



Fire risks due to the use of incorrect air-filter and insulation materials

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In this article, we would like to draw your attention to fire risks arising from the use of unsuitable air-filter, insulation and cladding materials in the engine room.

Through its network of correspondents, Norwegian Hull Club has been made aware of cases where polyester-type filters are being used as turbocharger air-filters. Such filters are intended for use in air-conditioning plants. However, there have been instances where polyester filters have been used in turbochargers for both 2-stroke and 4-stroke engines when an approved filter has not been available.

Polyester filter material is highly flammable and, when used in machinery located in the engine room, it will absorb oil / fuel vapors and hydrocarbon particles and become a potential source of ignition – essentially a torch ready to ignite.

Only filter materials specifically designed for diesel engines should be used. The correct filter material specification should also be included in a vessel's planned maintenance system / spare parts ordering system. This should prevent the crew using an incorrect type of filter by helping to ensure that they request the approved type.

From cases Norwegian Hull Club has been involved in concerning engine room fires caused by leaks from fuel and lubricating oil pipes spraying onto hot surfaces, a large number of blazes start in the vicinity of the turbochargers. This is due to oil spray and insufficiently insulated exhaust gas pipes.

Insulation has often been found in a deteriorated state, with both the insulation and soft cladding sometimes soaked in oil. Frequently, the insulation material or cladding used is of an incorrect type and improperly installed, leaving the exhaust pipe sections partially uninsulated.

With regard to the use of polyester-type filters for turbochargers, in addition to the fire risk the filter

mesh is very dense and creates air restrictions, thereby reducing air intake to the diesel engine which could have an adverse effect on engine performance.

RECOMMENDATIONS

With reference to SOLAS Chapter II-2 Part B – Prevention of Fire and Explosion Regulation 4 – Probability of Ignition, Norwegian Hull Club recommends that owners and managers initiate a risk assessment to reveal if flammable filter materials are being used on board as air filters for turbochargers and/or other machinery in the engine room.

In addition, and with ref to SOLAS regulations, we recommend checking the specification of materials used on board for the insulation and cladding of exhaust gas pipes and other high-temperature surfaces, in order to avoid the risk of an ignition source in case of oil spray.

Like to know more?



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