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Data quality

Part 311: Guidance for the application of product data quality for shape (PDQ-S)

bsi.

National foreword

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Part 311: Guidance for the application of product data quality for shape (PDQ-S)

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Contents

page

1. Scope 1
2. Normative references 2
3. Terms, definitions and abbreviated terms 3
3.1 Terms and definitions 3
3.1.1 application 3
3.1.2 application protocol 3
3.1.3 application reference model 3
3.1.4 data exchange 3
3.1.5 product 3
3.1.6 product data 3
3.1.7 accuracy 4
3.1.8 inspection result 4
3.1.9 measurement requirement 4
3.1.10 product data quality 4
3.1.11 product shape data 4
3.1.12 quality criterion 4
3.1.13 threshold 5
3.1.14 inspection 5
3.1.15 quality 5
3.1.16 quality requirement 5
3.2 Abbreviated terms 5
4. Overview of PDQ-S 6
4.1 Purpose, approach and expected usage scenarios 6
4.2 Structure of ISO 10303-59 6
4.3 PDQ-S schema structure 7
4.4 Target shape model 8
4.5 Relationship between ISO 10303-59 and other International Standards dealing with nominal representation of product data 8
4.6 Major characteristics of PDQ-S 10
4.6.1 Quality criteria of three dimensional shape data 10
4.6.2 Enabler of better association between PDQ checking systems and healing systems 10
4.6.3 Standardization of the external specifications of quality checking algorithms 11
4.6.4 Optimization of data quality check environment by the user 11
4.6.5 Extensibility to non-shape product data quality problems 12
5. Considerations for facilitating the use of PDQ-S 13
5.1 General 13
5.2 Relationship between product data quality problems and quality criteria 13
5.2.1 Types of product data quality problem 13
5.2.2 B-rep is not appropriate (erroneous_data) 13
5.2.3 Accuracy of B-rep is not satisfactory 13
5.2.4 Shape manipulation process by CAX systems fails 15
5.3 Examples of selecting data quality criteria for practical engineering purposes 17
5.3.1 Overview of the example scenarios 17
5.3.2 A scenario of product data exchange during digital assembly 17
5.3.3 A scenario of product data exchange during collaborative product development by an

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assembly manufacturer and parts suppliers 18
5.3.4 A scenario of product data exchange during production equipment/die development aiming at machining dies 18
5.4 Recommended procedure for promoting PDQ activity 20
6. Ensuring conformance with PDQ-S 22
6.1 General 22
6.2 Underlying concepts of PDQ-S 22
6.2.1 Usage scenarios of PDQ-S 22
6.2.2 Relationship between a product data and its data quality information 23
6.3 Two methods of using PDQ-S 25
6.4 Modifying existing APs in order to make them PDQ-S conformant 26
6.4.1 General 26
6.4.2 Extension of an existing AP with PDQ-S modules 26
6.4.3 PDQ-S modules 26
6.4.4 Proposed procedure for creating a PDQ-S conformant AP 27
Annex A (normative) Information object registration 29
A.1 Document identification 29
Annex B (informative) Technical discussion 30
B.1 Background 30
B.2 Definition of product data quality 30
Annex C (informative) Comparison of ISO 10303-59 and ISO/PAS 26183 32
C.1 Similarity 32
C.2 Difference 32
C.1.1 Representation method 32
C.1.2 Target industry 32
C.1.3 Target data type 32
Annex D (informative) Instantiation examples 33
D.1 General 33
D.2 Graphical notation for instances 33
D.3 Instances for short_length_edge 34
D.4 Instances for gap_between_edge_and_base_surface 55
Bibliography 59
Index 61

Figures

Figure 1 — Structure of PDQ-S schemas 8
Figure 2 — Schema level diagram of relationships between PDQ-S schemas (inside the box) and other resource schemas 9
Figure 3 — Dragging a self-intersecting string into a line 16
Figure 4 — Relation between product data quality information in PDQ-S and product model data 24
Figure 5 — An approach to modifying existing APs in order to make them PDQ-S conformant 25
Figure 6 — Conceptual scheme of extension of AP using PDQ-S module 27
Figure B. 1 — Quality of product, product model and product data 31
Figure D.1 — Example usage of the notation 34
Figure D.2 — A typical example of short length edge 35
Figure D.3 — Example instances of quality information for use in requirement or declaration of short_length_edge without specified accuracy (1 of 3) 36
Figure D.4 — Example instances of quality information for use in requirement or declaration of short_length_edge without specified accuracy (2 of 3) 37

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Figure D.5 — Example instances of quality information for use in requirement or declaration of short_length_edge without specified accuracy (3 of 3) 38
Figure D.6 — Example instances of quality information for use in the improvement of quality of short_length_edge (1 of 8) 44
Figure D.7 — Example instances of quality information for use in the improvement of quality of short_length_edge (2 of 8) 45
Figure D.8 — Example instances of quality information for use in the improvement of quality of short_length_edge (3 of 8) 46
Figure D.9 — Example instances of quality information for use in the improvement of quality of short_length_edge (4 of 8) 47
Figure D.10 — Example instances of quality information for use in the improvement of quality of short_length_edge (5 of 8) 48
Figure D.11 — Example instances of quality information for use in the improvement of quality of short_length_edge (6 of 8) 49
Figure D.12 — Example instances of quality information for use in the improvement of quality of short_length_edge (7 of 8) 50
Figure D.13 — Example instances of quality information for use in the improvement of quality of short_length_edge (8 of 8) 51

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards in normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75% of the member bodies casting a vote.

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of normative documents:
— an ISO Publicly Available Specification(ISO/PAS) represents an agreement between technical experts in an ISO working group and is accepted for publication if it is approved by more than 50% of the members of the parent committee casing a vote;
— an ISO Technical Specification(ISO/TS) represents an agreement between the members of a technical committee and is accepted for publication if it is approved by 2/3 of the members of the committee casting a vote.
An ISO/PAS or ISO/TS is reviewed every three years with a view to deciding whether it can be transformed into an International Standard.

Attention is drawn to the possibility that some of the elements of this part of ISO 8000 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO/TS 8000-311 was prepared by Technical Committee ISO/TC184, *Automation systems and integration*, Subcommittee SC4, *Industrial data*.

ISO 8000 is organized as a series of parts, each published separately. The structure of ISO 8000 is described in ISO/TS 8000-1.

Each part of ISO 8000 is a member of one of the following series: general data quality, master data quality, transactional data quality and product data quality. This part of ISO 8000 is a member of the product data quality series.

A complete list of parts of ISO 8000 is available from the Internet:

<http://www.tc184-sc4.org/titles/DATA QUALITY Titles.htm.>

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Introduction

The ability to create, collect, store, maintain, transfer, process and present data to support business processes in a timely and cost effective manner requires both an understanding of the characteristics of the data that determine its quality, and an ability to measure, manage and report on data quality.

ISO 8000 defines characteristics that can be tested by any organization in the data supply chain to objectively determine conformance of the data to ISO 8000.

ISO 8000 provides a framework for improving data quality that can be used independently or in conjunction with quality management systems.

ISO 8000 covers industrial data quality characteristics throughout the product life cycle from conception to disposal. ISO 8000 addresses specific kinds of data including, but not limited to, master data, transaction data, and product data.

Assets can be grouped into real and intellectual property. Information is intellectual property. Data is a prerequisite to information. Thus, the quality of data is a key determiner of an organization's ability to preserve and transfer intellectual property.

A characteristic of data is its portability from one system to another. Syntax and semantics encoding determine whether data is portable in a reliable way. ISO 8000 specifies requirements for the declaration of syntax and semantic encoding. This allows the user to determine the limitations of data portability. By requesting data that conforms to ISO 8000, the user is able to manage data portability and protect its intellectual property assets.

Data quality is the degree to which data meets user requirements. ISO 8000 contains specifications for the declaration of the conformance to stated data requirements. This allows the user to request data that meets its requirements and to determine if the data received meets its requirements.

This part of ISO 8000 is a member of the product data quality series and aims at facilitating effective use of product data quality for shape (PDQ-S), as described in ISO 10303-59.

Since the publication of ISO 10303-59, the worldwide automotive industry has made use of PDQ-S in ISO/PAS 26183, whilst the joint automotive and aerospace project, ISO 10303-242, will make use of the PDQ modules, which are a modular version of PDQ-S.

NOTE The first edition of ISO 10303-59, published in 2008, provides general specifications for the representation of quality criteria, quality measurement requirements, quality assessment specifications and quality inspection results for product data. These specifications are provided so that PDQ-S can be extended to deal with the quality of non-shape product data in the future. Extensions to externally conditioned data quality and geometric dimensioning and tolerance (GD&T) data quality, which are currently under development in the revision of ISO 10303-59, are examples of such extension. By focusing on three dimensional shape data, PDQ-S also provides detailed specifications for the representation of shape data quality criteria, together with associated measurement requirements, shape data quality assessment specifications and detailed results of shape data quality inspections.

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PDQ-S is applicable to any International Standard dealing with product data. In order to further extend its usage, this part of ISO 8000 provides the necessary background knowledge to enable the effective use of PDQ-S in various circumstances.

Clause 4 provides a condensed description of PDQ-S.

Clause 5 facilitates the use of PDQ-S.

Clause 6 focuses on ensuring conformance with PDQ-S.

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TECHNICAL SPECIFICATION **ISO/TS 8000-311:2012(E)**

Data quality —
Part 311:
Guidance for the application of product data quality for shape (PDQ-S)

1. Scope

This part of ISO 8000 provides guidance for the application of product data quality for shape (PDQ-S), as described in ISO 10303-59.

The following are within the scope of this part of ISO 8000:

— purpose, approach and expected usage scenarios;

— the structure of PDQ-S;

— PDQ-S schema structure;

— target shape model;

— the relationship between ISO 10303-59 and other International Standards dealing with the nominal representation of product data;

— the major characteristics of PDQ-S;

— the relationship between product data quality problems and quality criteria in PDQ-S;

— some examples for selecting appropriate quality criteria;

— ensuring conformance with PDQ-S.

The following is outside the scope of this part of ISO 8000:

— guidance relating to the quality of product data other than shape data.

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