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Gas- und Wasserfaches e.V.

DVGW
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Technical Rule - Guideline

DVGW G 412 (A) October 2010

Cathodic Protection of Buried Gas Distribution Networks and Gas Distribution Pipelines

Kathodischer Korrosionsschutz (KKS) von erdverlegten Gasverteilungsnetzen und Gasverteilungsleitungen

GAS

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DVGW Regelwerk

Contents

Foreword

This standard was elaborated by the Project Group “G 412” of the Technical Committee “External corrosion”.

The use of cathodic protection in steel gas distribution networks complies with the state of the art. This applies both to new gas distribution networks to be installed and to retrofitting existing networks. Today, based on enhanced measuring methods and improved equipment technology, cathodic protection is used for additional tasks over and above the classic corrosion protection, for instance to support condition-based maintenance.

The application of cathodic protection leads to a significant enhancement of the corrosion protection of pipelines and thus of the operational reliability. If, at the same time, the protection potential criterion according to DIN EN 12954 is met, a complete protection against corrosion is achieved for unalloyed and low-alloy steel pipelines, as the residual corrosion rate is then technically negligible. Therefore, cathodic protection is stipulated in the pertinent provisions if particularly high safety requirements are in place, for instance in the case of high pressure gas pipelines.

The economic feasibility of cathodic protection has been proven both for the construction of new gas lines and for the retrofitting of an existing pipeline system [Manual of cathodic protection, corrosion protection of buried pipelines].

This standard addresses both planners and operators of gas distribution networks.

Amendments

The following amendments have been made compared to DVGW Guideline G 412:1988-12:

a) Increased obligation to apply cathodic protection according to DVGW Standard G 462
b) Implementation of the request from DIN 30675-1 for the consideration of electrochemical influences
c) Consideration of the DVGW Standards GW 10, GW 12 and GW 16
d) Inclusion of guidance on economic feasibility
e) Change of status: This document is raised to the status of a standard

Earlier editions

DVGW G 412:1988-12