CLAIMS

1. Structure coated with a biocidal foul release coating system, the structure being obtained by
   a. providing a substrate,
   b. coating the substrate with a first coating layer,
   c. applying at least one subsequent coating layer on top of the first coating layer,

   the first coating layer formed from a coating composition containing a biocide, the subsequent coating layer(s) formed from coating composition(s) containing less biocide than the coating composition forming the first coating layer and which is(are) free or substantially free of biocide, and wherein the first and the subsequent coating layer(s) form a biocidal foul release coating system, and wherein the first coating layer and/or the subsequent coating layer(s) comprise a polyorganosiloxane .

2. Structure according to claim 1, wherein the ratio of the release rate of biocide from the foul release coating system 5 days after application of the coating (R_5) and the release rate of biocide 30 days after application of the coating (R_{30}) $R_5/R_{30} \leq 1.5$.

3. Structure according to claim 2 wherein the ratio $R_5/R_{30} \leq 1.33$.

4. Structure according to any of the preceding claims wherein the first coating layer and/or the subsequent coating layer(s) comprises an elastomeric polymer.

5. Structure according to any of the preceding claims wherein the substrate is coated with an anticorrosion coating and the first coating layer is used as a tie coat over said anticorrosion coating.

6. Structure according to any of the preceding claims wherein the biocide in the first coating layer is an organic or metal-organic biocide.

7. Structure according to any of the preceding claims wherein the biocide is one or more of a 2-trihalogenomethyl-3-halogeno-4-cyano pyrrole derivative substituted in position 5 and optionally in position 1 or 1,4-dithiaanthraquinone-2,3-dicarbonitrile.

8. Structure according to any of the preceding claims wherein the subsequent coating layer(s) comprises an incompatible fluid.

9. Structure according to any preceding claim wherein the substrate is a marine or an aquaculture structure, such as, a ship hull, a boat hull, a buoy, a drilling platform, an oil rig, a floating production storage and offloading vessel (FPSO), a pipe, a cooling water intake in a power plant, a fish net or a fish cage.

10. A method of controlling the rate of release of biocide from a foul release coating system, wherein the ratio of the release rate of biocide from the foul release coating system 5 days after application of the coating (R_5) and the release rate of biocide 30 days after application of the coating (R_{30}) $R_5/R_{30} \leq 1.5$, the method comprising

    a. providing a substrate,
    b. coating the substrate with a first coating layer,
    c. applying at least one subsequent coating layer on top of the first coating layer,

the first coating layer formed from a coating composition containing a biocide, the subsequent coating layer(s) formed from coating composition(s) containing less biocide than the coating composition forming the first coating layer and which is(are) free or substantially free of biocide.

CLAIMS

1. Structure coated with a biocidal foul release coating system, the structure being obtained by
   a. providing a substrate,
   b. coating the substrate with a first coating layer,
   c. applying at least one subsequent coating layer on top of the first coating layer,

   the first coating layer formed from a coating composition containing a biocide, the subsequent coating layer(s) formed from coating composition(s) containing less biocide than the coating composition forming the first coating layer and which is(are) free or substantially free of biocide, and wherein the first and the subsequent coating layer(s) form a biocidal foul release coating system, and wherein the first coating layer and/or the subsequent coating layer(s) comprise a polyorganosiloxane and fumed silica .

2. Structure according to claim 1, showing a controlled leaching of the biocide wherein the ratio of the release rate of biocide from the foul release coating system 5 days after application of the coating (R_5) and the release rate of biocide 30 days after application of the coating (R_{30}) $R_5/R_{30} \leq 1.5$.

3. Structure according to claim 2 wherein the ratio $R_5/R_{30} \leq 1.33$.

4. Structure according to any one of the preceding claims wherein the substrate is coated with an anticorrosion coating and the first coating layer is used as a tie coat over said anticorrosion coating.

5. Structure according to any one of the preceding claims wherein the biocide is one or more of a 2-trihalogenomethyl-3-halogeno-4-cyano pyrrole derivative substituted in position 5 and optionally in position 1, such as tralopyril, 1,4-dithiaanthraquinone-2,3-dicarbonitrile (dithianon), copper pyrithione, zinc pyrithione, tolylfluanid, dichlofluanid, and N-cyclopropyl-N'-(1,1-dimethylethyl)-6-(methylthio)-1,3,5-triazine-2,4-diamine.

6. Structure according to any one of the preceding claims wherein the biocide in the first coating layer is an organic or metal-organic biocide.

7. Structure according to any one of the preceding claims wherein the biocide is one or more of a 2-trihalogenomethyl-3-halogeno-4-cyano pyrrole derivative substituted in position 5 and optionally in position 1 or 1,4-dithiaanthraquinone-2,3-dicarbonitrile.

8. Structure according to any one of the preceding claims wherein the subsequent coating layer(s) comprises an incompatible fluid.

9. Structure according to any one of the preceding claims wherein the substrate is a marine or an aquaculture structure, such as, a ship hull, a boat hull, a buoy, a drilling platform, an oil rig, a floating production storage and offloading vessel (FPSO), a pipe, a cooling water intake in a power plant, a fish net or a fish cage.

10. Structure according to any one of the preceding claims wherein the structure is a ship or boat hull, and the first coating layer is applied to result in a dry film thickness in the range of 100-200µm, and the subsequent coating layers(s) are applied to result in a dry film thickness in the range of 100-200µm.

11. A method of controlling the rate of release of biocide from a foul release coating system, wherein the ratio of the release rate of biocide from the foul release coating system 5 days after application of the coating (R_5) and the release rate of biocide 30 days after application of the coating (R_{30}) $R_5/R_{30} \leq 1.5$, the method comprising
    a. providing a substrate,
    b. coating the substrate with a first coating layer,
    c. applying at least one subsequent coating layer on top of the first coating layer,

    the first coating layer formed from a coating composition containing a biocide, the subsequent coating layers(s) formed from coating composition(s) containing less biocide than the coating composition forming the first coating layer and which is(are) free or substantially free of biocide, and wherein the first coating layer and the subsequent coating layer(s0 comprise a polyorganosiloxane and fumed silica.

12. The method of claim 11, wherein the substrate is coated with an anticorrosion coating and the first coating layer is used as a tie coat over said anticorrosion coating.

13. The method of claim 11 or claim 12, wherein the biocide is one or more of a 2-trihalogenomethyl-3-halogeno-4-cyano pyrrole derivative substituted in position 5 and optionally in position 1, such as tralopyril, 1,4-dithiaanthraquinone-2,3-dicarbonitrile (dithianon), copper pyrithione, zinc pyrithione, tolylfluanid, dichlofluanid, and N-cyclopropyl-N'-(1,1-dimethylethyl)-6-(methylthio)-1,3,5-triazine-2,4-diamine.

14. The method of any one of claims 11-13 wherein the subsequent coating layer(s) comprises an incompatible fluid.

15. The method of any one of claims 11-14 wherein the substrate is a marine or an aquaculture structure, such as, a ship hull, a boat hull, a buoy, a drilling platform, an oil rig, a floating production storage and offloading vessel (FPSO), a pipe, a cooling water intake in a power plant, a fish net or a fish cage and other aquaculture and marine apparatus or structures which are wholly or partially immersed in water.