

ITEM: USE OF SEALANTS

FINDING: Use of expansion foam / Ramnek / Silicones



Expansion foam between panels



Silicones on packing rubbers



Ramnek tape on cross joint



Ramnek tape on compression bar

WHY IS THIS A PROBLEM?

GENERAL ISSUE

- Additional sealants will give a false sense of security - see below for various reasons.
- In a claims scenario, vessel will have trouble proving due diligence as per Hague-Visby rules: the use of sealants implies that it was known that hatch covers were not tight.

ISSUES WITH EXPANSION FOAM

- When placed less carefully, this blocks off the upper drain channel on the sides of the hatch covers, so that any water reaching the interpanel space cannot escape and may penetrate through the rubbers into the hold.
- On the perimeters, the high expansion of this foam could well force lighter panels away from the coaming and increase the risk for water ingress.
- Expansion foam is not elastic, whereas panels normally move a bit when at sea. The foam will not move with the panels and break off, removing its efficiency.
- After opening the covers, and if foam is not fully cleaned off, remnants of foam could be stuck in between the compression bar and the rubber sealing when next closing the covers. This increases the risk for water ingress.
- Parts of expansion foam breaking off upon opening the covers could contaminate bulk cargoes.

ISSUES WITH SILICONES ON RUBBERS

The purpose of Sicaflex or rubber silicones is to make a smooth transition between rubber and compression bar, for example on end piece connections. It cannot be used to fill gaps in between rubbers:

- Silicones do not have the same compression characteristics as packing rubber. Uneven compression will persist in this area
- Silicones on top of packing rubbers, or on the gap between rubbers, may give false good results on US tests after applying, but will not move in the same manner at sea and possibly become detached.

ISSUES WITH RAMNEK TAPE ON THE PANELS

- Enhances corrosion on the cross joint steel structures.
- When placed less carefully, this could close off the upper drain channel. Any water getting in the drain channel through wedge spacing or other, will then not be able to get out anymore. And it will thus increase the risk for water ingress through the cross joints.
- Due to its minor elasticity, this is the best option among sealants

ISSUES WITH RAMNEK TAPE ON RUBBERS OR COMPRESSION SURFACES

- Ramnek tape increases the friction between packing rubbers and compression surface. As the rubber cannot slide over the compression surface on a moving vessel, this may create openings on other places.
- Ramnek tape (or rubber strips) does not have the same compression characteristics as packing rubber and will therefore behave differently on a moving vessel.
- The end of the tape strips will result in uneven compression.
- The additional thickness of sealing tape (or rubber strips) between rubber and compression surface can prevent the panel to return to its design compression/position, and can cause a mismatch between panels.

ISSUES WITH EXCESSIVE VASELINE ON RUBBERS

The use of large quantities of Vaseline or other grease on the compression bars or rubbers may assist in passing an ultrasonic tightness test, but will allow water entry when at sea. It is in such cases that it is frequently seen that, although the ship passed a hatch test whilst in port, the cargo is delivered in the discharge port with wetting damage. In addition, dirt or other debris may get stuck in the Vaseline layer, thus causing extra weathertightness issues.

WHAT KIND OF FEEDBACK IS EXPECTED?

CORRECTIVE ACTIONS

- Identification of root cause and addressing of same
- Documentation of replaced parts

PREVENTIVE MEASURES

- Explanation of procedures to avoid poor practice in the future

WHAT TO DO WHEN SHIPPERS REQUIRE ADDITIONAL SEALING?

In some cases and for certain cargoes, shippers require the hatch covers to be taped or foamed even though the sealing system was found in good condition. In such a scenario, the safest action to take is to make a note in the ship's log book and remove all remnants of the sealants as soon as it is no longer required by shippers.