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

GB/T 16656.45-2013

Replacing GB/T 16656.45-2001

**Industrial automation systems and integration -- Product data
representation and exchange -- Part 45: Integrated generic
resources: Material and other engineering properties**

工业自动化系统与集成 产品数据表达与交换 第45部分：集成通用资源：材料和其他工程特性

(English Translation)

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Foreword

GB/T 16656 (ISO 10303) "Industrial automation systems and integration - Product data representation and exchange" is a multi-part Standard, each part published separately. GB/T 16656 and the relevant portions of the composition of a plurality of sub-series, namely.

--- First to the provisions of section 19 has been described methods;

Part --- 20 to 29 provides for implementation;

--- 30 ~ Part 39 specifies conformance testing methodology and framework;

Part --- 40 to 59 provides for integrated generic resources;

- Part 100 to 199 provides integrated application resources;
- Section 200 to section 299 specifies the application protocol;
- Section 300 to section 399 specifies the abstract test suite;
- The first 400 to 499 part specifies the application module;
- The first part provides 500 to 599 Application interpreted construct;
- 1000 to 1999 --- The first part defines the application modules.

GB/T 16656 "Industrial automation systems and integration - Product data representation and exchange" has been released and the upcoming release include the following section.

- Part 1. Overview and fundamental principles;
- Part 11. Description methods. EXPRESS language reference manual;
- Part 21. Implementation methods. Clear text encoding of the exchange file structure;
- Part 28. Implementation. XML data model and expression EXPRESS (using XML mode);
- Part 31. Conformance testing methodology and framework. General concepts;
- Part 32. Conformance testing methodology and framework. Requirements on testing laboratories and customer requirements;
- Part 34. Conformance testing methodology and framework. Abstract test methods for application protocol implementations;
- Part 41. Integrated generic resources. Product description and support;
- Part 42. Integrated generic resources. Geometric and topological representation;
- Part 43. Integrated generic resources. Representation structures;
- Part 44. Integrated generic resources. Product structure configuration;
- Part 45. Integrated generic resource. Materials engineering and other characteristics;
- Part 46. Integrated generic resources. visual display;
- Part 47. Integrated generic resources. Shape variation;
- Part 49. Integrated generic resources. Process structure and properties;
- Part 51. Integrated generic resource. Mathematical expression;
- Part 54. Integrated generic resource. Classification and set theory;
- Part 55. Integrated generic resources. Process and mixed expression;
- Part 56. Integrated generic resource. State;

- Part 101. Integrated application resource. Drawing;
- Part 105. Integrated application resource. Kinematics;
- Part 201. Application protocol. Explicit draughting;
- Part 202. Application protocol. Associative draughting;
- Part 203. Application protocol. Configuration controlled design;
- Part 238. Application protocol. computer numerical controller application interpreted model;
- Part 501. Application interpreted construct. Based on the frame side;
- Part 502. Application interpreted construct. Shell-based wireframe;
- Part 503. Application interpreted construct. Geometrically bounded 2D wireframe;
- Part 504. Application interpreted construct. Drawing annotation;
- Part 505. Application interpreted construct. pattern structure and management;
- Part 506. Application interpreted construct. Drawing elements;
- Part 507. Application interpreted construct. Geometrically bounded surface;
- Part 508. Application interpreted construct. Non-manifold surface;
- Part 509. Application interpreted construct. Manifold surface;
- Part 513. Application interpreted construct. Basic boundary representation;
- Part 520. Application interpreted construct. Associative draughting elements;
- Part 1001. Application module. Appearance assignment;
- Part 1002. Application module. color;
- Part 1003. Application module. Curve appearance;
- Part 1004. Application module. Basic geometry;
- Part 1005. Application module. Basic topology;
- Part 1006. Application module. basal expression;
- Part 1007. Application module. General surface appearance;
- 1008. Application module. Layer assignment;
- Part 1009. Application module. Shape appearance and layers.

This section is GB/T Part of 4,516,656.

This section drafted in accordance with GB/T 1.1-2009 given rules.