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The air we breathe

Maxine Cheyney

During the recently held International Superyacht Coatings Conference (ISCC) – an event which saw industry experts representing a range of key roles involved in the coatings process of newly-built and refitted yachts, came together to define standards and discuss a number of exciting innovations that look set to impact the industry. From a shipyard, paint, environmental and health perspective, methods of effectively dealing with airborne pollutants, such as dust, gas, odours and static electricity in the workplace, are highly desirable.

Having focused on traditional subjects, the final ISCC sessions examined new coating technologies and materials such as the use of fols. Other innovative techniques discussed were electrostatic spraying and the minimisation of volatile organic compounds (VOCs) through ionisation methods. When it comes to air quality, superyacht yards present a particular challenge due to the wide range of activities taking place – from metal grinding and welding, through to woodworking and GRP fabrication and layers of precise paintwork, with more and more of this activity being conducted indoors.

In the next five years it is likely that these activities will all need to be done in a covered indoor space to prevent environmental pollution. On top of the increased demand in size and quantity, the wish from owners for bigger, more extreme and more voluminous yachts forced this industry to exceed its previous performance in terms of finish every time. In the meantime legislation has enforced stricter requirements - from the operations of the yachts but also to the build process and the facilities.

Changing legislative requirements

In terms of coatings, legislation - both European and global – there are various demands and limits, specifically related to:

- Emissions of and exposure to solvents in paint products and underlying systems;
- Substances (mostly named biocides) used in anti-fouling measures;
- The application process inside the facilities of the shipyard, interior supplier or applicator;
- The chemical structure of the various paint products and coating systems.

Most boat manufacturers or repair businesses use hazardous chemical products in their everyday operation. The requirements of the SED chapter within the Industrial Emission Directive restricts/changes the use of products that contain VOC and therefore, may require the facility to alter working practices or to install additional equipment to recycle or prevent the volatile compounds escaping into the environment. Ultimately this will end up adding expense to the operating costs of the facility.

The NEC directive sets upper limits for each member state for the total emissions of the four pollutants responsible for acidification, eutrophication and ground-level ozone pollution (sulphur dioxide, nitrogen oxides, volatile organic compounds (VOCs) and ammonia). The Clean Air for Europe Programme (CAFE) policy was launched with the aim to develop long term, strategic and integrated policy advice to protect against significant negative effects of air pollution on human health and the environment. Air quality standards, particularly those relating to chemical contamination such as styrene, are therefore becoming more stringent over time. Benefits of extra health and safety measures can include less time off due to injury and sickness, and improved workforce morale and motivation due to better working conditions. These positive outcomes often drastically mitigate the upfront cost of improvements to the workplace.

What was emphasised during ISCC was the safe use of hazardous substances and high performance products, particularly where chemistry is involved. What is important is whether users can be trusted to comply with local regulations when using such volatile substances. The market for such

ionisation, as a method of ensuring air cleanliness is well established, and is now also finding new markets in hospitals and food processing plants as an effective way of killing bacteria and germs. Ionisation units can be mounted on the wall or ceiling, portable or installed into new, or retrofitted, ventilation systems.

Measuring Volatile Organic Compounds (VOCs) with the ICOMIA Solvent Emissions Recording Tool

ICOMIA's Solvent Emissions Recording Tool has been developed to assist Marine Industry Associations and their members measure VOCs and check if a company and/or yard are in compliance with solvent emissions targets and levels. The yards and boat builders can use the tool for important production management information. The tool is free to download from the ICOMIA Website. It will be reviewed and updated by June 2015.



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The standard bearer



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