
TECHNOLOGIES ALERT

Development of 230kV Factory Joint for Submarine Cable

Submarine cable system has been widely used as power transmission for interconnection, wind farm etc. For these usages, it can be said that the recent trend is increase of rating voltage and longer cable as also described in CIGRE TB 490. To satisfy these requirements, the reliable manufacturing technology for factory joint is necessitated.

VISCAS has been supplying submarine cable system with a rating voltage of from 66kV to 132kV since early 1990's, and some of them included factory joints. Based on our technological experience, and to meet the requirement such as increasing rating voltage, we have developed above 132kV tape molded type factory joint.

In this development, we have improved the insulation design of factory joint and applied it to 230kV factory joint. By the improved design, thinner insulation thickness of factory joint could be realized than that of one by conventional design we had applied so far, that is, the factory joint with a almost the same diameter as cable diameter could be designed.

To confirm the electrical performance including a long term test, new designed prototype factory joints have been tested. Those tests revealed that new designed factory joint had a good electrical performance.

Following confirmation of effectiveness of design by using prototype factory joint, we have manufactured 3-core submarine cable including factory joints and the type test has been carried out. Mechanical tests and electrical tests after mechanical tests according to CIGRE TB 490 have been successfully completed and then test results have been certificated.

As introduced above, VISCAS has already established 230kV submarine cable system, and has been ready to supply it to the world market.



Figure Load cycle test in the type test

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