

State of the Art report on the Assessment of CP of buried pipelines

Scope

Recommendations, opinions, state of the art for assessment methods which guaranty a good protection of buried C steel pipelines against corrosion, stress corrosion cracking and hydrogen damage, taking into account the various kinds of coatings and possible dc or ac stray currents.

Criteria

Potential value vs resistivity
Potential shift
Ac influences
MIC hazards

Characteristics of soils

Chemical composition
Physical properties
Microbiological aspects

Detection and evaluation of Coating defects

Pearson method
DCVG
Attenuation of ac signal
Others

Potential measurement techniques

On and ON/OFF methods : advantages and drawbacks
CIPS

Potential gradients and “true potential” techniques

Coupons
Microelectrodes
« Italian method »
« GDF True potential »
Others

Current and current density measurements

Amperometric devices
Coupons

Recommendations

Methods vs problems to solve (pipe situation, stray currents, risks of SCC and H damage, ...)