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# Editorial Module: Process of Developing and Revising a Standard

[www.astm.org](http://www.astm.org)

# Objectives



# New Standard Activity

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- Determine if new standard is needed
- Identify key stakeholders
- Identify Committee and Subcommittee
- Register a Work Item

# Work Items

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- Register Work Item at [www.astm.org](http://www.astm.org)
- What is needed?
- Title
- Scope
- Keywords
- Target date for first ballot
- Expected target date for approval
- Authorization from Subcommittee Chair or Subcommittee Members at a meeting



# Registering a Work Item



All

Search topic, title, author, A53



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Account#: 1802687

Krista Robbins

[krobbins@astm.org](mailto:krobbins@astm.org)

## MyCommittees

### Committee C01 on Cement

[Ballots](#) [Rosters](#) [Meetings & Symposia](#) [Minutes & Agendas](#) [Committee Documents](#) [Standards Tracking](#)

### Committee C07 on Lime and Limestone

[Ballots](#) [Rosters](#) [Meetings & Symposia](#) [Minutes & Agendas](#) [Committee Documents](#) [Standards Tracking](#)

### Committee C12 on Mortars and Grouts for Unit Masonry

[Ballots](#) [Rosters](#) [Meetings & Symposia](#) [Minutes & Agendas](#) [Committee Documents](#) [Standards Tracking](#)

### Committee C15 on Manufactured Masonry Units

[Ballots](#) [Rosters](#) [Meetings & Symposia](#) [Minutes & Agendas](#) [Committee Documents](#) [Standards Tracking](#)

### Committee D05 on Coal and Coke

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## MyTools

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Co-Workers

Ballots

Meetings

Work Items

## ASTM Work Item Registration Area and Ballot Item Submittal

Choose from the following options:

- ☒ **I need to register a Work Item for a Revision or New Standard.**   
Work Item registration is not required to submit a Reapproval, Withdrawal or Reinstatement action to ballot; go to Option 2 - [Ballot Item Submittal](#)
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# What does a Work Item do?

---

- Provides tracking number - WK25321
- Alerts those on the Standards Tracking Service and those searching the ASTM website
- Stimulates participation from outside of task group

# DEVELOPMENT TOOLS



# Standard Development Tools



- Virtual Meetings
- Collaboration Area
- Writing Tools
- Draft Templates
- Developmental Editing

# Virtual Meetings

---

- Online document viewing and editing during the meeting
- Arranged through your Staff Manager or through the MyASTM Section of the website
- Saves time and expenses on meeting face-to-face
- ASTM uses WebEx, an excellent vehicle for these virtual meetings



# Collaboration Area



Help Home Krista ▾

Email Settings

## ASTM International Collaboration Area

Current Collaboration Area 63547 - WK63547 - Revision of F1495-14a ... ▾

### 63547 - WK63547 - Revision of F1495-14a Standard Specification for Combination Oven Electric or Gas Fired

Collaboration Area Drafts Polls Discussions Files

Overview Members History Edit Collaboration Area Schedule Online Meeting

### WK63547 - Revision of F1495-14a Standard Specification for Combination Oven Electric or Gas Fired

Group Creation Date: 05/22/2018  
WorkItem Creation Date: 05/22/2018  
Ballot Target Date: 12/2018  
Work Item Status: Proposed  
Status: Draft In Balloting

### Work Item Description

Status: Review for Ballot.

Submit Item For Ballot

Edit Work Item

---

# WRITING TOOLS


# Submit Your Draft in Word

---

- ASTM requests WORD for balloting purposes.
- TCO takes your WORD file and converts it to PDF for the ASTM website online balloting area.
- Developmental editor works directly with you in WORD to develop your draft.
- Committee editor converts the WORD file into XML (Extensible Markup Language) for composition and electronic publishing purposes.



# Form and Style Manual



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Technical Committees

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Standards Development

- Initiate a New Standards Activity
- How Standards Get Developed
- Society (Public) Review
- ANSI Public Review
- SCC Public Review

Other Programs and Services

- Interlaboratory Study Program (ILS)
- Product Certification Process & Checklist

Policies & Procedures

- Key Documents and Forms

Key Documents

- Form and Style Manual for ASTM Standards or “Blue Book”
- Regulations Governing ASTM Technical Committees or “Green Book”
- Draft Standard Templates
- ASTM Technical Committee Officer Handbook or “Red Book”
- Strategic Planning Manual (PDF)
- Proxy Form—For Voting (PDF)
- 2020 Certificate of Attendance
- Symposium Proposal Form
- Directions for Preparing and Submitting Work Items for Ballot

# Form and Style Contents

[Preface](#)

[Introduction](#)

[Definitions](#)

[Part A. Form of ASTM Test Methods](#)

[Part B. Form of ASTM Specifications](#)

[Part C. Form of Other Types of ASTM Standards](#)

[Part D. Use of the Modified Decimal Numbering System](#)

[Part E. Terminology In ASTM Standards](#)

[Part F. Caveats and Other Legal Aspects In Standards—Special Instructions](#)

[Part G. Standards Style Manual](#)

[Part H. Use of SI Units In ASTM Standards](#)


[Annex A. SI Quick Reference Guide](#)

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# ASTM Templates



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# ASTM Template

- Templates for: Test Method, Specification, Guide/Practice, Classification, and Terminology
- Detailed instructions are provided with the template

## Draft Standard Templates

**Important:** Please read Download Information and Template Features before using Templates.

- [Test Methods](#)
- [Specifications](#)
- [Guides/Practices](#)
- [Classification](#)
- [Terminology](#)

## Support Documents Template

- [Research Report](#)

## Help

- [Template Features](#)
- [The Form and Style for ASTM Standards or "Blue Book"](#)

# ASTM Template Features

---

- Suggested and mandatory headings are provided; mandatory headings are in **RED**
- Dialog box prompts to insert Title and Footnote 1
- Ability to insert tables, figures and equations
- Auto Numbering (this is a limited but helpful feature)
- Layout in one column format for ballot/editing purposes

ASTM Standard Properties

Work Item Number Date e.g.: MM/DD/Y

WK12345 10/24/18

Standard Test Method for

Testing Cellular Insulation Block

Main Committee Designation and Title

e.g.: A01 on Title of Main

C16 on Thermal Insulation

Subcommittee Designation and Title


e.g.: A0.01 on Title of

C16.32 on Mechanical Properties

Okay Cancel

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# Screen Shot of Template



**Designation: X XXXX-XX**

**Work Item Number: WK12345**  
**Date: 10/24/18**

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**Include Ballot Rationale Here (Required for all Ballots)**

**Standard Test Method for  
Testing Cellular Insulation Block<sup>1</sup>**

This standard is issued under the fixed designation XXXXX; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

**1. Scope**

1.1

1.2 *Include in this section the system of units to be used. Refer to the above ASTM Standards Units toolbar button for a dropdown menu of ASTM's Form and Style Manual statements.*

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

**2. Referenced Documents**

2.1 *ASTM Standards:*

**3. Terminology**

# Screen Shot of Template

14      1.3 *This standard does not purport to address all of the safety concerns, if any, associated*  
 15      *with its use. It is the responsibility of the user of this standard to establish appropriate safety and*  
 16      *health practices and determine the applicability of regulatory limitations prior to use.*

17

## 18      2. Referenced Documents

19      2.1 *ASTM Standards:*

20

## 21      3. Terminology

22      3.1 *Definitions:*

---

<sup>1</sup> This test method is under the jurisdiction of ASTM Committee C16 on Thermal Insulation and is the direct responsibility of Subcommittee C16.32 on Mechanical Properties.

Current edition approved XXX. XX, XXXX. Published XX XXXX. DOI:10.1520/XXXXXX-XX

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# Screen Shot of Template

25 4. Summary of Test Method

26 4.1

**27 5. Significance and Use**

28 5.1

29 6. Interferences

30 6.1

31 7. Apparatus

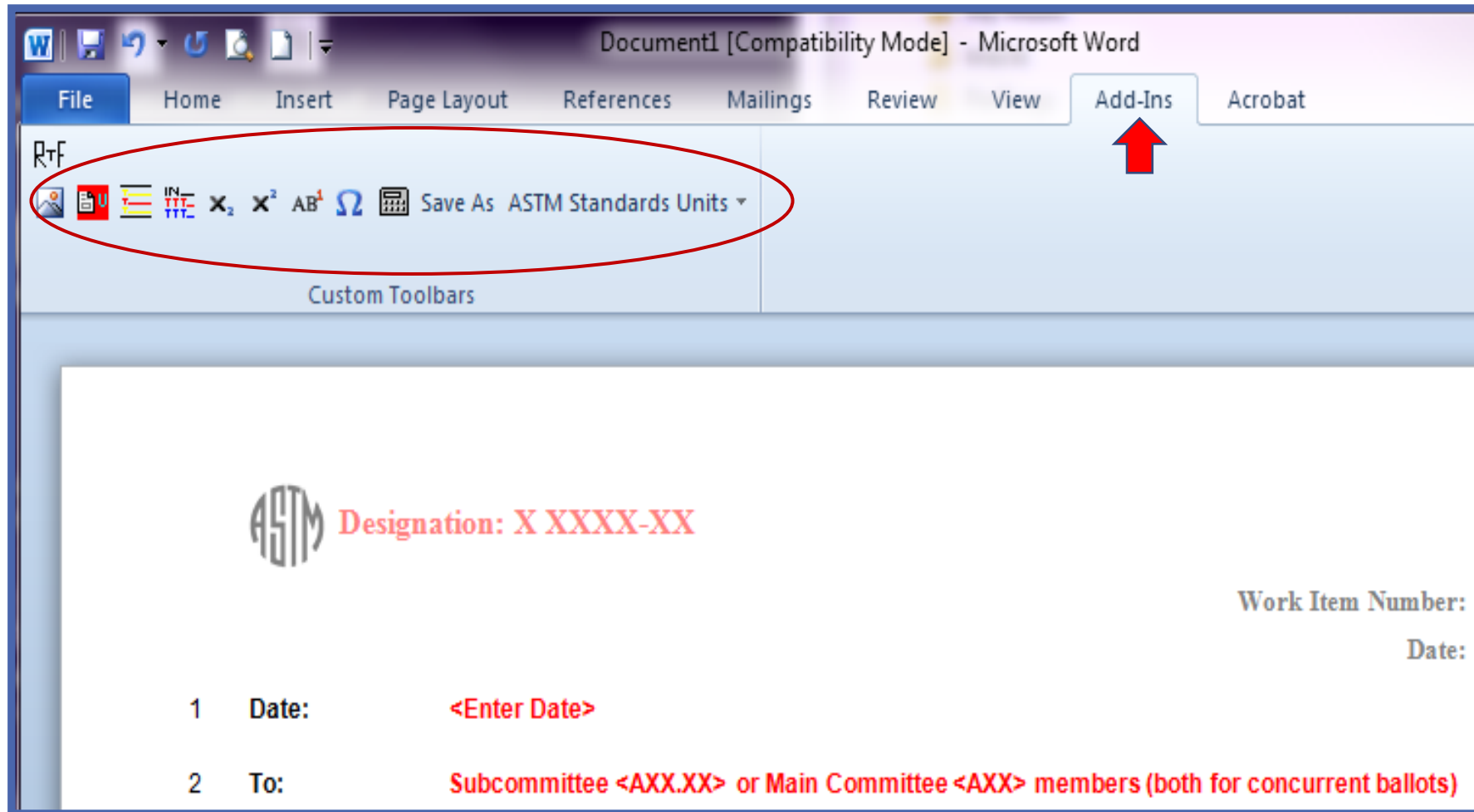
32 7.1

33 8. Reagents and Materials

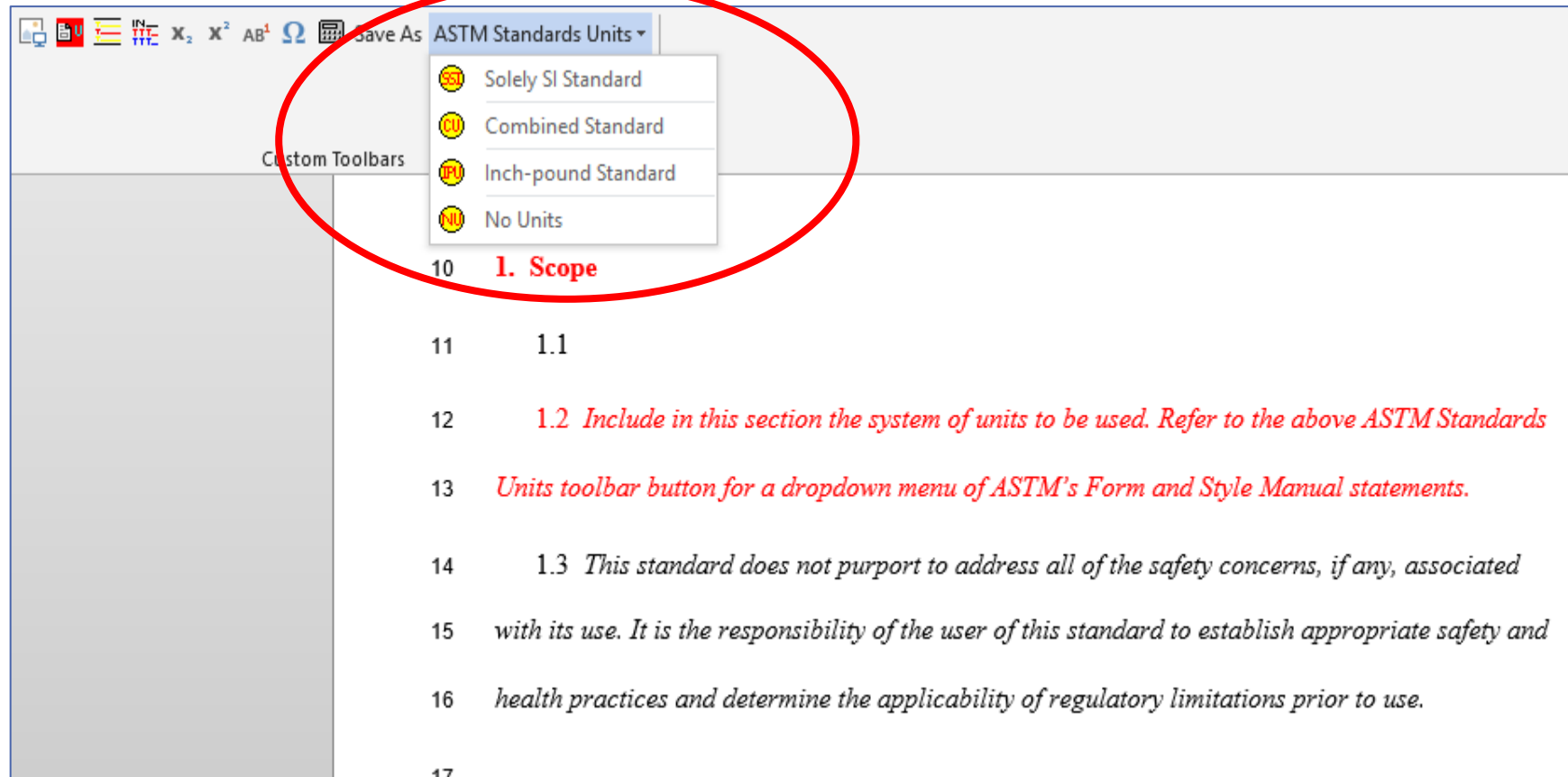
34 8.1

**35 9. Hazards**

# ASTM Template Toolbar



# ASTM Template Toolbar





# ASTM Template Toolbar

10 **1. Scope**

11 1.1

12 *1.2 Include in this section the system of units to be used. Refer to the above ASTM Standards*

13 *Units toolbar button for a dropdown menu of ASTM's Form and Style Manual statements.*

14 1.3 *This standard does not purport to address all of the safety concerns, if any, associated*  
 15 *with its use. It is the responsibility of the user of this standard to establish appropriate safety and*  
 16 *health practices and determine the applicability of regulatory limitations prior to use.*

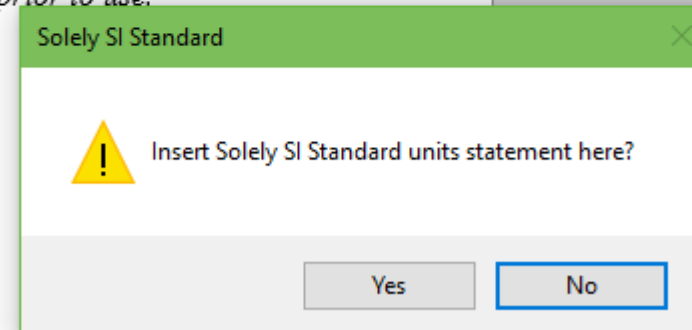
17

18 **2. Referenced Documents**

19 2.1 *ASTM Standards:*

20

21 **3. Terminology**



# ASTM Template Toolbar

9

10 **1. Scope**

11 1.1

12 1.2 *Units* - The values stated in SI units are to be regarded as standard. No other units of  
13 measurement are included in this standard.

14 1.3 *This standard does not purport to address all of the safety concerns, if any, associated*  
15 *with its use. It is the responsibility of the user of this standard to establish appropriate safety and*  
16 *health practices and determine the applicability of regulatory limitations prior to use.*

17

# Developmental Editing

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- If you have questions while drafting a standard, contact the developmental editor.
- Developmental editor can be reached by phone or e-mail. Kathleen Peters [kpeters@astm.org](mailto:kpeters@astm.org) or 610-832-9650
- Developmental editor can help you with:
  - Answering questions about the Form and Style for ASTM Standards and how to apply our style to standards
  - Upfront editing of new, revised, reinstated standards
  - Assisting with artwork issues

# Figures and Artwork

---

Submit clean, readable figures

- If revising an existing figure for ballot, submit changes to our Developmental Editor

TIF, JPG & AUTOCAD formats are acceptable

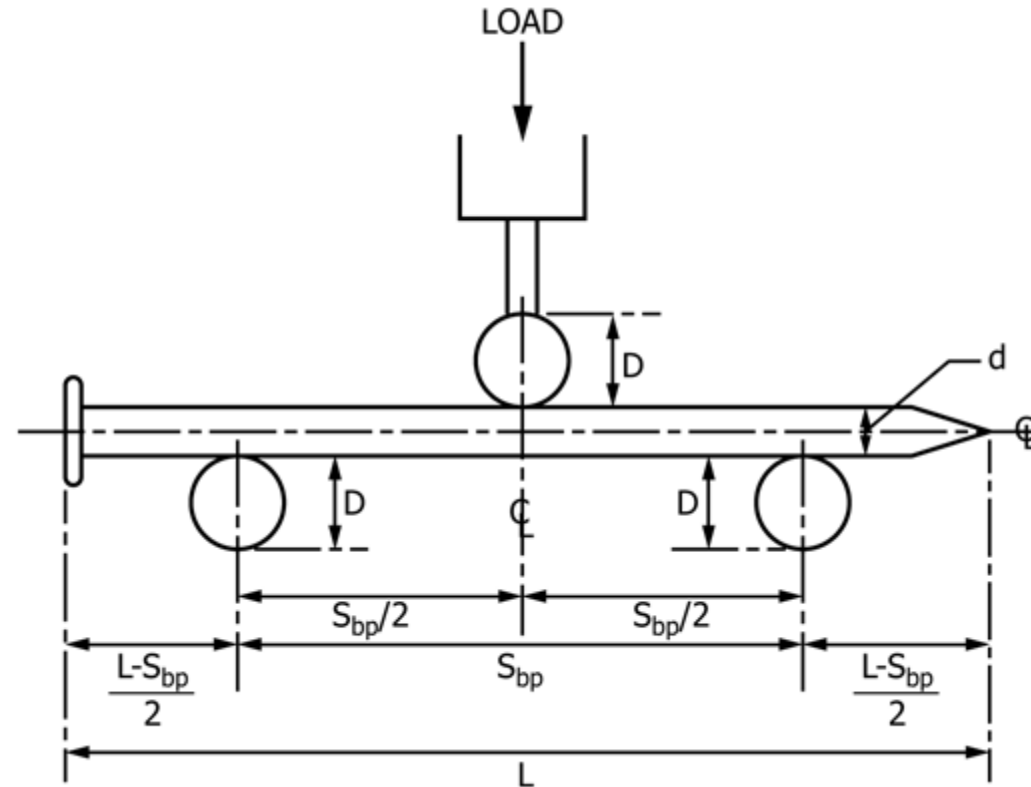
- Graphics department will work with what you have

Color Figures

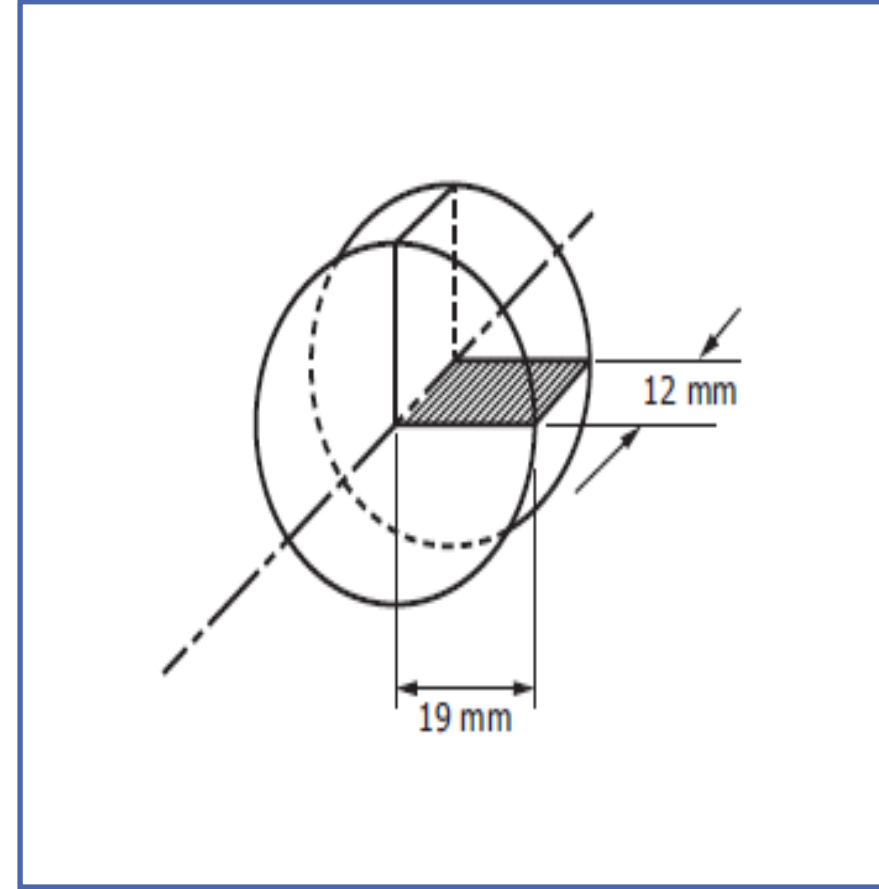
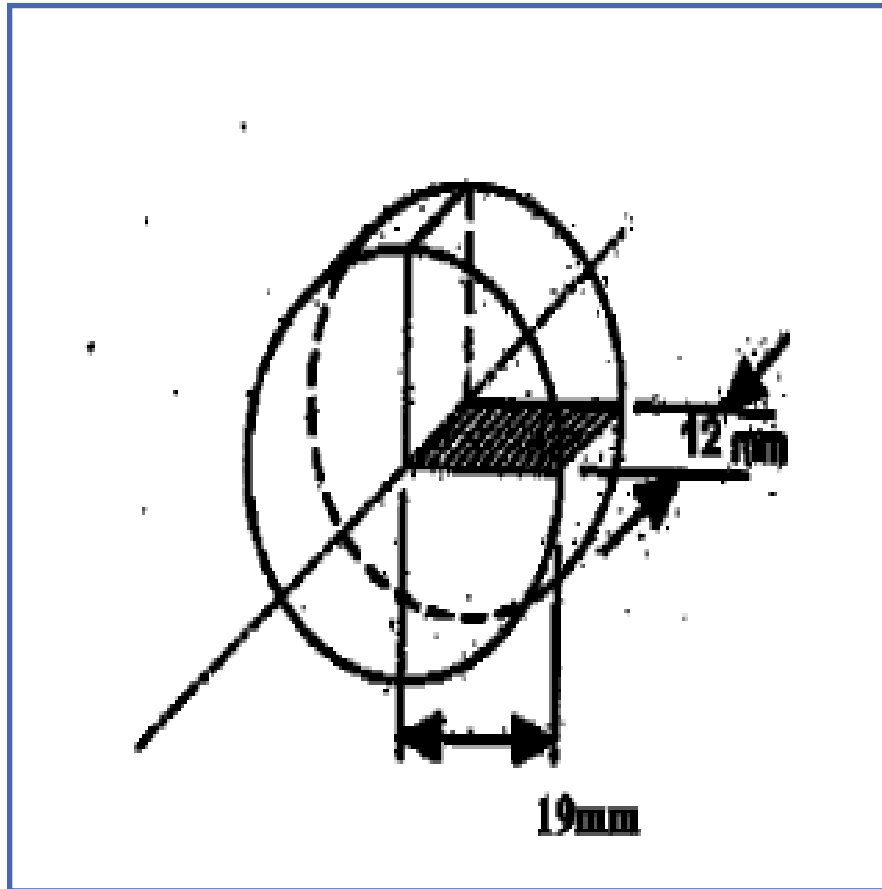
- PDF Downloads
- Online Volumes

# SVG Figures

- Scalable Vector Graphics
  - Now being incorporated into online standards
  - Are searchable and do not degrade when expanded
  - Available in up-to-date browsers



# SVG Comparison



# REVISIONS

# Registering Revisions

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Register new work item for a revision:

- Registering generates a request for WORD file of the latest version of the standard from ASTM International
- An email with a link to the WORD version of the standard will be sent to the technical contact






# Registering a Revision Work Item



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Choose from the following options:

☐ I need to register a Work Item for a Revision or New Standard.

Work Item registration is not required to submit a Reapproval, Withdrawal or Reinstatement action to ballot; go to Option 2 - [Ballot Item Submittal](#)

☐ I need to Submit an Item to Ballot.

For Revisions and New Standards, please have a Work Item number. Go To Option 1 - [Work Item Registration](#) if WK registration is needed.

☐ I need to Edit an existing Work Item or Update the Target Date.

[Continue](#)



# Electronic Revision Preparation

---

- Always keep a clean copy of standard
- Determine if entire document is to be balloted, or just sections
  - Determine which sections need revision
- Determine how much context is needed for a revision to make sense to the voter
- Use Track Changes to make revisions

# Example of Revision on Ballot

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Designation: D6521 – 13

ITEM 11

To: D04 Main Committee Ballot

Tech Contact: [mknake@ashtoresource.org](mailto:mknake@ashtoresource.org)

Work Item #: WK61423

Ballot Action: Revision of ASTM D6521 Sections 1-2

Rationale:

This ballot item is only for revision to Sections 1 and 2 of D6521. Only the portion of the standard shown below is considered part of this ballot. A summary of proposed changes are as follows:

- Clarified that this is a conditioning procedure that simulates aging, not an aging procedure
- Note 1 has been deleted, as this wording is more applicable to the RFTOT standard.
- Units have been clarified in the scope to comply with D04 policy
- Reference to ASTM D3666 added in a new Note 1 to comply with D04 policy.
- Referenced documents updated to include ASTM D3666.

## Standard Practice for Accelerated Aging of Asphalt Binder Using a Pressurized Aging Vessel (PAV)<sup>1</sup>

This standard is issued under the fixed designation D6521; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This practice covers the conditioning of asphalt binders to simulate accelerated aging (oxidation) ~~of asphalt binders by~~ means of pressurized air and elevated temperature. This is intended to simulate the changes in rheology which occur in asphalt binders during in-service oxidative aging but may not accurately simulate the relative rates of aging. It is normally intended for use with residue from Test Method D2872 (RTFOT), which is designed to simulate plant aging.

~~NOTE 1—Modified asphalt binders may phase separate or form skins during oven conditioning in Test Method D2872 (RTFOT); the results from subsequent testing of this residue may not be representative of modified asphalts short-term aged under field conditions. Phase separation, or formation of skins, or both can also occur during PAV conditioning. Therefore, the practice may not be suitable for some modified asphalts.~~

NOTE 1<sup>2</sup>—PAV conditioning has not been validated for materials containing particulate materials.


1.2 The aging of asphalt binders during service is affected by ambient temperature and by mixture-associated variables, such as the volumetric proportions of the mix, the permeability of the mix, properties of the aggregates, and possibly other

---


# BALLOTING




# Submitting an Item for Ballot

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# Balloting

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ASTM has three levels of ballot:

- Subcommittee
- Main Committee
- Society

Ballots are open for a minimum of 30 days, all ballots are done online



# Subcommittee Ballot

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- Ballot item submittal
- Develop a strategy for considering ballot results
- Task group chair could contact negative voters before ballot closes
- Task group may decide to revise draft and reballot before Subcommittee meets

# Main Committee Ballot

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- Items that pass subcommittee ballot with no negatives move automatically to main committee ballot
- Drafts that have been through at least one subcommittee ballot can be balloted at main committee

# Concurrent Sub/Main Ballot

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- During the balloting process:
- Editor begins working on item with the start of the balloting process
- Technical contact could contact negative voters while ballot is open in order to resolve any negatives
- Develop strategy for how to resolve negative votes
- Contact your staff manager with your negative ballot resolutions

# Negative Resolutions

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- Five possible negative resolutions:
- Withdrawal
- Withdrawal with Editorial Changes
- Persuasive
- Not Persuasive
- Not Related

# Online Negative Resolutions



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**SUB COMMITTEE BALLOT C12.04 (21-01)**  
**ITEM 001 - REVISION OF C0144-2018**

Submit disposition of **Kevin Vaughan** negative vote. Click [here](#) to view negative.

<input type="radio"/>	<b>FAIL - (Item failed percent affirmative requirement)</b>
<input type="radio"/>	<b>REMOVED FOR REBALLOT ( Item removed from ballot by TC and SC - Attach next ballot file required)</b> <input type="button" value="Choose File"/> No file chosen
<input type="radio"/>	<b>PERSUASIVE - (Any part of the negative vote was found persuasive; Item removed from ballot)</b>
<input type="radio"/>	<b>WITHDRAWN (Entire negative vote was withdrawn without editorial changes)</b>
<input type="radio"/>	<b>WITHDRAWN WITH EDITORIAL CHANGES (Entire negative vote was withdrawn with editorial changes)</b> Clearly distinguish editorial changes from the ballot item using "track changes" or provide in a separate list format (attach below). Please do not provide a clean copy of the document. Submission may be made in separate document. <input type="button" value="Choose File"/> No file chosen
<input type="radio"/>	<b>NOT PERSUASIVE (Entire negative vote was found not persuasive or there is a combination of not persuasive and not related or withdrawn dispositions)</b>
<input type="radio"/>	<b>NOT RELATED (Entire negative vote was found not related or there is a combination of not related and withdrawn dispositions)</b>

# While the Standard is Balloting

---

- The Editor begins the editing process, which includes:
  - Typesetting/converting Word document to XML
  - Ensuring the standard matches balloted draft
  - Scanning and placing artwork
- Ensuring that sections, tables, and figures are cited and numbered correctly:
  - This includes checking that sections and cross-references are correct (for example, See Table 1.)

# While the Standard is Balloting

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The Editor will also:

- Verify titles of ASTM standards in the Referenced Documents section and confirm that they are all cited in the text
- Confirm that all mandatory sections are included and in the correct order
- Review supplier footnotes for compliance with Part F in the Form and Style for ASTM Standards manual

# Typical Corrections

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- Grammar
- Typographical errors
- The editor will ensure that:
  - Certain formats or spellings appear consistently throughout the standard
  - Trademarked terms are replaced with generic terms (for example: “Pyrex” becomes “borosilicate glass”)
  - Technical terms are spelled in accordance with Form and Style for ASTM Standards. A list of preferred spelling can be found in Part G



# Editorial versus Technical Changes

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- Editorial changes do NOT change the meaning or intent of a standard and do NOT require balloting.
  - Changes can be made during review process
- Technical changes do CHANGE the meaning or intent of a standard and REQUIRE balloting.
  - Changes must be made on the next ballot

# Editorial Change Examples

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- Address changes for referenced organizations, sole sources of supply, etc.
- Misspelled words
- Minor text edits that improve readability but do not change the content
- Update titles of standards (ASTM and others)

# Technical Change Examples

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- Changing permissive language to mandatory language: For example, may to shall
- Text edits that change the intent of standard
- Changing a single units of measurement standard to a dual measurement standard. For example, SI units only to Combined SI/Inch-Pound units
- Changing values in tables and equations (unless supported by existing balloted text)

# New Standard Receives Approval

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- A standard will receive official Society approval on the 1st or 15th of the month.
  
- Once a standard receives Society approval:
  - The editor is notified
  - The editor prepares the standard for review by the technical contact listed on the ballot
  - If editorial changes were provided during the balloting process or as the result of negative vote resolution, the editor includes those changes in the standard sent for review

# REVIEW

# Review Process

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- The editor e-mails a licensed PDF and redlined PDF of the standard for review.
  - This redline is not an ASTM standard and is intended only to provide the user of an ASTM standard an indication of what changes have been made to the previous version. In all cases only the current version of the standard as published by ASTM is to be considered the official document.
  
- This email:
  - Will provide a link to the online ballot item
  
  - Will include any questions or comments from your editor

# Reviewer's Checklist

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- The reviewer should ensure that all balloted information appears correctly in the printed standard
- Address any questions the editor may have posed in the review email or on the review PDF
- Typical questions include:
  - Citation of Referenced Documents in the text
  - Addition of Keywords
- The reviewer should respond to the editor by the stated deadline. This ensures the timeliest publication of the new standard. Contact the editor immediately if an extension is needed.

# PUBLICATION

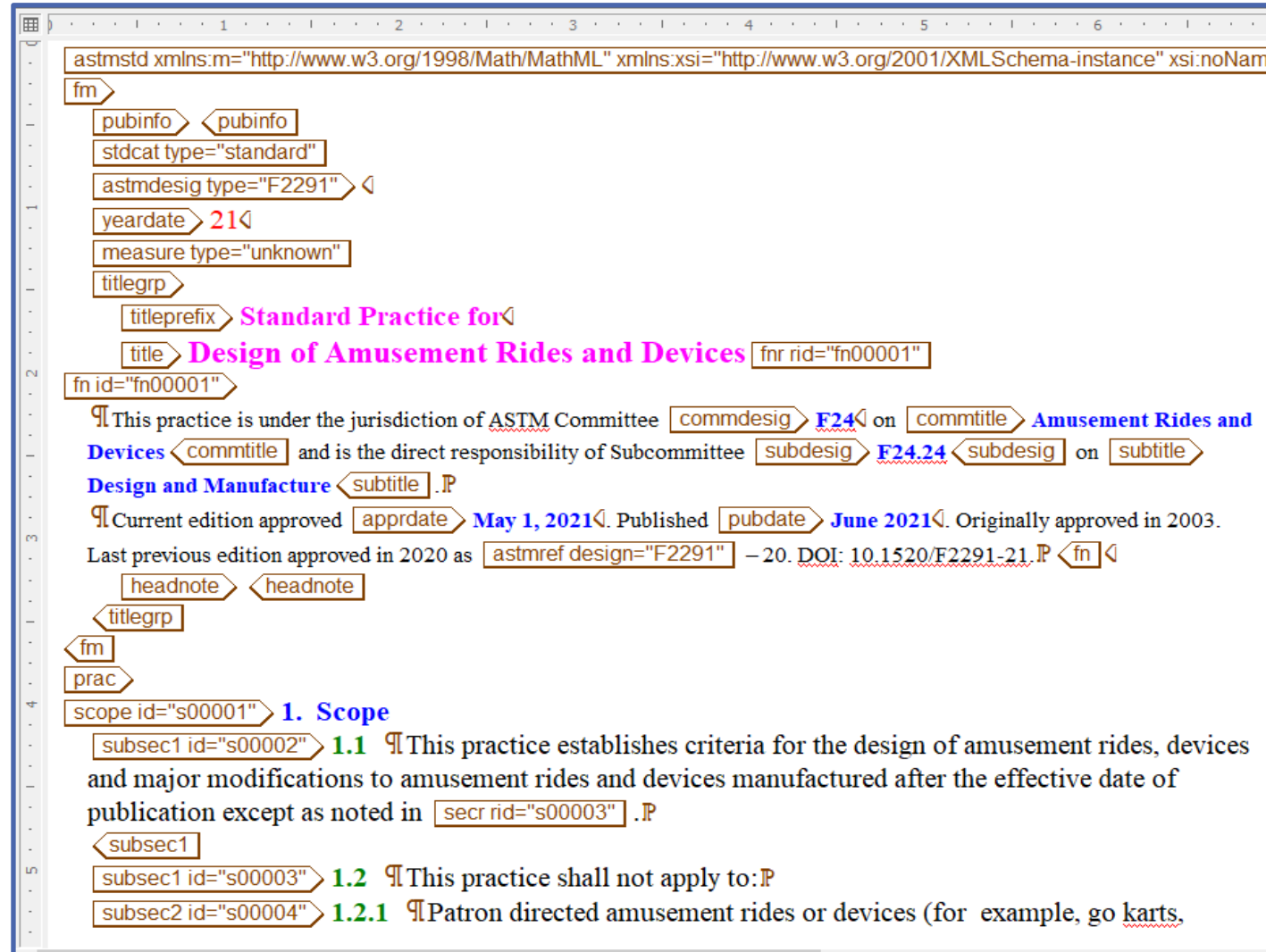


# Final Publication

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- Editor sends final approved document to ASTM website team
- Within a week, the standard is available online
- The ASTM website will always have the most current version of the standard.
- The printed Annual Book of Standards will contain the standards available at the time of its publication

# What the Editor Sees



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astmstd xmlns:m="http://www.w3.org/1998/Math/MathML" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNam
fm
  pubinfo pubinfo
  stdcat type="standard"
  astmdesig type="F2291"
  yeardate 21
  measure type="unknown"
  titlegrp
    titleprefix Standard Practice for
    title Design of Amusement Rides and Devices fnr rid="fn00001"
  fn id="fn00001"
    ¶ This practice is under the jurisdiction of ASTM Committee commdesig F24 on commtitle Amusement Rides and
    Devices commtitle and is the direct responsibility of Subcommittee subdesig F24.24 subdesig on subtitle
    Design and Manufacture subtitle .P
    ¶ Current edition approved apprdate May 1, 2021. Published pubdate June 2021. Originally approved in 2003.
    Last previous edition approved in 2020 as astmref design="F2291" – 20. DOI: 10.1520/F2291-21.P fn
    headnote headnote
  titlegrp
  fm
  prac
  scope id="s00001" 1. Scope
    subsec1 id="s00002" 1.1 ¶ This practice establishes criteria for the design of amusement rides, devices
    and major modifications to amusement rides and devices manufactured after the effective date of
    publication except as noted in secr rid="s00003" .P
    subsec1
      subsec1 id="s00003" 1.2 ¶ This practice shall not apply to:
      subsec2 id="s00004" 1.2.1 ¶ Patron directed amusement rides or devices (for example, go karts.
  
```

# Final Version

This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

 **Designation: F2291 – 21**

## Standard Practice for Design of Amusement Rides and Devices<sup>1</sup>

This standard is issued under the fixed designation F2291; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This practice establishes criteria for the design of amusement rides, devices and major modifications to amusement rides and devices manufactured after the effective date of publication except as noted in 1.2.

1.2 This practice shall not apply to:

- 1.2.1 Patron directed amusement rides or devices (for example, go karts, bumper cars, bumper boats),
- 1.2.2 Artificial climbing walls,
- 1.2.3 Air-supported structures,
- 1.2.4 dry slides,
- 1.2.5 coin operated rides,
- 1.2.6 Amusement rides or devices that involve the purposeful immersion of the patron's body partially or totally in the water and involves more than incidental patron water contact (for example, pools, water slides, lazy rivers, interactive aquatic play devices),
- 1.2.7 Amusement rides and devices whose design criteria are specifically addressed in another ASTM standard,
- 1.2.8 Portions of an amusement ride or device unaffected by a major modification,
- 1.2.9 Upgrades to electrical wiring, electrical motors and electrical components of amusement rides and devices provided the original design and safety criteria are maintained or enhanced, and
- 1.2.10 Pre-existing designs manufactured after the effective date of publication of this practice if the design is service proven or previously compliant and the manufacturer provides:
  - 1.2.10.1 A historical summary of the amusement ride, device or major modification, and
  - 1.2.10.2 A statement that the design is service proven or previously compliant as specified by Section 3.
  - 1.2.10.3 Amusement rides and devices, and major modifications to amusement rides and devices may qualify as "previously compliant" for five years following the date of publication of this practice. Thereafter, amusement rides and devices, and major modifications to amusement rides and devices must qualify as "service proven" or meet the requirements of this practice.

1.3 This practice includes an annex (mandatory), which provides additional information (for example, rationale, background, interpretations, drawings, commentary, and so forth) to improve the user's understanding and application of the criteria presented in this practice. The annex information shall be interpreted as mandatory design criteria.

1.4 This practice includes an appendix (non-mandatory), which provides additional information (for example, rationale, background, interpretations, drawings, commentary, and so forth) to improve the user's understanding and application of the criteria presented in this practice. The appendix information shall not be interpreted as mandatory design criteria.

1.5 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.6 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

### 2. Referenced Documents

2.1 *ASTM Standards:*<sup>2</sup>

- F770 Practice for Ownership, Operation, Maintenance, and Inspection of Amusement Rides and Devices
- F1159 Practice for Design of Amusement Rides and Devices that are Outside the Purview of Other F24 Design Standards
- F1193 Practice for Quality, Manufacture, and Construction of Amusement Rides and Devices
- F2137 Practice for Measuring the Dynamic Characteristics of Amusement Rides and Devices
- F2374 Practice for Design, Manufacture, Operation, and

<sup>1</sup> This practice is under the jurisdiction of ASTM Committee F24 on Amusement Rides and Devices and is the direct responsibility of Subcommittee F24.24 on Design and Manufacture.


Current edition approved May 1, 2021. Published June 2021. Originally approved in 2003. Last previous edition approved in 2020 as F2291 – 20. DOI: 10.1520/F2291-21.

<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For Annual Book of ASTM Standards volume information, refer to the standard's Document Summary page on the ASTM website.

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# Redline Version or Version Comparison

This document is not an ASTM standard and is intended only to provide the user of an ASTM standard an indication of what changes have been made to the previous version. Because it may not be technically possible to adequately depict all changes accurately, ASTM recommends that users consult prior editions as appropriate. In all cases only the current version of the standard as published by ASTM is to be considered the official document.

 **Designation: F2291—20 F2291 – 21**

**Standard Practice for  
Design of Amusement Rides and Devices<sup>1</sup>**

This standard is issued under the fixed designation F2291; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

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1.2.4 dry slides,

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1.2.6 Amusement rides or devices that involve the purposeful immersion of the patron's body partially or totally in the water and involves more than incidental patron water contact (for example, pools, water slides, lazy rivers, interactive aquatic play devices),

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1.2.8 Portions of an amusement ride or device unaffected by a major modification,

1.2.9 Upgrades to electrical wiring, electrical motors and electrical components of amusement rides and devices provided the original design and safety criteria are maintained or enhanced, and

1.2.10 Pre-existing designs manufactured after the effective date of publication of this practice if the design is service proven or previously compliant and the manufacturer provides:


1.2.10.1 A historical summary of the amusement ride, device or major modification, and

1.2.10.2 A statement that the design is service proven or previously compliant as specified by Section 3.

1.2.10.3 Amusement rides and devices, and major modifications to amusement rides and devices may qualify as "previously

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# Review



# QUESTIONS?



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