Problem? Electrical fires on ships

The following image illustrates the internal parts of a defective electrical junction box believed to be the source of an electrical fire on board a vessel. A cable passing through a gland fitting was discovered to be not correctly installed.

In the preceding period prior to the fire incident some changes had been made to the vessel’s electrical systems during a re-fit.

Electrical systems on board ships are subject to considerably more additional hazards and exposures than typically experienced ashore in a standard fixed installation. These additional hazards include:

- significant exposures to hot and cold temperature extremes
- vibration
- constant motion
- high humidity
- sea water
- wetting.

Requirements for electrical systems onboard ships, therefore, are quite stringent, for good reason: to ensure durability and safe operations over a long period of time.

ARC Marine would urge Ship Owners, Managers and Superintendents to always ensure that whenever a ship’s electrical systems are to be modified either for repair or re-fit purposes that the following recommendations are followed:

Solution: Best practice recommendations

1. Ensure shipboard staff and any contractors permitted to undertake modifications to ships electrical installations are fully trained and competent with the current regulations required by flag state and/or class requirements.

2. Whenever undertaking any modifications to shipboard electrical systems, always consult and seek approval with flag state and class authorities to ensure compliance with relevant electrical regulations. For UK ships, references are available within:
   - MCA Marine Guidance Note MGN359(M);