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دستورالعمل

سیستم پوشش قیر پایه نفتی پلیمری اصلاح شده کارخانه ای برای سطح خارجی
لوله های مدفون و غوطه ور در آب

polymer modified bitumen enamel factory coating system for
external surface of buried and submerged linepipes



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دفتر مدیر عامل

ابلاغ مصوبه هیأت مدیره

مدیر محترم پژوهش و فناوری

باسلام،

به استحضار می‌رساند در جلسه ۲۰۲۰ مورخ ۱۴۰۲/۰۵/۱۵ هیأت مدیره، نامه شماره گ/۹/۰۰۰/۶۶۳۵۶ مورخ ۱۴۰۲/۰۴/۲۰ آن مدیریت درمورد تصویب نهایی مقررات فنی شرکت ملی گاز ایران به شرح زیر مطرح و مورد تصویب قرار گرفت.

۱- سیستم پوشش قیرپایه نفتی پلیمری اصلاح شده کارخانه ای برای سطح خارجی لوله های مدفون و غوطه ور در آب

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سید محمد پیشوایی
دبیر هیأت مدیره

رونوشت: مدیرعامل محترم شرکت ملی گاز ایران و رئیس هیأت مدیره

اعضای محترم هیأت مدیره

مشاور و رئیس دفتر محترم مدیرعامل

سرپرست محترم امور حقوقی

رئیس محترم حسابرسی داخلی

رئیس محترم امور مجامع

Foreword

This standard specification is intended to be mainly used by N.I.G.C. and contractors, and has been prepared base on interpretation of recognized standards and technical documents, as well as knowledge, backgrounds and experiences in gas industries at national and international levels.

Iranian Gas Specification (IGS) are prepared, reviewed and amended by technical standard committees within NIGC standardization division of research and technology management and submitted to "the standards council of NIGC" for approval.

IGSs are subjected to revision, amendment or withdrawal, if required, and thus the latest edition of IGS shall be checked / inquired by NIGC'S users.

This standard must not be modified or altered by NIGC employees or its contractors. Any deviation or conflicts between this specification and other applicable standards, codes, procedure or well-known manufacturer's specifications must be resolved in writing by the user or its representative through Manager, Engineering Department or standardization division of NIGC.

The technical standard committee welcomes comments and feedbacks from concerned or interested corporate and individuals about this standard, and may revise this document accordingly based on the received feedbacks.

General Definitions

Throughout this standard the following definitions, where applicable, should be followed:

- 1- "STANDARDIZATION DIV." is organized to deal with all aspects of industry standards in NIGC. Therefore, all enquiries for clarification or amendments are requested to be directed to mentioned division.
- 2- "COMPANY": refers to National Iranian Gas Company (NIGC).
- 3- "SUPPLIER": refers to a firm who will supply the service, equipment or material to IGS specification whether as the prime producer or manufacturer or a trading firm.
- 4- "SHALL ": is used where a provision is mandatory.
- 5- "SHOULD": is used where a provision is advised only.
- 6- "MAY": is used where a provision is completely discretionary.

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1. SCOPE

This standard specification covers the minimum requirements for the materials, performance properties, application, inspection and testing, repair, handling and storage of polymer modified bitumen enamel factory applied coating system for corrosion protection of external surface of buried or submerged service linepipes.

This standard specification covers the use of modified polymer bitumen enamel when the design temperature of pipeline is within -20 °C to +60 °C.

Note1: In the following conditions polymer modified bitumen enamel coating system shall not be used:

- Line pipes with O.D greater than 30 inches;
- In ambient temperature more than 40 °C before installation;
- In continues operation temperatures more than 45 °C.

Note2: Effective long terms performance of polymer modified bitumen coating system shall be attained when appropriate types of polymers have been used in sufficient amounts. Also, the desired resistance of polymer modified bitumen coating to microorganisms attack and root penetration shall be obtained if specific additives are added.

Therefore, the coating applicator shall provide related certificates from a reliable and independent testing laboratory to confirm the above mentioned characteristics of polymer modified bitumen coating system.

Note3: This standard withdraws and replaces IGS-M-TP-016 (2).

2. REFERENCES

Throughout this technical specification the following standards and codes are referred to. The applicability of changes in codes and standards that occur after the date of this standard specification shall be mutually agreed upon by the purchaser and manufacturer and/or applicator.

ASTM D 146(2020) " Sampling and Testing Bitumen-Saturated Felts and Woven Fabrics for Roofing and waterproofing "

ASTM E 337 (2015) "Measuring Humidity with a Psychrometer (the Measurement of Wet and Dry-Bulb Temperatures)"

ASTM G 42 (2019) "Cathodic Disbonding of Pipeline Coatings Subjected to Elevated Temperatures"

ASTM G 8 (2019) "Cathodic Disbonding of Pipeline Coatings"

DIN 30670 (2012) "Polyethelene Coatings for Steel Pipes and Fittings"

EN 10300 (2005) "Steel Tubes and Fittings for Onshore and Offshore Pipelines – Bituminous Hot Applied Materials for External Coating"

EN 12311-1 (2000) "Flexible Sheets for Waterproofing. Determination of Tensile Properties. Bitumen sheets for roof waterproofing"