

Código :	ISO 10303-1:2021
Título Prim. :	Industrial automation systems and integration — Product data representation and exchange — Part 1: Overview and fundamental principles
Título Sec. :	Industrial automation systems and integration — Product data representation and exchange — Part 1: Overview and fundamental principles
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	3/16/2021
Objetivo :	<p>This document provides an overview of ISO 10303.</p> <p>ISO 10303 provides a representation of product information along with the necessary mechanisms and definitions to enable product data to be exchanged. The exchange is among different computer systems and environments associated with the complete product lifecycle, including product design, manufacture, use, maintenance, and final disposition of the product.</p> <p>This document defines the basic principles of product information representation and exchange used in ISO 10303. It specifies the characteristics of the various series of parts of ISO 10303 and the relationships among them.</p> <p>The following are within the scope of this document:</p> <ul style="list-style-type: none">— scope statement for ISO 10303 as a whole;— overview of ISO 10303;— architectures of ISO 10303;— structure of ISO 10303;— terms and definitions used throughout ISO 10303;— overview of data specification methods used in ISO 10303; <p>NOTE This includes the EXPRESS data specification language and graphical presentation of product information models.</p> <ul style="list-style-type: none">— introduction to the series of parts of ISO 10303;— integrated resources;— application interpreted constructs;— application modules;— business object models;— application protocols;— implementation methods;— usage guides;— conformance testing methodology and framework;— abstract test suites;— scheme for identification of schemas and other information objects defined within parts of ISO 10303.
Código :	ISO 10303-108:2005
Título Prim. :	Industrial automation systems and integration — Product data representation and exchange — Part 108: Integrated application resource: Parameterization and constraints for explicit geometric product models
Título Sec. :	Industrial automation systems and integration — Product data representation and exchange — Part 108: Integrated application resource: Parameterization and constraints for explicit geometric product models
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	1/24/2005

Objetivo :	<p>ISO 10303-108:2005 specifies the resource constructs for the representation of model parameters and constraints in CAD or other kinds of models, together with the mechanisms necessary for associating them with geometric or other elements of transferred models. The use of these capabilities potentially allows certain aspects of the behaviour of a model in its originating system to be conveyed together with the basic model itself. The intention in transferring this additional information is to provide the receiving system with data that will enable it to reconstruct corresponding behavioural characteristics in the model following the transfer. Ideally, this will enable the model to be edited in the receiving system just as as though it had been created there. That would not be possible without the exchange of what is known as <i>design intent</i> information. ISO 10303-108:2005 enables the capture and transfer of an important aspect of design intent.</p> <p>The following are within the scope of ISO 10303-108:2005:</p> <ul style="list-style-type: none">parameterization of models through the association of variables with quantities occurring in them, including dimensional values;constraints between="" defining="" li="" mathematical="" parameters;<="" relationships="" variable="">constraints as="" attributes="" between="" constituent="" descriptive="" elements="" elements;<="" expressed="" li="" models="" of="" on="" or="" relationships="" their="" those="">specialized (e.g.,="" between="" commonly="" constraints="" corresponding="" descriptive="" elements);<="" geometric="" in="" li="" modelling="" or="" parallelism="" product="" shape="" tangency="" the="" to="" used="">applications and="" constraints="" li="" models;<="" of="" parameterization="" shape="" three-dimensional="" to="" two-="">specialized for="" geometric="" li="" or="" profiles;<="" representations="" sketches="" two-dimensional="">representation are="" as="" be="" certain="" constrained.<="" defined="" fully="" in="" incompletely="" li="" may="" model="" models="" not="" of="" regarded="" sense="" that="" the="" values="">representation>specialized>applications>specialized>constraints>constraints> <p>The following are outside the scope of ISO 10303-108:2005:</p> <ul style="list-style-type: none">procedural or history-based model representations, expressed in terms of sequences of constructional operations;implicit constraints,="" constructional="" defined="" in="" inherent="" li="" of="" operation="" operations;<="" or="" procedurally="" the="">solution constraint="" equations;<="" for="" li="" methods="" of="" systems="">form features="" li="" models;<="" of="" shape="">behaviour a="" edited="" following="" in="" is="" li="" model="" of="" system="" transfer;<="" variational="" which="">considerations accuracy="" constraint="" in="" li="" of="" satisfaction.<="">considerations>behaviour>form>solution>implicit> <p>The following notes apply to the excluded capabilities.</p> <ol style="list-style-type: none">Procedural or history-based representations are the subject of ISO 10303-55.Methods of solving constraint equations are the responsibility of the application systems involved in the exchange. <p>ISO 10303-108:2005 merely transfers the constraint relationships that need to be solved.</p> <p>Various other parts of ISO 10303 provide representations for different application-oriented views of form features.</p> <p>The information transmitted by the use of ISO 10303-108:2005 is intended to allow implementers to provide 'reasonable' or 'intuitive' behaviour by receiving systems following the transfer of a model in the circumstances mentioned above, but ISO 10303-108:2005 does not prescribe the detailed nature of such behaviour or of its presentation to the system user.</p> <p>Accuracy considerations are essentially the same in the ISO 10303-108:2005 context as those arising generally in the geometric modelling of product shape. Means are provided elsewhere in ISO 10303 for addressing accuracy issues.</p>
Código :	ISO 10303-108:2005/Cor 1:2008
Título Prim. :	Industrial automation systems and integration — Product data representation and exchange — Part 108: Integrated application resource: Parameterization and constraints for explicit geometric product models — Technical Corrigendum 1
Título Sec. :	Industrial automation systems and integration — Product data representation and exchange — Part 108: Integrated application resource: Parameterization and constraints for explicit geometric product models — Technical Corrigendum 1
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	12/8/2008
Objetivo :	
Código :	ISO 10303-108:2005/Cor 2:2014
Título Prim. :	Industrial automation systems and integration — Product data representation and exchange — Part 108: Integrated application resource: Parameterization and constraints for explicit geometric product models — Technical Corrigendum 2
Título Sec. :	Industrial automation systems and integration — Product data representation and exchange — Part 108: Integrated application resource: Parameterization and constraints for explicit geometric product models — Technical Corrigendum 2
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	12/2/2014
Objetivo :	
Código :	ISO 10303-11:2004
Título Prim. :	Industrial automation systems and integration — Product data representation and exchange — Part 11: Description methods: The EXPRESS language reference manual
Título Sec. :	Industrial automation systems and integration — Product data representation and exchange — Part 11: Description methods: The EXPRESS language reference manual
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	11/10/2004

Objetivo :	ISO 10303 specifies a language by which aspects of product data can be defined. The language is called EXPRESS. ISO 10303-11:2004 also specifies a graphical representation for a subset of the constructs in the EXPRESS language. This graphical representation is called EXPRESS-G. EXPRESS is a data specification language as defined in ISO 10303-1. It consists of language elements that allow an unambiguous data definition and specification of constraints on the data defined. The following are within the scope of ISO 10303-11:2004: data types;constraints on instances of the data types. The following are outside the scope of this part of ISO 10303: definition of database formats;definition of file formats;definition of transfer formats;process control;information processing;exception handling. EXPRESS is not a programming language.
Código :	ISO 10303-14:2005
Título Prim. :	Industrial automation systems and integration — Product data representation and exchange — Part 14:
Título Sec. :	Description methods: The EXPRESS-X language reference manual
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	10/12/2005
Objetivo :	ISO 10303-14:2005 specifies a language for specifying relationships between data that are governed by EXPRESS schemas, and for specifying alternate views of data that are governed by EXPRESS schemas. The language is called EXPRESS-X. EXPRESS-X is a structural data mapping language. It consists of language elements that allow an unambiguous specification of a relationship between EXPRESS schemas. The following are within the scope of ISO 10303-14:2005: - mapping of data governed by one EXPRESS schema to data governed by another EXPRESS schema; - mapping of data governed by one version of an EXPRESS schema to data governed by another version of that EXPRESS schema, where the two schemas have different names; - specification of requirements for data translators for data sharing and data exchange applications; - specification of alternate views of data defined by an EXPRESS schema; - an alternate notation for application protocol mapping tables; - bidirectional mappings where mathematically possible; - specification of constraints that may be evaluated against data produced by mapping.
Código :	ISO 10303-21:2016
Título Prim. :	Industrial automation systems and integration — Product data representation and exchange — Part 21:
Título Sec. :	Implementation methods: Clear text encoding of the exchange structure
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	2/18/2016
Objetivo :	ISO 10303-21:2016 specifies an exchange format that allows product data described in the EXPRESS language to be transferred from one computer system to another. ISO 10303-21:2016 adds anchor, reference and signature sections to support external references, support for compressed exchange structures in an archive, digital signatures and UTF-8 character encoding.
Código :	ISO 10303-22:1998
Título Prim. :	Industrial automation systems and integration — Product data representation and exchange — Part 22:
Título Sec. :	Implementation methods: Standard data access interface
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	12/17/1998
Objetivo :	
Código :	ISO 10303-224:2006
Título Prim. :	Industrial automation systems and integration — Product data representation and exchange — Part 224:
Título Sec. :	Application protocol: Mechanical product definition for process planning using machining features
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	9/12/2006
Objetivo :	ISO 10303-224:2006 documents the application protocol for the representation and exchange of information for manufacturing single piece mechanical parts. ISO 10303-224:2006 includes explicit and implicit shape representation of machining features. It addresses manufacturing part properties, process control documentation, manufacturing specifications, administration data, and requisitions.
Código :	ISO 10303-23:2000
Título Prim. :	Industrial automation systems and integration — Product data representation and exchange — Part 23:
Título Sec. :	Implementation methods: C++ language binding to the standard data access interface
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration

Data de Publ. :	12/21/2000
Objetivo :	<p>This part of ISO 10303 specifies the implementation of the functional interface specified in the standard data access interface (SDAI), ISO 10303-22, in the C++ programming language.</p> <p>The following are within the scope of this part of ISO 10303:</p> <ul style="list-style-type: none"> — access to and manipulation of data types and entities which are specified in ISO 10303-22; — convenience functions suitable to this language binding; — binding of functions to operations and attributes specified in ISO 10303-22 with the linking of application schema definition at either compile-time or run-time; — implementation mechanisms for the handling of errors as specified in ISO 10303-22; — implementation mechanisms for the validation of constraints as specified in ISO 10303-22. <p>The following is outside the scope of this part of ISO 10303:</p> <ul style="list-style-type: none"> — all items listed as out of scope in ISO 10303-22.
Código :	ISO 10303-238:2020
Título Prim. :	Industrial automation systems and integration — Product data representation and exchange — Part 238:
Título Sec. :	Application protocol: Model based integrated manufacturing
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	11/26/2020
Objetivo :	<div id="MathJax_Message" style="display: none;"></div> <p>This document specifies an application interpreted model (AIM) based on the application reference model for machining defined by ISO 14649-10, ISO 14649-11, ISO 14649-12, ISO 14649-111 and ISO 14649-121, augmented with ISO 10303 product geometry, geometric dimensioning and tolerancing and product data management information.</p>
Código :	ISO 10303-24:2001
Título Prim. :	Industrial automation systems and integration — Product data representation and exchange — Part 24:
Título Sec. :	Implementation methods: C language binding of standard data access interface
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	12/20/2001
Objetivo :	<p>This part of ISO 10303 specifies a C programming language late binding of the capability specified in ISO 10303-22 - Standard data access interface (SDAI). This binding is a late binding and as such, none of the constants, data types, and functions depend on the application schema being accessed.</p> <p>The following are within the scope of this part of ISO 10303:</p> <ul style="list-style-type: none"> — access to and manipulation of data types and entities which are specified in ISO 10303-22; — convenience functions suitable to this language binding; — late binding requirements specified in ISO 10303-22. <p>The following are outside the scope of this part of ISO 10303:</p> <ul style="list-style-type: none"> — memory arrangement of data structures used by implementations of this part of ISO 10303; — early binding requirements as specified in ISO 10303-22; — all items listed as out of scope in ISO 10303-22.
Código :	ISO 10303-240:2005
Título Prim. :	Industrial automation systems and integration — Product data representation and exchange — Part 240:
Título Sec. :	Application protocol: Process plans for machined products
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	12/9/2005
Objetivo :	<p>ISO 10303-240:2005 specifies the use of the integrated resources necessary for the scope and information requirements for the exchange, sharing and long term data retention of computer-interpretable process plan information for both numerical control (NC) and manually operated applications and associated product definition data.</p> <p>The following are within the scope of ISO 10303-240:2005:</p> <ul style="list-style-type: none"> — information out of the planning activity that is contained in the process plans for machined parts which includes: <ul style="list-style-type: none"> — numerical controlled machines; — manual operations. — the manufacture of a single piece mechanical part, and assemblies of single piece parts for manufacturing purpose which includes: <ul style="list-style-type: none"> — process data for part routing which includes manufacturing process and setup sequencing; — process data for operation. — interface for capturing technical data out of the upstream application protocols which includes: <ul style="list-style-type: none"> — product definition data, including tracking a design exception notice of a part; — initial material definition data. — technical data for and/or out of the process planning for machined parts which includes: <ul style="list-style-type: none"> — machining features for defining shapes necessary for manufacturing; — machining feature classification structure; — geometric and dimensional tolerances of the parts being manufactured; — materials, and properties of the parts being manufactured. — references to standards and specifications declared in the process plan; — work instructions for the tasks required to manufacture a part, using which include: <ul style="list-style-type: none"> — references to the resources required to perform the work; — the sequences of the work instructions; — relationships of the work to the part geometry. — information required to support NC programming of processes specified in the process plan; — shop floor information specified in the process plan; — information for production planning specified in the process plan;

Código : ISO 10303-242:2020
Título Prim. : Industrial automation systems and integration — Product data representation and exchange — Part 242:
Application protocol: Managed model-based 3D engineering
Título Sec. : Industrial automation systems and integration — Product data representation and exchange — Part 242:
Application protocol: Managed model-based 3D engineering
Comité Técnico : ISO/TC 184 Industrial automation systems and integration
Data de Publ. : 4/27/2020
Objetivo :

This document specifies the application module for
AP242 managed model based 3D engineering.

The following are within the scope of
this document:

products of automotive, aerospace and other mechanical manufacturers and of their suppliers,
including parts, assemblies of parts, tools, assemblies of tools, and raw materials;

engineering and product data for the purpose of long-term archiving and retrieval;
product data management

breakdown data representing a parent-child structures, such as functional, physical, system or
zonal breakdowns. A breakdown
is made of breakdown element;
product definition data and configuration control data for managing large numbers of variants of
products during the design
phase;
data describing the changes that have occurred during the design phase, including tracking of the
versions of a product and
of the data related to the documentation of the change process;
delta change: data describing the exchange of differences with respect to a set of data previously
sent;identification of standard parts, based on international, national, or industrial
standards;release and approval data for product data;data that identify the supplier of a product
and related contract information;properties of parts or of tools;references to product documentation
represented in a format other than those specified by ISO 10303;product manufacturing information,
covering the design and manufacturing planning phase;identification of physically realized parts or of tools,
including assembly of physically realized products and recording
of test results.

process planning

process plan information describing the relationships between parts and the tools used to
manufacture them
and to manage the relationships between intermediate stages of part or tool development.

mechanical design

different types of geometry models, including:

2D- and 3D-wireframe geometry model;geometrically bounded surface geometry
model;topologically bounded surface geometry model;faceted-boundary geometry
model;boundary geometry model;compound shape geometry model;constructive solid
geometry model;parametric and constrained geometry model;2D-sketch model;3D
tessellated geometry model;3D scan data;curved triangles.

representation of the shape of parts or tools that is a combination of two or more of different types
of geometry models;data that pertains to the presentation of the shape of the
product;representation of portions of the shape of a part or a tool by manufacturing features;data
defining surface conditions;dimensional and geometrical tolerance data;quality criteria and
inspection results of given three dimensional product shape data;product documentation as annotated 3D
models and as drawings.

message

data that identify a message and an envelope.

interface

data representing the interfaces with version management mechanism and the defi

Código : ISO 10303-28:2007

Título Prim. : Industrial automation systems and integration — Product data representation and exchange — Part 28: Implementation methods: XML representations of EXPRESS schemas and data, using XML schemas

Título Sec. : Industrial automation systems and integration — Product data representation and exchange — Part 28: Implementation methods: XML representations of EXPRESS schemas and data, using XML schemas

Comité Técnico : ISO/TC 184 Industrial automation systems and integration

Data de Publ. : 10/1/2007

Objetivo : ISO 10303-28:2007 specifies the way in which an XML representation described by an XML schema can be used in the exchange of data that is described by an EXPRESS schema.

Código : ISO 10303-31:1994

Título Prim. : Industrial automation systems and integration — Product data representation and exchange — Part 31: Conformance testing methodology and framework: General concepts

Título Sec. : Industrial automation systems and integration — Product data representation and exchange — Part 31: Conformance testing methodology and framework: General concepts

Comité Técnico : ISO/TC 184 Industrial automation systems and integration

Data de Publ. : 12/22/1994

Objetivo : This series of parts applies to the phases of the conformance testing process, these phases being characterised by the following major activities: the definition of abstract test suites for ISO 10303 application protocols, the definition of abstract test methods for ISO 10303 implementation methods, the conformance assessment process carried out by a testing laboratory for a client, culminating in the production of a conformance test report. This part is applicable to all of the above activities, providing introductory material, normative requirements on each part of the series, and definitions of common terms and concepts.

Código : ISO 10303-32:1998

Título Prim. : Industrial automation systems and integration — Product data representation and exchange — Part 32: Conformance testing methodology and framework: Requirements on testing laboratories and clients

Título Sec. : Industrial automation systems and integration — Product data representation and exchange — Part 32: Conformance testing methodology and framework: Requirements on testing laboratories and clients

Comité Técnico : ISO/TC 184 Industrial automation systems and integration

Data de Publ. : 9/3/1998

Objetivo : This part of ISO 10303 specifies the techniques for conformance testing and the means to facilitate the use of those techniques by the testing laboratory and the client. This part of ISO 10303 specifies the roles of both the testing laboratory and the client during the conformance assessment process, the need to reach mutual agreements between them, and the requirements on each of them.

Código : ISO 10303-34:2001

Título Prim. : Industrial automation systems and integration — Product data representation and exchange — Part 34: Conformance testing methodology and framework: Abstract test methods for application protocol implementations

Título Sec. : Industrial automation systems and integration — Product data representation and exchange — Part 34: Conformance testing methodology and framework: Abstract test methods for application protocol implementations

Comité Técnico : ISO/TC 184 Industrial automation systems and integration

Data de Publ. : 2/8/2001

Objetivo :	<p>This part of ISO 10303 specifies the abstract test methods for conformance testing of an implementation of an ISO 10303 Application Protocol (AP). The scope is limited to the following implementation methods:</p> <ul style="list-style-type: none">— preprocessors that claim to generate 10303 schema instances represented as exchange structures as defined by ISO 10303-21;— postprocessors that claim to accept and process 10303 schema instances represented as exchange structures as defined by ISO 10303-21;— preprocessors that claim to generate 10303 schema instances and use the SDAI interface as defined in ISO 10303-22 to populate an SDAI implementation with these schema instances;— postprocessors that claim to accept 10303 schema instances and use the SDAI interface as defined in ISO 10303-22 to extract schema instances from an SDAI implementation. <p>The following are within the scope of this part of ISO 10303:</p> <ul style="list-style-type: none">— the conformance assessment process undertaken to evaluate the conformity of an implementation of an ISO 10303 application protocol. The abstract test methods are independently applicable to implementation methods based on ISO 10303-21 and ISO 10303-22;— the methods to be followed by the testing laboratory using executable test cases (ETC). The methods presented are abstract, that is, they are independent of the implementation under test (IUT). The method descriptions cover the different steps from abstract test case (ATC) selection to test case report production. <p>The following is outside the scope of this part of ISO 10303:</p> <ul style="list-style-type: none">— the generation of executable test cases from abstract test cases. This part of ISO 10303 does not include abstract test methods for conformance testing of application protocol independent implementations of the Standard Data Access Interface (SDAI) -- ISO 10303-22.
Código :	ISO 10303-41:2019
Título Prim. :	Industrial automation systems and integration — Product data representation and exchange — Part 41: Integrated generic resource: Fundamentals of product description and support
Título Sec. :	Industrial automation systems and integration — Product data representation and exchange — Part 41: Integrated generic resource: Fundamentals of product description and support
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	11/15/2019
Objetivo :	<p>ISO 10303-41:2019 specifies the integrated resource constructs for Fundamentals of product description and support.</p> <p>This part of ISO 10303 specifies the generic product description resources, the generic management resources, and the support resources.</p>
Código :	ISO 10303-43:2018
Título Prim. :	Industrial automation systems and integration — Product data representation and exchange — Part 43: Integrated generic resource: Representation structures
Título Sec. :	Industrial automation systems and integration — Product data representation and exchange — Part 43: Integrated generic resource: Representation structures
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	12/18/2018
Objetivo :	<p>ISO 10303-43:2018-11 specifies the integrated resource constructs for Representation structures.</p> <p>ISO 10303-43 specifies the resource constructs that group elements of product data into collections in order to describe aspects of products.</p>
Código :	ISO 10303-49:1998
Título Prim. :	Industrial automation systems and integration — Product data representation and exchange — Part 49: Integrated generic resources: Process structure and properties
Título Sec. :	Industrial automation systems and integration — Product data representation and exchange — Part 49: Integrated generic resources: Process structure and properties
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	6/18/1998

Objetivo :	<p>This part of ISO 10303 specifies the resource constructs to specify the actions or potential actions to effect a process. The integrated resource constructs within this part of ISO 10303 define the structure for specifying: relationships between processes, the effectivity of a process, the properties of a process, the resources required for the process, the properties of the resource, the representation of the process, the representation of the resource, and the relationship of the process to the product. When these integrated resource constructs are utilized in the context of an application resource or an application protocol, the integrated resource constructs can be assembled into a structure to represent a process plan.</p> <p>The following are within the scope of this part of ISO 10303:</p> <ul style="list-style-type: none">- specification of a process;- specification of the relationships between processes;- specification of the effectivity of a process;- specification of the relationship between a process and a product;- specification of the steps for a process plan to realize a product; <p>NOTES 1 - This part of ISO 10303 does not make any distinction between a process plan that has been executed and one that has not been executed.</p> <p>2 - This part of ISO 10303 does not address administrative information within a process plan. Administrative information may include organization, date, or person responsible for developing a process plan.</p> <ul style="list-style-type: none">- specification of alternative process plan definitions;- specification of the method for realizing a process plan;- specification of a resource;- process requirements of the resource;- identification of resources used by a process;- specification of the properties of a resource. <p>The following are outside the scope of this part of ISO 10303:</p> <ul style="list-style-type: none">- definition of specific processes or specific process plans; <p>NOTE 3 - This part of ISO 10303 does not address any specific industrial process.</p> <ul style="list-style-type: none">- process specifications for continuous processes; <p>NOTE 4 - This part of ISO 10303 has the capability to represent some aspects of continuous processes. This part of ISO 10303 does not have the capability to represent continuous processes that require interrupts, alarms, and other messaging service requirements.</p> <ul style="list-style-type: none">- scheduling;- process planning; <p>NOTE 5 - Process planning is the action of developing a process plan. The action of creating a process plan is outside the scope of this part of ISO 10303. This part of ISO 10303 provides a representation for the output of process planning.</p> <ul style="list-style-type: none">- peer-to-peer communication mechanisms, including synchronization;- process control. <p>NOTE 6 - Capabilities for process control and peer-to-peer communication are defined by other ISO standards such as ISO/IEC 9506 (Industrial Automation Systems - Manufacturing Message Specification). These other ISO/IEC standards are concerned with the communication and interworking of programmable devices of industrial process control systems utilized in the process industries. An application resource or an application protocol may specify a relationship between this part of ISO 10303 and ISO/IEC 9506.</p>
Código :	ISO 11130:2017
Título Prim. :	Corrosion of metals and alloys — Alternate immersion test in salt solution
Título Sec. :	Corrosion of metals and alloys — Alternate immersion test in salt solution
Comité Técnico :	ISO/TC 156 Corrosion of metals and alloys
Data de Publ. :	12/12/2017
Objetivo :	<p>ISO 11130:2017 specifies a method for assessing the corrosion resistance of metals by an alternate immersion test in salt solution, with or without applied stress.</p> <p>The test is particularly suitable for quality control during the manufacture of metals including aluminium alloys and ferrous materials, and also for assessment purposes during alloy development.</p> <p>Depending upon the chemical composition of the test solution, the test can be used to simulate the corrosive effects of marine splash zones, de-icing fluids and acid salt environments.</p> <p>The term "metal" as used in this document includes metallic materials with or without corrosion protection.</p> <p>ISO 11130:2017 is applicable to</p> <ul style="list-style-type: none">- metals and their alloys,- certain metallic coatings (anodic and cathodic with respect to the substrate),- certain conversion coatings,- certain anodic oxide coating, and- organic coatings on metals.
Código :	ISO 1352:2021
Título Prim. :	Metallic materials — Torque-controlled fatigue testing
Título Sec. :	Metallic materials — Torque-controlled fatigue testing
Comité Técnico :	ISO/TC 164 Mechanical testing of metals
Data de Publ. :	12/21/2021

- Objetivo :** This document specifies the conditions for performing torsional, constant-amplitude, nominally elastic stress fatigue tests on metallic specimens without deliberately introducing stress concentrations. The tests are typically carried out at ambient temperature or an elevated temperature in air by applying a pure couple to the specimen about its longitudinal axis.
- While the form, preparation and testing of specimens of circular cross-section and tubular cross-section are described in this document, component and other specialized types of testing are not included. Similarly, low-cycle torsional fatigue tests carried out under constant-amplitude angular displacement control, which lead to failure in a few thousand cycles, are also excluded.
- Código :** ISO 14125:1998
- Título Prim. :** Fibre-reinforced plastic composites — Determination of flexural properties
- Título Sec. :** Fibre-reinforced plastic composites — Determination of flexural properties
- Comité Técnico :** ISO/TC 61 Plastics
- Data de Publ. :** 4/2/1998
- Objetivo :**
- Código :** ISO 14125:1998/Amd 1:2011
- Título Prim. :** Fibre-reinforced plastic composites — Determination of flexural properties — Amendment 1
- Título Sec. :** Fibre-reinforced plastic composites — Determination of flexural properties — Amendment 1
- Comité Técnico :** ISO/TC 61 Plastics
- Data de Publ. :** 1/25/2011
- Objetivo :**
- Código :** ISO 14649-1:2003
- Título Prim. :** Industrial automation systems and integration — Physical device control — Data model for computerized numerical controllers — Part 1: Overview and fundamental principles
- Título Sec. :** Industrial automation systems and integration — Physical device control — Data model for computerized numerical controllers — Part 1: Overview and fundamental principles
- Comité Técnico :** ISO/TC 184 Industrial automation systems and integration
- Data de Publ. :** 3/3/2003
- Objetivo :** ISO 14649-1:2003 provides an introduction and overview of a data model for Computerized Numerical Controllers and explains its advantages and basic principle, based on the concepts of Product Data.
- Código :** ISO 14649-10:2004
- Título Prim. :** Industrial automation systems and integration — Physical device control — Data model for computerized numerical controllers — Part 10: General process data
- Título Sec. :** Industrial automation systems and integration — Physical device control — Data model for computerized numerical controllers — Part 10: General process data
- Comité Técnico :** ISO/TC 184 Industrial automation systems and integration
- Data de Publ. :** 12/6/2004
- Objetivo :** ISO 14649-10:2004 specifies the process data which is generally needed for NC-machining and therefore common to several machining technologies. These data elements describe the interface between the programming system (i.e. CAM system or shop-floor programming system) and a computerized numerical controller. The programme for the numerical controller includes geometric and technological information. It can be described using ISO 14649-10:2004 together with the technology-specific parts (ISO 14649-11, ISO 14649-12, etc.). ISO 14649-10:2004 provides the control structures for the sequence of programme execution, mainly the sequence of working steps and associated machine functions.
- The "machining_schema" defined in ISO 14649-10:2004 contains the definition of data types which are generally relevant for different technologies (e.g. milling, turning, grinding). It includes:
- the general executables, including workplan, workingsteps and NC-functions;
 - the definition of the workpiece;
 - a feature catalogue containing features which might be referenced by several technologies;
 - the basis for an operation definition.
- Not included in this schema are the following:
- geometric items;
 - representations, which are referenced from ISO 10303's generic resources;
 - the technology-specific definitions, which are defined in separate parts of ISO 14649.
- ISO 14649-10:2004 cannot stand alone. An implementation needs in addition at least one technology-specific part (e.g. ISO 14649-11 for milling, ISO 14649-12 for turning).
- Additionally, the schema uses machining features similar to ISO 10303-224 and ISO 10303-214. The description of process data is done using the EXPRESS language as defined in ISO 10303-11. The encoding of the data is done using ISO 10303-211.
- Código :** ISO 14649-11:2004
- Título Prim. :** Industrial automation systems and integration — Physical device control — Data model for computerized numerical controllers — Part 11: Process data for milling
- Título Sec. :** Industrial automation systems and integration — Physical device control — Data model for computerized numerical controllers — Part 11: Process data for milling
- Comité Técnico :** ISO/TC 184 Industrial automation systems and integration
- Data de Publ. :** 12/6/2004

Objetivo :	<p>ISO 14649-11:2004 specifies the technology-specific data elements needed as process data for milling. Together with the general process data described in ISO 14649-10, it describes the interface between a computerized numerical controller and the programming system (i.e. CAM system or shop floor programming system) for milling. It can be used for milling operations on all types of machines, be it milling machines, machining centres, or lathes with motorized tools capable of milling. The scope of ISO 14649-11:2004 does not include any other technologies, like turning, grinding, or EDM. These technologies will be described in further parts of ISO 14649.</p> <p>The subject of the milling_schema, which is described in ISO 14649-11:2004, is the definition of technology-specific data types representing the machining process for milling and drilling. This includes both milling of freeform surfaces and milling of prismatic workpieces (also known as 2 1/2-D milling).</p> <p>Not included in this schema are the following:</p> <ul style="list-style-type: none"> geometric items; representations; manufacturing features; executable objects; base classes which are common for all technologies. <p>They are referenced from ISO 10303's generic resources and ISO 14649-10. The description of process data is done using the EXPRESS language as defined in ISO 10303-11. The encoding of the data is done using ISO 10303-21.</p>
Código :	ISO 14649-111:2010
Título Prim. :	Industrial automation systems and integration — Physical device control — Data model for computerized numerical controllers — Part 111: Tools for milling machines
Título Sec. :	Industrial automation systems and integration — Physical device control — Data model for computerized numerical controllers — Part 111: Tools for milling machines
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	9/6/2010
Objetivo :	<p>ISO 14649-111:2010 specifies the data elements describing cutting tool data for milling machine tools and machining centres, which work together with the process data for milling machine tools and machining centres specified in ISO 14649-11. They can be used as criteria for selecting one of several operations; they do not describe complete information on a particular tool. Therefore, leaving out optional attributes gives the controller more freedom to select from a larger set of tools.</p> <p>ISO 14649-111:2010 also specifies the information to be provided in the tool set-up sheet: tool identifier; tool type; tool geometry; application-dependent expected tool life.</p> <p>The following data types are outside its scope: normative tool life; tool location in the tool changer; adaptive items also know as tool holders or tool clamping devices; tools for other technologies, such as turning, grinding and electrical discharge machining (EDM).</p> <p>ISO 14649-111:2010 uses the EXPRESS language as specified in ISO 10303-11.</p>
Código :	ISO 14649-12:2005
Título Prim. :	Industrial automation systems and integration — Physical device control — Data model for computerized numerical controllers — Part 12: Process data for turning
Título Sec. :	Industrial automation systems and integration — Physical device control — Data model for computerized numerical controllers — Part 12: Process data for turning
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	12/7/2005
Objetivo :	<p>ISO 14649-12:2005 specifies the technology-specific data elements needed as process data for turning. Together with the general process data described in ISO 14649-10, it describes the interface between a computerized numerical controller and the programming system (i.e. CAM system or shop floor programming system) for turning. The subject of the turning schema, which is described in ISO 14649-12:2005, is the definition of technology-specific data types representing machining features and processes for turning operations on lathes.</p>
Código :	ISO 14649-121:2005
Título Prim. :	Industrial automation systems and integration — Physical device control — Data model for computerized numerical controllers — Part 121: Tools for turning machines
Título Sec. :	Industrial automation systems and integration — Physical device control — Data model for computerized numerical controllers — Part 121: Tools for turning machines
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	9/6/2005
Objetivo :	<p>ISO 14649-121:2005 specifies the data elements describing cutting tool data for turning machine tools and machining centres. They work together with ISO 14649-12, the process data for turning machine tools and machining centres. These data elements can be used as criteria for selecting one of several operations. They do not describe complete information of a particular tool, thus, leaving out optional attributes gives the controller more freedom to select from a larger set of tools.</p>
Código :	ISO 14649-13:2013
Título Prim. :	Automation systems and integration — Physical device control — Data model for computerized numerical controllers — Part 13: Process data for wire electrical discharge machining (wire-EDM)
Título Sec. :	Automation systems and integration — Physical device control — Data model for computerized numerical controllers — Part 13: Process data for wire electrical discharge machining (wire-EDM)
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	2/21/2013
Objetivo :	<p>ISO 14649-13:2013 specifies the technology-specific data element needed as process data for wire-EDM. Together with the general process data described in ISO 14649-10, it describes the interface between computerized numerical controller and the programming system (i.e. CAM system or shop-floor programming system) for wire-EDM. It can be used for wire-EDM operations on this kind of machine.</p> <p>The scope of ISO 14649-13:2013 does not include tools for any other technologies (e.g. turning, grinding). Tools for these technologies are described in other parts of ISO 14649.</p>

Código :	ISO 14649-14:2013
Título Prim. :	Automation systems and integration — Physical device control — Data model for computerized numerical controllers — Part 14: Process data for sink electrical discharge machining (sink-EDM)
Título Sec. :	Automation systems and integration — Physical device control — Data model for computerized numerical controllers — Part 14: Process data for sink electrical discharge machining (sink-EDM)
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	2/21/2013
Objetivo :	ISO 14649-14:2013 specifies the technology-specific data element needed as process data for sink-EDM. Together with the general process data described in ISO 14649-10, it describes the interface between computerized numerical controller and the programming system (i.e. CAM system or shop-floor programming system) for sink-EDM. It can be used for sink-EDM operations on this kind of machine. The scope of ISO 14649-14:2013 does not include tools for any other technologies (e.g. turning, grinding). Tools for these technologies are described in other parts of ISO 14649.
Código :	ISO 14649-17:2020
Título Prim. :	Industrial automation systems and integration — Physical device control — Data model for computerized numerical controllers — Part 17: Process data for additive manufacturing
Título Sec. :	Industrial automation systems and integration — Physical device control — Data model for computerized numerical controllers — Part 17: Process data for additive manufacturing
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	3/19/2020
Objetivo :	This document specifies the process data for additive manufacturing. This document describes additive manufacturing at the micro process plan level without making a commitment to particular machines, processes or technologies.
Código :	ISO 15158:2014
Título Prim. :	Corrosion of metals and alloys — Method of measuring the pitting potential for stainless steels by potentiodynamic control in sodium chloride solution
Título Sec. :	Corrosion of metals and alloys — Method of measuring the pitting potential for stainless steels by potentiodynamic control in sodium chloride solution
Comité Técnico :	ISO/TC 156 Corrosion of metals and alloys
Data de Publ. :	2/10/2014
Objetivo :	ISO 15158:2014 describes the procedure for determining the pitting potential for stainless steels (austenitic, ferritic/austenitic, ferritic, martensitic stainless steel) under potentiodynamic control. The principal advantage compared with other potentiostatic test methods is the rapidity of this test method, with which the pitting potential can be measured in a single potential scan. The pitting potential as determined by ISO 15158:2014 can be used as a relative index of performance. For example, one can compare the relative performances for different lots of stainless-steel grades and products. The test described in ISO 15158:2014 is not intended to determine the pitting potential at which actual pitting can occur under real service conditions, or not.
Código :	ISO 17474:2012
Título Prim. :	Corrosion of metals and alloys — Conventions applicable to electrochemical measurements in corrosion testing
Título Sec. :	Corrosion of metals and alloys — Conventions applicable to electrochemical measurements in corrosion testing
Comité Técnico :	ISO/TC 156 Corrosion of metals and alloys
Data de Publ. :	1/27/2012
Objetivo :	ISO 17474:2012 is intended to provide conventions for reporting and displaying electrochemical corrosion data. Conventions for potential, current density and electrochemical impedance, as well as conventions for graphical presentation of such data, are included.
Código :	ISO 178:2019
Título Prim. :	Plastics — Determination of flexural properties
Título Sec. :	Plastics — Determination of flexural properties
Comité Técnico :	ISO/TC 61 Plastics
Data de Publ. :	4/1/2019

Objetivo :	<p>This document specifies a method for determining the flexural properties of rigid and semi-rigid plastics under defined conditions. A preferred test specimen is defined, but parameters are included for alternative specimen sizes for use where appropriate. A range of test speeds is included.</p> <p>The method is used to investigate the flexural behaviour of the test specimens and to determine the flexural strength, flexural modulus and other aspects of the flexural stress/strain relationship under the conditions defined. It applies to a freely supported beam, loaded at midspan (three-point loading test).</p> <p>The method is suitable for use with the following range of materials:</p> <ul style="list-style-type: none">— thermoplastic moulding, extrusion and casting materials, including filled and reinforced compounds in addition to unfilled types; rigid thermoplastics sheets;— thermosetting moulding materials, including filled and reinforced compounds; thermosetting sheets. <p>In agreement with ISO 10350-1[5] and ISO 10350-2[6], this document applies to fibre-reinforced compounds with fibre lengths $\leq 7,5$ mm prior to processing. For long-fibre-reinforced materials (laminates) with fibre lengths $> 7,5$ mm, see ISO 14125[7].</p> <p>The method is not normally suitable for use with rigid cellular materials or sandwich structures containing cellular material. In such cases, ISO 1209-1[3] and/or ISO 1209-2[4] can be used.</p> <p>NOTE 1 For certain types of textile-fibre-reinforced plastic, a four-point bending test is used. This is described in ISO 14125.</p> <p>The method is performed using specimens which can be either moulded to the specified dimensions, machined from the central section of a standard multipurpose test specimen (see ISO 20753) or machined from finished or semi-finished products, such as mouldings, laminates, or extruded or cast sheet.</p> <p>The method specifies the preferred dimensions for the test specimen. Tests which are carried out on specimens of different dimensions, or on specimens which are prepared under different conditions, can produce results which are not comparable. Other factors, such as the test speed and the conditioning of the specimens, can also influence the results.</p> <p>NOTE 2 Especially for injection moulded semi-crystalline polymers, the thickness of the oriented skin layer, which is dependent on the moulding conditions, also affects the flexural properties.</p> <p>The method is not suitable for the determination of design parameters but can be used in materials testing and as a quality control test.</p>
Código :	ISO 17800:2017
Título Prim. :	Facility smart grid information model
Título Sec. :	Facility smart grid information model
Comité Técnico :	ISO/TC 205 Building environment design
Data de Publ. :	12/18/2017
Objetivo :	<p>ISO 17800:2017 provides the basis for common information exchange between control systems and end use devices found in single - and multi-family homes, commercial and institutional buildings, and industrial facilities that is independent of the communication protocol in use. It provides a common basis for electrical energy consumers to describe, manage, and communicate about electrical energy consumption and forecasts.</p> <p>ISO 17800:2017 defines a comprehensive set of data objects and actions that support a wide range of energy management applications and electrical service provider interactions including:</p> <ul style="list-style-type: none">a) on-site generation,b) demand response,c) electrical storage,d) peak demand management,e) forward power usage estimation,f) load shedding capability estimation,g) end load monitoring (sub metering),h) power quality of service monitoring,i) utilization of historical energy consumption data, andj) direct load control.
Código :	ISO 17892-10:2018
Título Prim. :	Geotechnical investigation and testing — Laboratory testing of soil — Part 10: Direct shear tests
Título Sec. :	Geotechnical investigation and testing — Laboratory testing of soil — Part 10: Direct shear tests
Comité Técnico :	ISO/TC 182 Geotechnics
Data de Publ. :	11/15/2018
Objetivo :	<p>This document specifies two laboratory test methods for the determination of the effective shear strength of soils under consolidated drained conditions using either a shearbox or a ring shear device.</p> <p>This document is applicable to the laboratory determination of effective shear strength parameters for soils in direct shear within the scope of geotechnical investigations.</p> <p>The tests included in this document are for undisturbed, remoulded, re-compacted or reconstituted soils. The procedure describes the requirements of a determination of the shear resistance of a specimen under a single vertical (normal) stress. Generally three or more similar specimens from one soil are prepared for shearing under three or more different vertical pressures to allow the shear strength parameters to be determined in accordance with Annex B.</p> <p>Special procedures for preparation and testing the specimen, such as staged loading and pre-shearing or for interface tests between soils and other materials, are not covered in the procedure of this document.</p> <p>NOTE This document fulfils the requirements of the determination of the drained shear strength of soils in direct shear for geotechnical investigation and testing in accordance with EN 1997-1 and EN 1997-2.</p>

- Código :** ISO 17892-11:2019
Título Prim. : Geotechnical investigation and testing — Laboratory testing of soil — Part 11: Permeability tests
Título Sec. : Geotechnical investigation and testing — Laboratory testing of soil — Part 11: Permeability tests
Comité Técnico : ISO/TC 182 Geotechnics
Data de Publ. : 1/30/2019
Objetivo : This document specifies methods for the laboratory determination of the water flow characteristics in soil. This document is applicable to the laboratory determination of the coefficient of permeability of soil within the scope of geotechnical investigations.
NOTE This document fulfils the requirements of the determination of the coefficient of permeability of soils in the laboratory for geotechnical investigation and testing in accordance with EN 1997-1 and EN 1997-2.
- Código :** ISO 17892-5:2017
Título Prim. : Geotechnical investigation and testing — Laboratory testing of soil — Part 5: Incremental loading oedometer test
Título Sec. : Geotechnical investigation and testing — Laboratory testing of soil — Part 5: Incremental loading oedometer test
Comité Técnico : ISO/TC 182 Geotechnics
Data de Publ. : 3/3/2017
Objetivo : ISO 17892-5:2017 specifies methods for the determination of the compressibility characteristics of soils by incremental loading in an oedometer.
ISO 17892-5:2017 is applicable to the laboratory determination of the compression and deformation characteristics of soil within the scope of geotechnical investigations.
The oedometer test is carried out on a cylindrical test specimen that is confined laterally by a rigid ring. The specimen is subjected to discrete increments of vertical axial loading or unloading and is allowed to drain axially from the top and bottom surfaces. Tests may be carried out on undisturbed, remoulded, recompacted or reconstituted specimens.
The stress paths and drainage conditions in foundations are generally three dimensional and differences can occur in the calculated values of both the magnitude and the rate of settlement.
The small size of the specimen generally does not adequately represent the fabric features present in natural soils. Analysis of consolidation tests is generally based on the assumption that the soil is saturated. In case of unsaturated soils, some of the derived parameters may not be appropriate
NOTE This document fulfils the requirements of the determination of the compressibility characteristics of soils in the oedometer for geotechnical investigation and testing in accordance with EN 1997-1 and EN 1997-2.
- Código :** ISO 17892-8:2018
Título Prim. : Geotechnical investigation and testing — Laboratory testing of soil — Part 8: Unconsolidated undrained triaxial test
Título Sec. : Geotechnical investigation and testing — Laboratory testing of soil — Part 8: Unconsolidated undrained triaxial test
Comité Técnico : ISO/TC 182 Geotechnics
Data de Publ. : 2/14/2018
Objetivo : ISO 17892-8:2018 specifies a method for unconsolidated undrained triaxial compression tests.
ISO 17892-8:2018 is applicable to the laboratory determination of undrained triaxial shear strength under compression loading within the scope of geotechnical investigations.
The cylindrical specimen, which can comprise undisturbed, re-compacted, remoulded or reconstituted soil, is subjected to an isotropic stress under undrained conditions and thereafter is sheared under undrained conditions. The test allows the determination of shear strength and stress-strain relationships in terms of total stresses. Non-standard procedures such as tests with the measurement of pore pressure or tests with filter drains are not covered in this document.
NOTE This document fulfils the requirements of unconsolidated undrained triaxial compression tests for geotechnical investigation and testing in accordance with EN 1997-1 and EN 1997-2.
- Código :** ISO 17892-9:2018
Título Prim. : Geotechnical investigation and testing — Laboratory testing of soil — Part 9: Consolidated triaxial compression tests on water saturated soils
Título Sec. : Geotechnical investigation and testing — Laboratory testing of soil — Part 9: Consolidated triaxial compression tests on water saturated soils
Comité Técnico : ISO/TC 182 Geotechnics
Data de Publ. : 2/28/2018

- Objetivo :** ISO 17892-9:2018 specifies a method for consolidated triaxial compression tests on water-saturated soils. ISO 17892-9:2018 is applicable to the laboratory determination of triaxial shear strength under compression loading within the scope of geotechnical investigations. The cylindrical specimen, which can comprise undisturbed, re-compacted, remoulded or reconstituted soil, is subjected to an isotropic or an anisotropic stress under drained conditions and thereafter is sheared under undrained or drained conditions. The test allows the determination of shear strength, stress-strain relationships and effective stress paths. All stresses and strains are denoted as positive numerical values in compression. NOTE 1 This document provides a test for a single specimen. A set of at least three relatable tests are required to determine the shear strength parameters from these tests. Procedures for evaluating the results are included in Annex B and, where required, the shear strength parameters are to be included in the report. Special procedures such as:
a) tests with lubricated ends;
b) multi-stage tests;
c) tests with zero lateral strain (K0) consolidation;
d) tests with local measurement of strain or local measurement of pore pressure;
e) tests without rubber membranes;
f) extension tests;
g) shearing where cell pressure varies,
are not fully covered in this procedure. However, these specific tests can refer to general procedures described in this document. NOTE 2 This document fulfils the requirements of consolidated triaxial compression tests for geotechnical investigation and testing in accordance with EN 1997-1 and EN 1997-2.
- Código :** ISO 18086:2019
Título Prim. : Corrosion of metals and alloys — Determination of AC corrosion — Protection criteria
Título Sec. : Corrosion of metals and alloys — Determination of AC corrosion — Protection criteria
Comité Técnico : ISO/TC 156 Corrosion of metals and alloys
Data de Publ. : 12/10/2019
Objetivo : This document specifies protection criteria for determining the AC corrosion risk of cathodically protected pipelines. It is applicable to buried cathodically protected pipelines that are influenced by AC traction systems and/or AC power lines. In the presence of AC interference, the protection criteria given in ISO 15589-1 are not sufficient to demonstrate that the steel is being protected against corrosion. This document provides limits, measurement procedures, mitigation measures, and information to deal with long-term AC interference for AC voltages at frequencies between 16,7 Hz and 60 Hz and the evaluation of AC corrosion likelihood. This document deals with the possibility of AC corrosion of metallic pipelines due to AC interferences caused by conductive, inductive or capacitive coupling with AC power systems and the maximum tolerable limits of these interference effects. It takes into account the fact that this is a long-term effect, which occurs during normal operating conditions of the AC power system. This document does not cover the safety issues associated with AC voltages on pipelines. These are covered in national standards and regulations (see, e.g., EN 50443).
- Código :** ISO 18338:2015
Título Prim. : Metallic materials — Torsion test at ambient temperature
Título Sec. : Metallic materials — Torsion test at ambient temperature
Comité Técnico : ISO/TC 164 Mechanical testing of metals
Data de Publ. : 9/9/2015
Objetivo : ISO 18338:2015 specifies the method for torsion test at room temperature of metallic materials. The tests are conducted at room temperature to determine torsional properties.
- Código :** ISO 23242:2020
Título Prim. : Fine ceramics (advanced ceramics, advanced technical ceramics) — Test method for flexural strength of monolithic ceramic thin plates at room temperature by three-point or four-point bending
Título Sec. : Fine ceramics (advanced ceramics, advanced technical ceramics) — Test method for flexural strength of monolithic ceramic thin plates at room temperature by three-point or four-point bending
Comité Técnico : ISO/TC 206 Fine ceramics
Data de Publ. : 2/4/2020
Objetivo : This document describes a test method for the flexural strength of monolithic ceramic thin plates at room temperature by three-point bending or four-point bending. This document is intended for use with monolithic ceramics and whisker- or particulate-reinforced ceramics which are regarded as macroscopically homogeneous. It does not include continuous-fibre-reinforced ceramics composites. This document is applicable to ceramic thin plates with a thickness from 0,2 mm to 1,0 mm. This document is for material development, material comparison, quality assurance, characterization and reliability data generation.
- Código :** ISO 27447:2019
Título Prim. : Fine ceramics (advanced ceramics, advanced technical ceramics) — Test method for antibacterial activity of semiconducting photocatalytic materials

- Título Sec. :** Fine ceramics (advanced ceramics, advanced technical ceramics) — Test method for antibacterial activity of semiconducting photocatalytic materials
- Comité Técnico :** ISO/TC 206 Fine ceramics
- Data de Publ. :** 7/17/2019
- Objetivo :** This document specifies a test method for the determination of the antibacterial activity of materials that contain a photocatalyst or have photocatalytic films on the surface, by measuring the enumeration of bacteria under irradiation of ultraviolet light.
This document is intended for use with different kinds of semiconducting photocatalytic materials used in construction materials in flat sheet, board, plate shape or textiles that are the basic forms of materials for various applications. It does not include powder, granular or porous photocatalytic materials.
This test method is usually applicable to photocatalytic materials produced for antibacterial effect. Other types of performance of photocatalytic materials, i.e. antifungal activity, antiviral activity, decomposition of water contaminants, self-cleaning, antifogging and air purification, are not determined by this method.
The values expressed in this document are in accordance with the International System of Units (SI).
- Código :** ISO 527-1:2019
- Título Prim. :** Plastics — Determination of tensile properties — Part 1: General principles
- Título Sec. :** Plastics — Determination of tensile properties — Part 1: General principles
- Comité Técnico :** ISO/TC 61 Plastics
- Data de Publ. :** 7/26/2019
- Objetivo :** **1.1** This document specifies the general principles for determining the tensile properties of plastics and plastic composites under defined conditions. Several different types of test specimen are defined to suit different types of material which are detailed in subsequent parts of ISO 527.
1.2 The methods are used to investigate the tensile behaviour of the test specimens and for determining the tensile strength, tensile modulus and other aspects of the tensile stress/strain relationship under the conditions defined.
1.3 The methods are selectively suitable for use with the following materials:
— rigid and semi-rigid moulding, extrusion and cast thermoplastic materials, including filled and reinforced compounds in addition to unfilled types; rigid and semi-rigid thermoplastics sheets and films;
— rigid and semi-rigid thermosetting moulding materials, including filled and reinforced compounds; rigid and semi-rigid thermosetting sheets, including laminates;
— fibre-reinforced thermosets and thermoplastic composites incorporating unidirectional or non-unidirectional reinforcements, such as mat, woven fabrics, woven rovings, chopped strands, combination and hybrid reinforcement, rovings and milled fibres; sheet made from pre-impregnated materials (prepregs);
— thermotropic liquid crystal polymers.
The methods are not normally suitable for use with rigid cellular materials, for which ISO 1926 is used, or for sandwich structures containing cellular materials.
- Código :** ISO 604:2002
- Título Prim. :** Plastics — Determination of compressive properties
- Título Sec. :** Plastics — Determination of compressive properties
- Comité Técnico :** ISO/TC 61 Plastics
- Data de Publ. :** 3/7/2002
- Objetivo :** This International Standard specifies a method for determining the compressive properties of plastics under defined conditions. A standard test specimen is defined but its length may be adjusted to prevent buckling under load from affecting the results. A range of test speeds is included.
The method is used to investigate the compressive behaviour of the test specimens and for determining the compressive strength, compressive modulus and other aspects of the compressive stress/strain relationship under the conditions defined.
The method applies to the following range of materials:
☐ rigid and semi-rigid [1] thermoplastic moulding and extrusion materials, including compounds filled and reinforced by e.g. short fibres, small rods, plates or granules in addition to unfilled types; rigid and semi-rigid thermoplastic sheet;
☐ rigid and semi-rigid thermoset moulding materials, including filled and reinforced compounds; rigid and semirigid thermoset sheet;
☐ thermotropic liquid-crystal polymers.
In agreement with ISO 10350-1 and ISO 10350-2, this International Standard applies to fibre-reinforced compounds with fibre lengths $\geq 7,5$ mm prior to processing.
The method is not normally suitable for use with materials reinforced by textile fibres (see references [2] and [5]), fibre-reinforced plastic composites and laminates (see [5]), rigid cellular materials (see [3]) or sandwich structures containing cellular material or rubber (see [4]).
The method is performed using specimens which may be moulded to the chosen dimensions, machined from the central portion of a standard multipurpose test specimen (see ISO 3167) or machined from finished or semifinished products such as mouldings or extruded or cast sheet.
The method specifies preferred dimensions for the test specimen. Tests which are carried out on specimens of different dimensions, or on specimens which are prepared under different conditions, may produce results which are not comparable. Other factors, such as the test speed and the conditioning of the specimens, can also influence the results. Consequently, when comparable data are required, these factors must be carefully controlled and recorded.

Código :	ISO 7730:2005
Título Prim. :	Ergonomics of the thermal environment — Analytical determination and interpretation of thermal comfort using calculation of the PMV and PPD indices and local thermal comfort criteria
Título Sec. :	Ergonomics of the thermal environment — Analytical determination and interpretation of thermal comfort using calculation of the PMV and PPD indices and local thermal comfort criteria
Comité Técnico :	ISO/TC 159 Ergonomics
Data de Publ. :	11/23/2005
Objetivo :	ISO 7730:2005 presents methods for predicting the general thermal sensation and degree of discomfort (thermal dissatisfaction) of people exposed to moderate thermal environments. It enables the analytical determination and interpretation of thermal comfort using calculation of PMV (predicted mean vote) and PPD (predicted percentage of dissatisfied) and local thermal comfort, giving the environmental conditions considered acceptable for general thermal comfort as well as those representing local discomfort.
Código :	ISO/IEC 30101:2014
Título Prim. :	Information technology — Sensor networks: Sensor network and its interfaces for smart grid system
Título Sec. :	Information technology — Sensor networks: Sensor network and its interfaces for smart grid system
Comité Técnico :	
Data de Publ. :	11/12/2014
Objetivo :	ISO/IEC 30101:2014 is for sensor networks in order to support smart grid technologies for power generation, distribution, networks, energy storage, load efficiency, control and communications, and associated environmental challenges. This International Standard characterizes the requirements for sensor networks to support the aforementioned applications and challenges. Data from sensors in smart grid systems is collected, transmitted, published, and acted upon to ensure efficient coordination of the various systems and subsystems. The intelligence derived through the sensor networks supports synchronization, monitoring and responding, command and control, data/information processing, security, information routing, and human-grid display/graphical interfaces. This International standard specifies <ul style="list-style-type: none"> ? interfaces between the sensor networks and other networks for smart grid system applications, ? sensor network architecture to support smart grid systems, ? interface between sensor networks with smart grid systems, and ? sensor network based emerging applications and services to support smart grid systems.
Código :	ISO/TS 10303-25:2005
Título Prim. :	Industrial automation systems and integration — Product data representation and exchange — Part 25: Implementation methods: EXPRESS to XMI binding
Título Sec. :	Industrial automation systems and integration — Product data representation and exchange — Part 25: Implementation methods: EXPRESS to XMI binding
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	12/13/2005
Objetivo :	ISO/TS 10303-25:2005 specifies a mapping from the EXPRESS data specification language into the Object Management Group's (OMG) Unified Modeling Language (UML), for the purpose of generating files conforming to the OMG XML Meta-data Interchange standard.
Código :	ISO/TS 10303-26:2011
Título Prim. :	Industrial automation systems — Product data representation and exchange — Part 26: Implementation methods: Binary representation of EXPRESS-driven data
Título Sec. :	Industrial automation systems — Product data representation and exchange — Part 26: Implementation methods: Binary representation of EXPRESS-driven data
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	12/6/2011
Objetivo :	ISO/TS 10303-26:2011 specifies a binary representation of EXPRESS-driven data using the Hierarchical Data Format Version 5 (HDF5).
Código :	ISO/TS 10303-27:2000
Título Prim. :	Industrial automation systems and integration — Product data representation and exchange — Part 27: Implementation methods: Java TM programming language binding to the standard data access interface with Internet/Intranet extensions
Título Sec. :	Industrial automation systems and integration — Product data representation and exchange — Part 27: Implementation methods: Java TM programming language binding to the standard data access interface with Internet/Intranet extensions
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	12/21/2000

Objetivo :	<p>This part of ISO 10303 specifies a binding of the Java¹⁾ programming language to application data modelled in EXPRESS, ISO 10303-11 and to the standard data access interface, ISO 10303-22. It also specifies an import and export mechanism for data according to the clear text encoding of the exchange structure, ISO 10303-21. A further extension is that SDAI repositories can be created, deleted and linked while the SDAI session is open. Dynamically linking SDAI repositories through a network like Internet or Intranet allows accessing and changing of remote data.</p> <p>In addition to the scope of ISO 10303-22 the scope of this part of ISO 10303 contains:</p> <ul style="list-style-type: none"> — creating, deletion and linking of the data repositories during an SDAI session; — specific support for linking a remote data repository through a network like Internet or Intranet; — convenience interfaces, classes, fields and methods suitable to this Java programming language binding; — implementation mechanisms for the handling of errors as specified in ISO 10303-22; — import from and export to the clear text encoding of the exchange structure as specified in ISO 10303-21. <p>1) Java is the trade mark of a product supplied by Sun Microsystems, Inc. This information is given for the convenience of users of this part of ISO 10303 and does not constitute an endorsement by ISO of the product name.</p> <p>Equivalent products may be used if they can be shown to lead to the same result.</p> <p>TECHNICAL SPECIFICATION ISO/TS 10303-27:2000(E)</p>
Código :	ISO/TS 10303-35:2003
Título Prim. :	Industrial automation systems and integration — Product data representation and exchange — Part 35: Conformance testing methodology and framework: Abstract test methods for standard data access interface (SDAI) implementations
Título Sec. :	Industrial automation systems and integration — Product data representation and exchange — Part 35: Conformance testing methodology and framework: Abstract test methods for standard data access interface (SDAI) implementations
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	12/12/2003
Objetivo :	<p>ISO/TS 10303-35:2003 specifies the abstract test methods and requirements for conformance testing of an implementation of a language binding of the Standard Data Access Interface (SDAI). Since the SDAI is specified independently of any programming language, the abstract test methods presented in ISO/TS 10303-35:2003 are applicable to all SDAI language bindings. The abstract test methods support as well the various implementation classes as specified in ISO 10303-22:1998.</p> <p>The following are within the scope of ISO/TS 10303-35:2003:</p> <ul style="list-style-type: none"> abstract test methods for software systems that implement the SDAI; the specification, in a manner that is independent of any SDAI language binding, of the methods and approaches for testing of various SDAI operations; the specification and documentation of abstract test cases. <p>The following are outside the scope of ISO/TS 10303-35:2003:</p> <ul style="list-style-type: none"> the development of test data and/or test programs for specific language bindings; the specification of test methods, algorithms, or programs for the conformance testing of applications that interact with SDAI implementations; the architecture and implementation approach for a conformance test system that realizes the test methods specified in ISO/TS 10303-35:2003.
Código :	ISO/TS 14649-201:2011
Título Prim. :	Industrial automation systems and integration — Physical device control — Data model for computerized numerical controllers — Part 201: Machine tool data for cutting processes
Título Sec. :	Industrial automation systems and integration — Physical device control — Data model for computerized numerical controllers — Part 201: Machine tool data for cutting processes
Comité Técnico :	ISO/TC 184 Industrial automation systems and integration
Data de Publ. :	12/8/2011
Objetivo :	<p>ISO/TS 14649-201:2011 specifies the technology-specific machine tool description data elements needed as process data for manufacturing and machine characteristics. The machine tool descriptions covered in this schema are, initially, milling machines, machining centres, turning machines and multi-tasking machines.</p> <p>ISO/TS 14649-201:2011 is not intended to replace existing machine tool description standards, but to cover the specific needs of manufacturing resource description for manufacturing needs in the technologies described in ISO 14649.</p> <p>Examples of manufacturing applications of this model are:</p> <ul style="list-style-type: none"> part programming for CNC machining; process planning; a simulation of machining processes; analysis of expected machining time and machine tool energy use; a description of new machine tools for manufacturing evaluation and/or controller development. <p>The schema specified in ISO/TS 14649-201:2011 does not include representations, executable objects and base classes that are common for all technologies. These are referenced from the generic resources of ISO 10303 and from ISO 14649-10.</p>