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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 18975.10-2023

**Industrial automation systems and integration - Integration of
life cycle data for process plants including oil and gas
production facilities - Part 10: Conformance testing**

工业自动化系统与集成 流程工厂（包括石油和天然气生产设施）生命周期数据集
成 第10部分：符合性测试

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents" Drafting.

This document is GB/T (2)18975 "Industrial automation systems and integrated process plants (including oil and gas production facilities) Life Part 10 of Periodic Data Integration. GB/T (2)18975 has released the following parts.

---Part 1: Overview and basic principles;

---Part 2: Data Model;

---Part 4: Initial reference data;

---Part 10: Compliance testing;

---Part 12: Lifecycle integration ontology represented by Web Ontology Language (OWL);

---Part 13: Integrated asset planning life cycle.

This document is equivalent to ISO 15926-10:2019 "Industrial automation systems and integrated process plants (including oil and gas production) Facilities) Lifecycle Data Integration Part 10: Compliance Testing.

Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents.

Introduction

ISO 15926 is a series of standards for process industry life cycle data integration. Its purpose is to provide a common language for computer systems to Achieve interoperability. The GB/T (2)18975 series adopts the ISO 15926 series, and the numbers of each part correspond to the technical the differences are explained in the preface of each section.

GB/T (2)18975 "Industrial automation systems and integrated process plants (including oil and gas production facilities) life cycle data "Integration" is intended to consist of the following parts.

---Part 1: Overview and basic principles. The purpose is to describe the scope and functions of GB/T (2)18975 and its basic principles.

---Part 2: Data Model. The purpose is to define a conceptual number for computer representation of process plant life cycle technical information.

data model.

---Part 3: Geometric and topological reference data. The purpose is to specify the geometry and topology data that can be recorded using Part 2.

Ho and topology concepts.

---Part 4: Initial reference data. The purpose is to provide an initial set of core reference data items for a process factory.

---Part 6: Reference data development and verification methods. The purpose is to provide a method for managing process plant reference data.

---Part 7: Distributed system integration implementation method. template method. The purpose is to provide a method based on the data model in Part 2 Template method for row data integration.

---Part 8: Distributed system integration implementation method. Network Ontology Language (OWL) implementation. The purpose is to provide for the use of Part 7 it includes specifications for data integration using RDF (Resource Description Framework) and OWL (Web Ontology Language).

---Part 10: Compliance testing. The purpose is to describe the compliance with each part of GB/T (2)18975.

---Part 11: Simplified industrial use of reference data. The purpose is to use RDFS (Resource Description Framework schema, RDF Schema) defines a simplified approach to process industry usage of reference data.

---Part 12: Lifecycle integration ontology represented by Web Ontology Language (OWL). The purpose is to specify the use of OWL representation an ontology that integrates process plant industrial data throughout its entire life cycle.

---Part 13: Integrated asset planning life cycle. The purpose is to provide a process plant asset planning ontology and derivatives from this ontology an XMLschema (XML schema) for asset planning data exchange.

This document handles English technical words in the following manner.

---In order to maintain the original meaning of English and facilitate understanding of the meaning of the word, English words with entity meaning are used in this document as when the title appears, use the Chinese translation. In the main text, the English translation is used. The first time it appears or when necessary, the Chinese translation is enclosed in brackets.

After English. In order to improve readability, if only the Chinese translation can also clearly represent the corresponding English entity in the context, only use Chinese translation.

---When an abbreviation appears for the first time in this document or when necessary, enclose the full Chinese and English names and place them after the English abbreviation. shrink when the abbreviation only appears in the figure, in order to maintain the simplicity of the figure, only the Chinese translation is placed after the English abbreviation and placed before the English abbreviation.

The full English name is not listed near the location of the abbreviation.

---For situations that do not have substantial meaning and whose Chinese translations may correspond to English words other than those used in ISO 15926-10:2019, this is to avoid ambiguity, this document uses brackets in English after the Chinese translation when it first appears or when necessary.

---For the computer languages such as OWL and RDF that are supported by this document and the vocabulary that is only applicable in the context of English references, this article the file does not list Chinese translations.

This document demonstrates the compliance requirements of GB/T (2)18975.

This document is intended for the following users.

---Software that wishes to determine whether the deployed software product and/or its deliverables meet the specified requirements to comply with GB/T (2)18975 product users.

Note 1: Users usually include but are not limited to asset owners, project management (PM) contractors, front-end engineering design (FEED) contractors, and engineering, procurement and construction (EPC) Contractors, original equipment manufacturing (OEM) suppliers, product providers, commissioning engineers, information technology (IT) engineers and information management (IM) engineers Engineer.

---Want to determine whether the developed software product and/or its deliverables meet the specified requirements to comply with the implementation of GB/T (2)18975 Give prescription.

Note 2: Implementers include, but are not limited to, software engineers working for commercial software product development companies, and software engineers developing software products for use in industrial businesses.

Engineer.

Users of this document need to understand the conceptual data of ISO 15926 series, ISO/T S18876 series and ISO/IEC/IEEE15288 Model.

Industrial automation systems and integrated process plants (including stone Oil and gas production facilities) life cycle data integration Part 10: Conformity testing

1 Scope

This document defines the principles and methods for ISO 15926 software implementation compliance testing.

This document provides guidance for the development of test cases and test procedures covering the ISO 15926 series and its specified requirements for different industrial uses.

This document provides compliance guidance for various parts of ISO 15926.

within the range of items.

within the range of items.

2 Normative reference documents

This document has no normative references.

3 Terms and definitions

The following terms and definitions apply to this document.

Conformance testingconformancetesting Conformance testing the process of determining whether an implementation meets the requirements of a standard.

specifiedrequirement Expressed needs or expectations.

functionalapproach an ordered functional method used to demonstrate the need or requirement to meet specified requirements (3.2).

A conceptual model that characterizes a software implementation.

Based on the software implementation layer (3.4), a specific conceptual model that represents the exchange of information between computing systems.