

Performing type tests for the qualification of three-core submarine cables and accessories for connections of offshore wind farms

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Task was to demonstrate the suitability of cable accessories in conjunction with the presented cables. For this purpose in the period of 2011 - 2014 several type tests are carried out with an individual total core length of about 150 m.

Several technical problems had to be mastered:

1. Due to the existing steel reinforcement, the submarine cable must be heated three-phase. At any time, the current loading shall be a symmetrical three-phase system, described are the technical solutions
2. The contacting of the cable shields in the cable accessories shall be suitable for the application. The connection must be low-inductance so that no voltage between the conductive layers in screen area occurs.
3. Testing and measuring equipment had to be adapted for this purpose.
4. General technical requirements for cables do not necessarily lead to the same performance,
5. Slight deviations of structure elements have a big impact on the technical characteristics of the cable.

Described is a type test of a cable supplier with selected accessory-sets, as well as a type test with cables and accessories from several suppliers, and the associated difficulties and lessons learned from the test mode, and conclusions for operation on site.