CPM 401
Sacrificial Anode Performance Testing

General information on the CPM 401 cathodic protection diagnostic technology

The CPM 401 is a recently developed cathodic protection diagnostic technology, based on and also overriding the conventional CIPS and related methods. The most important new features of the technology are as follows:

1. The spreading and contact resistance of the reference electrode is measured by the instrument at every measurement point. The potential drop caused by the resistance is either compensated or rejected by the measurement software (depending on the rate of distortion caused by the resistance). Thus it is practically impossible to add an erroneous data to the evaluation data set.
2. The IR-free potential of the coating defects is not identified with the OFF-potential (as a „zero-order approximation"), but it is determined by a combined measurement and calculation method. As a result, the IR-free potential of a coating defect can be determined also when a large part of the current is not interrupted. The IR-free potential, obtained in this way, is more precise than the IR-free potential determined from the OFF potential in the conventional way.

The main features of the Sacrificial Anode Performance Testing (SAPT) method:

1. The method determines the average potential of the anode/protected structure system, and the remote currents (cathodic or anodic polarization by remote structures or transformer-rectifiers), influencing the rate of polarization of the system.
2. The IR-free potential of the sacrificial anode and/or the IR-free potential of the protected structure is also determined. The determination of at least one of these potentials is always possible. The assessment of both of the parameters is feasible only if the geometry and current relations of the system permit it.
3. In case of standalone anodes, the rate of the anode current can be calculated from the measurement data. In case of ribbon or other continuous type anodes, the relative current intensity distribution can be determined.

The method can be applied also at anodes that are connected (welded) to the structure under ground level and it is not possible to disconnect them for off-potential or current measurement purposes.

Availability and further information:

Indexon Ltd. P., H-6725 Szeged, Veres acs u. 8, Hungary.
Tel.: +36 20 510 6063
www.indexon.hu
info@indexon.hu