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The IMO introduced new regulations concerning oil fuel arrangements through the SOLAS amendments. In particular, regulation 11-2 / 15.2.11 require that:-

"Oil fuel lines shall be screened of otherwise suitably protected to avoid, as far as practicable, oil spray or oil leakages onto hot surfaces, into machinery air intakes, or other sources of ignition. The number of joints in such piping systems shall be kept to a minimum."

The following information is taken from DNV guidelines issued on 7th April 2003.

Intention

The intention with screening of pipe connections is to prevent oil spray or dribbling caused by loose or broken pipe connections, from reaching by any potential hot surface, machinery intakes, or any other source of ignition. By potentially hot surface is meant any surface on or around the engine where the surface temperature may exceed 220°C in case of defective or insufficient insulation.

Explanation / Clarification of the requirements

Shielding is required for piping systems under pressure exceeding 0.18 N/mm² (1.8Bar) which are located above or near units of high temperature including boilers, steam pipes, exhaust manifolds, silencers or other equipment required to be insulated which may reach temperature above 220°C.

The screening need not enclose the pipe connections, i.e need not contain a leak. It is acceptable to have leakage dribbling out of the screening, or course provided that there is no potentially hot surface beneath. It is in fact preferable to allow for visualisation (e.g dribbling) of the leakage in order to have the situation detected and rectified. It is however, not required to have any detection systems for leakage in such cases.

Flexible hoses have to be screened when installed in positions where they as mentioned above, may suffer external damage.

There is no requirement for type approval of screening arrangements or materials used; any solution that fulfils the intentions of the requirement is acceptable. This may include large area sheeting solutions covering many complex joints, individual joint wrappings, re-routing of piping to "safe" areas of complete enclosure of piping and connector by conduit.

Practical Survey Guidance

Verify by visual inspection that flanged joints, bonnets and any other flanged or threaded connections (ie. All pipe connections regardless of the nature of the connection) have been adequately screened. In judging adequacy, it is important to have the intentions of the regulations (as explained above) fresh in mind. Critical items in piping systems are pipe connections and fittings working loose and flexible hoses located such that that they could suffer external damage.

Examples of screening are a spray shield around flanged connections or shields protecting valve blocks or other components with pipe/hose connections that if working loose could cause spray.

Further guidance as follows:

Pipe and pipe connections located above potentially hot surfaces

Pipelines that are running over potentially hot surfaces must be treated with care. The pipe connections are to be properly screened. However, due attention must also be paid to possible dribbling down onto any potentially hot surface beneath. In this context one should also consider possible dribbling from liquids that are leaking along the outside of the pipe. For such arrangements drip trays should be considered.



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Guide to SOLAS regulations Relating to oil spray leaks (continued)

Summary of Fuel / Lube oil risk areas

- Fuel oil injection pipes, fuel oil service pipes, fuel oil valve cooling oil pipes attached to diesel engines.
- Lube oil service pipes and hydraulic oil pipes attached to diesel engines
- Flammable oil pipes
- Flammable Oil pump and strainer
- Fuel oil heater
- Lube oil heater and cooler
- Fuel oil purifier
- Lube oil purifier
- Fuel oil burning unit for boiler, thermal oil heater, inert gas generator and incinerator
- Level gauge, fittings and oil tray of flammable oil tank
- Sounding pipe head of double bottom fuel oil tank
- Special pipe joint (threaded pipe joint, compression fitting joint, etc) and expansion joint in the flammable oil piping.

The areas above should be protected from the following source of ignition

- Exhaust gas pipe
- Steam pipe
- Turbo charger
- Electrical equipment
- Boiler, thermal oil heater, incinerator
- Welding spatter, cigarettes, etc

Whether you require quick compliance on a tight budget or the a long term solution offering the highest safety standards, Allison Engineering offer a range of products, all of which are Type approved to suit all the above mentioned applications.

Safety Shields

Manufactured from multi-layered Teflon coated fibreglass, these shields are supplied to exactly fit fittings and joints (including flanges, valves, tee's, couplings). They wrap round the fitting and provide an overlap thus preventing direct and lateral spray-outs – which are effectively turned into a controlled drip.

The design is such that the shield itself cannot create a spray-out since it does not form a seal over the joint. Furthermore, it is reusable in event of maintenance or a leak (or even a fire) and can therefore be used as a long term solution.

NoSpray Tape

Offers quick and convenient compliance without the need to refer to any pipe, flange or joint measurements. Simply apply the tape which is supplied in 10 metre roll, available in widths from 35mm to 1000mm.

The tape can also be used for lengths of pipe which run over or near hot surfaces. Available from our stock, this product can be despatched for a next-day delivery.