

Coating systems for marine atmospheric service.

Polysiloxane top coats.

A task force was established by the Norsok Expert Group Materials (EG M) in a meeting on 29th of March 2006. The mandate of the Task Force was:

“Map the painting problems linked to the use of polysiloxane top coats. Based on this mapping the Task Force shall propose recommended actions to the Norsok EG M.”

Members of the Task Force have been:

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The results of the Task Force work has been gathered in a report, which is available upon request from the NORSOK Project Manager in Standards Norway, the leader of EG M and the Task Force members.

Polysiloxane (PSO) topcoats have been used in main coating systems for atmospheric exposure on offshore installations during the last years. The primary applications are;

- As part of a two coat system.
- As part of a three coat system.
- On top of spray-on intumescent passive fire protection system. Either directly applied on top of passive fireprotection or in combination with other intermediate coats.
- As topcoat in a maintenance system on partly removed old coating and prepared substrate.

Coating failures with polysiloxane topcoats have been reported after short time (2-5years) offshore. The main damage appears as a breakdown and flaking of the topcoat in a two-coat zinc epoxy/polysiloxane system, but coating failures are also reported on three-coat systems, and on topcoat on passive fireprotection.

Similar problems have been reported from projects in other parts of the world.

There are considerable variations concerning experience with the different polysiloxane products and the volumes supplied from the different suppliers vary in the same manner. Some of the latest generation polysiloxanes on the market appear to be acceptable for use, and the use of polysiloxanes should consequently still be accepted for use in Norsok M-501.

However, care shall be taken before selecting polysiloxane topcoats and the paint manufacturer should assure, both through field experience and laboratory testing that the products are properly documented, supplied with adequate technical data sheets and proven fit for purpose. In order to minimize the risk of flaking it is important that the paint supplier's application recommendations are strictly adhered to.

Use of an epoxy tie-coat or intermediate coat on spray-on intumescent epoxy based passive fireprotection prior to applying the final topcoat, is recommended.