

Corrosion - High temperature cathodic disbonding

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Coatings for high temperature

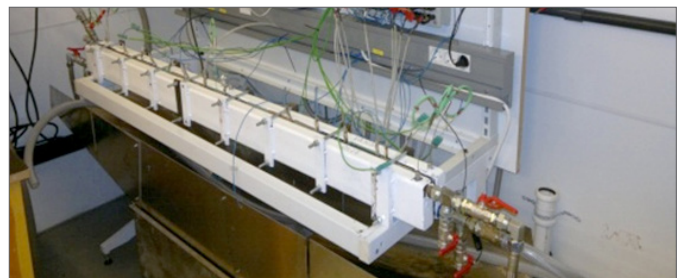
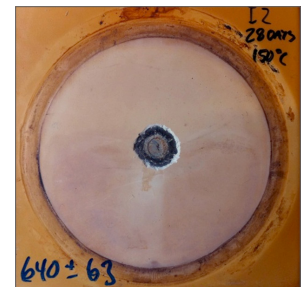
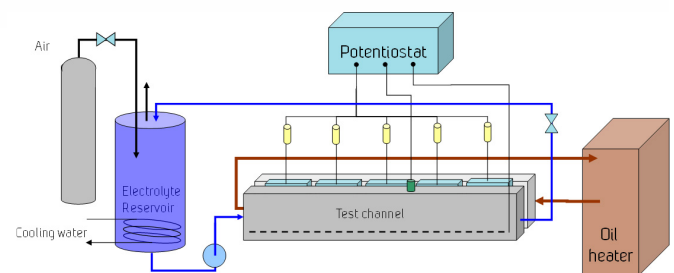
Development of oil and gas fields with high temperature introduces new and tougher requirements on coatings. For submerged constructions, cathodic disbonding (CD) is the primary degradation mechanism of coatings. Therefore, a new test method has been developed to test coatings under relevant conditions.

High temperature cathodic disbonding

Together with the coating industry, we have developed and established a test method and equipment for pre-qualification testing of temperature resistant coatings in submerged service. The method is now implemented in NORSOK M-501 revision 6. The method can be used for testing cathodic disbonding on steel surfaces with temperatures between 50 and 170°C.

The test procedure

The main characteristic of the test method is a temperature gradient that is enforced across the coating. The apparatus consists of two flow channels, one with hot oil and one with cold salt water. The samples are mounted between the two flow channels so the coatings will experience a temperature gradient, just like in the field. The samples are polarized cathodically and disbonding occurs from a 6 mm diameter coating holiday. Test duration is four weeks.



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