imaging.

#### Estimating Benefits

A thermal imaging survey can show the extent of the water damage so that a yard can accurately quote repairs, and identify the source of water intrusion, which can be repaired to prevent a repeat occurrence.

### Production QA

A builder of high-end carbon fiber masts has a potential customer who is looking for some assurance that the finished product will be delivered free from defect. A thermal imaging survey is to be performed on the mast, and a copy of the individual reports are included giving the buyer confidence that the purchase is void free.

### We Are

- **ITC Certified to ASNT Level 1 Standards**
- **Society of Accredited Marine Surveyors SA**
- **American Boat and Yacht Council**

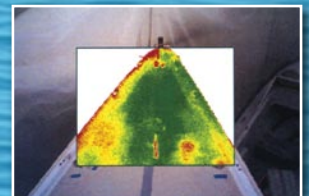
### Contact Us

Patrick Goodrow  
85 Humphrey Street  
Marblehead, MA 01945  
781-290-6782  
[mailtogoodrow@gmail.com](mailto:mailtogoodrow@gmail.com)

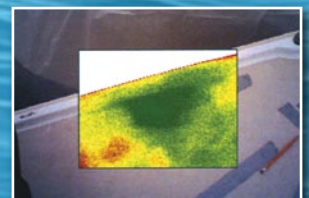
[hightechmarinesurveys.com](http://hightechmarinesurveys.com)



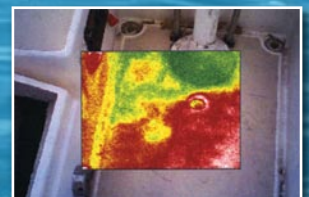
Moisture intrusion into deck core at forward of port deck winch.



Moisture intrusion into core at foredeck.



Moisture intrusion into core at #1 stanchion, port side.



Moisture intrusion into layup and core at cockpit aft adjacent to pedestal base.

*Add a thermal survey report to your estimate giving you and your client a realistic assessment of the compromised area.*