Abstract

The ventilation in the accommodation spaces is a system that is often neglected. Yet, it remains a vital system and supports the safety of seafarers at sea.

To control the optimum functioning of this system, research has been carried out on board of multiple ships, such as pushers, port tugboats and a sailing vessel.

First, the temperature and humidity measured on board of these vessels were examined. The relation between these two factors and how they both contribute to a comfortable temperature was studied. With this information the studied ships were monitored for this comfortable temperature.

A second important factor is the level of carbon dioxide in the measured spaces. One of the vital purposes of the ventilation system in the accommodation and in the engine room, is the exhaust of these gases. Humans continuously breath in oxygen and breath out carbon dioxide, so a constant supply of oxygen in the spaces is vital. To verify the proper functioning of the system, carbon dioxide concentrations are measured in these spaces. If these concentrations are too high, the ventilation system is not functioning properly.

Lastly, the protection of seafarers from harmful gasses in the surrounding atmosphere of the ship was looked at. These gasses can originate from the industry of ports, exhaust gasses from other ships, but mostly from the exhaust gasses of the ship's motor.

Therefore, the difference in concentration of harmful gasses while the ship is sailing or when she is moored, was analyzed. On top of that, there has been a look at the difference to when the sailing ship was sailing with her sails our when she was sailing with her engine.

To see how and when these gasses entered the accommodation, different factors got discussed and how they could influence this. The effect of some of these factors also got investigated