

## [MS-EPUB3]:

# Microsoft Edge / Internet Explorer EPUB Publications 3.0.1 Standards Support Document

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## Revision Summary

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3/14/2017	1.0	New	Released new document.
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# 1 Introduction

This document describes the level of support provided by Microsoft Edge for the EPUB Publications 3.0.1 Recommended Specification [\[W3C-EPUB3\]](#), published 26 June 2014.

The [\[W3C-EPUB3\]](#) specification defines semantics and conformance requirements for EPUB® Publications, including the format of the Package Document that describes each Rendition of the content and rules for how this document and other Publication Resources are associated to create a conforming EPUB Publication.

## 1.1 Glossary

**MAY, SHOULD, MUST, SHOULD NOT, MUST NOT:** These terms (in all caps) are used as defined in [\[RFC2119\]](#). All statements of optional behavior use either MAY, SHOULD, or SHOULD NOT.

## 1.2 References

Links to a document in the Microsoft Open Specifications library point to the correct section in the most recently published version of the referenced document. However, because individual documents in the library are not updated at the same time, the section numbers in the documents may not match. You can confirm the correct section numbering by checking the [Errata](#).

### 1.2.1 Normative References

We conduct frequent surveys of the normative references to assure their continued availability. If you have any issue with finding a normative reference, please contact [dochelp@microsoft.com](mailto:dochelp@microsoft.com). We will assist you in finding the relevant information.

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997, <http://www.rfc-editor.org/rfc/rfc2119.txt>

[W3C-EPUB3] World Wide Web Consortium, "EPUB Publications 3.0.1", Recommended Specification 26 June 2014, <https://go.microsoft.com/fwlink/p/?linkid=835119>

### 1.2.2 Informative References

None.

## 1.3 Microsoft Implementations

The following Microsoft web browsers implement some portion of the [\[W3C-EPUB3\]](#) specification:

- Microsoft Edge

Each browser version may implement multiple document rendering modes. The modes vary from one to another in support of the standard. The following table lists the document modes supported by each browser version.

Browser Version	Document Modes Supported
Microsoft Edge	EdgeHTML Mode

For each variation presented in this document there is a list of the document modes and browser versions that exhibit the behavior described by the variation. All combinations of modes and versions that are not listed conform to the specification. For example, the following list for a variation indicates that the variation exists in three document modes in all browser versions that support these modes:

## 1.4 Standards Support Requirements

To conform to [\[W3C-EPUB3\]](#), a user agent must implement all required portions of the specification. Any optional portions that have been implemented must also be implemented as described by the specification. Normative language is usually used to define both required and optional portions. (For more information, see [\[RFC2119\]](#).)

The following table lists the sections of [W3C-EPUB3] and whether they are considered normative or informative.

Sections	Normative/Informative
1-2	Informative
3-5	Normative
Appendices A-C	Informative

## 1.5 Notation

The following notations are used in this document to differentiate between notes of clarification, variation from the specification, and points of extensibility.

Notation	Explanation
C####	This identifies a clarification of ambiguity in the target specification. This includes imprecise statements, omitted information, discrepancies, and errata. This does not include data formatting clarifications.
V####	This identifies an intended point of variability in the target specification such as the use of MAY, SHOULD, or RECOMMENDED. (See <a href="#">[RFC2119]</a> .) This does not include extensibility points.
E####	Because the use of extensibility points (such as optional implementation-specific data) can impair interoperability, this profile identifies such points in the target specification.

For document mode and browser version notation, see also section [1.3](#).

## 2 Standards Support Statements

This section contains all variations, clarifications, and extensions for the Microsoft implementation of [\[W3C-EPUB3\]](#).

- Section [2.1](#) describes normative variations from the MUST requirements of the specification.
- Section [2.2](#) describes clarifications of the MAY and SHOULD requirements.
- Section [2.3](#) describes extensions to the requirements.
- Section [2.4](#) considers error handling aspects of the implementation.
- Section [2.5](#) considers security aspects of the implementation.

### 2.1 Normative Variations

The following subsections describe normative variations from the MUST requirements of [\[W3C-EPUB3\]](#).

#### 2.1.1 [W3C-EPUB3] Section 2.2. Reading System Conformance

V0001: The EPUB fallback chains are not honored

The specification states:

```
> 2.2 Reading System Conformance

An EPUB Reading System must meet all of the following criteria:

EPUB 3 Processing
...
> It must process the Package Document as defined in Package Document – Reading System Conformance, and honor all presentation logic expressed through the Package Document (e.g., the reading order, fallback chains, bindings, page progression direction and fixed layouts).
```

#### **EdgeHTML Mode**

The EPUB fallback chains are not honored; instead the reader uses the HTML fallback mechanisms.

V0002: The EPUB Canonical Fragment Identifiers scheme for linking is not supported

The specification states:

```
> 2.2 Reading System Conformance

An EPUB Reading System must meet all of the following criteria:

EPUB 3 Processing
...
> It must support the EPUB Canonical Fragment Identifiers scheme [EPUBCFI] for linking, and may support additional linking schemes as defined in the EPUB Linking Scheme Registry.
```

#### **EdgeHTML Mode**

The EPUB Canonical Fragment Identifiers scheme for linking is not supported.

### 2.1.2 [W3C-EPUB3] Section 3.3. Reading System Conformance

V0003: The dimensions from the viewport meta tag are ignored

The specification states:

```
> 3.3 Reading System Conformance
```

```
An EPUB Reading System must meet all of the following criteria:
```

```
Processing
```

```
...
```

```
> For fixed layouts expressed using the rendition:layout property, it must determine the rendering dimensions as defined in Fixed-Layout Documents [ContentDocs301].
```

#### **EdgeHTML Mode**

The dimensions from the `viewport` meta tag are ignored; instead the Reading System uses the dimensions expressed in the content (HTML or SVG).

V0004: The `rendition:spread` Fixed-Layout Property is ignored

The specification states:

```
> 3.3 Reading System Conformance
```

```
An EPUB Reading System must meet all of the following criteria:
```

```
Processing
```

```
...
```

```
> It must process fixed layout metadata, as expressed in Fixed-Layout Properties
```

#### **EdgeHTML Mode**

The `rendition:spread` Fixed-Layout Property is ignored.

V0005: The `page-spread-` Fixed-Layout Properties are ignored

The specification states:

```
> 3.3 Reading System Conformance
```

```
An EPUB Reading System must meet all of the following criteria:
```

```
Processing
```

```
...
```

```
> It must process fixed layout metadata, as expressed in Fixed-Layout Properties
```

#### **EdgeHTML Mode**

The `page-spread-` Fixed-Layout Properties are ignored.

V0006: The rendition:viewport Fixed-Layout Property is ignored

The specification states:

```
> 3.3 Reading System Conformance

An EPUB Reading System must meet all of the following criteria:

Processing
...
> It must process fixed layout metadata, as expressed in Fixed-Layout Properties
```

### **EdgeHTML Mode**

The rendition:viewport Fixed-Layout Property is ignored.

## **2.1.3 [W3C-EPUB3] Section 3.4.4. The DCMES title Element**

V0007: Leading and trailing whitespace is not trimmed

The specification states:

```
> 3.4.4 The DCMES title Element

The [DCMES] title element represents an instance of a name given to the EPUB Publication.
...
Reading Systems must trim all leading and trailing whitespace from the element value, as
defined by the XML specification [XML], before processing the value.
```

### **EdgeHTML Mode**

Leading and trailing whitespace is not trimmed.

## **2.1.4 [W3C-EPUB3] Section 3.4.5. The DCMES language Element**

V0008: Leading and trailing whitespace is not trimmed

The specification states:

```
> 3.4.5 The DCMES language Element

The [DCMES] language element specifies the language of the content of the given Rendition.
...
Reading Systems must trim all leading and trailing whitespace from the element value, as
defined by the XML specification [XML], before processing the value.
```

### **EdgeHTML Mode**

Leading and trailing whitespace is not trimmed.



## 2.1.5 [W3C-EPUB3] Section 3.4.6. The DCMES Optional Elements

V0009: Leading and trailing whitespace is not trimmed

The specification states:

> 3.4.6 The DCMES Optional Elements

All elements from the [DCMES] element set – except for identifier, language and title, as defined above – are designated as optional. These elements all conform to the following generalized definition:

...

Reading Systems must trim all leading and trailing whitespace from the element value, as defined by the XML specification [XML], before processing the value.

### **EdgeHTML Mode**

Leading and trailing whitespace is not trimmed.

## 2.1.6 [W3C-EPUB3] Section 3.4.7. The meta Element

V0010: Leading and trailing whitespace is not trimmed

The specification states:

> 3.4.7 The meta Element

The meta element provides a generic means of including package metadata, allowing the expression of primary metadata about the package or content and refinement of that metadata.

...

Unless an individual property explicitly defines a different whitespace normalization algorithm, Reading Systems must trim all leading and trailing whitespace from the meta element values, as defined by the XML specification [XML], before further processing them.

### **EdgeHTML Mode**

Leading and trailing whitespace is not trimmed.

## 2.1.7 [W3C-EPUB3] Section 3.4.12. The spine Element

V0011: If the navigation document is not present in an EPUB3 publication, the NCX is used

The specification states:

> 3.4.12 The spine Element

The spine element defines the default reading order of the given Rendition of the EPUB Publication content by defining an ordered list of manifest item references.

...

> NCX Superseded

The NCX feature defined in [OPF2] is superseded by the EPUB Navigation Document [ContentDocs301]. EPUB 3 Publications may include an NCX (as defined in OPF 2.0.1) for EPUB 2 Reading System forwards compatibility purposes, but EPUB 3 Reading Systems must

ignore the NCX.

### **EdgeHTML Mode**

If the navigation document is not present in an EPUB3 publication, the NCX is used.

### **2.1.8 [W3C-EPUB3] Section 3.4.14. The guide Element [DEPRECATED]**

V0012: The guide element is used as a fallback when the EPUB 3 landmarks are not present

The specification states:

> 3.4.14 The guide Element [DEPRECATED]

The guide element [OPF2] is deprecated in favor of the landmarks feature in the EPUB Navigation Document. Refer to The landmarks nav Element [ContentDocs301] for more information.

Authors may include the guide element in the Package Document for EPUB 2 Reading System forwards compatibility purposes. EPUB 3 Reading Systems must ignore the guide element when provided in EPUB 3 Publications whose EPUB Navigation Document includes the landmarks feature.

### **EdgeHTML Mode**

The guide element is used as a fallback when the EPUB 3 landmarks are not present.

### **2.1.9 [W3C-EPUB3] Section 3.4.15. The bindings Element**

V0013: The bindings element is not supported and is ignored

The specification states:

> 3.4.15 The bindings Element

The bindings element defines a set of custom handlers for media types not supported by this specification.

### **EdgeHTML Mode**

The bindings element is not supported and is ignored.

### **2.1.10 [W3C-EPUB3] Section 4.2.4. The prefix Attribute**

V0014: The prefix attribute is not supported

The specification states:

> 4.2.4 The prefix Attribute

The prefix attribute defines additional prefix mappings not reserved by the specification.

### **EdgeHTML Mode**

The prefix attribute is not supported.

## **2.1.11 [W3C-EPUB3] Section 4.3.2.1. Publication**

V0015: meta elements that use the refines attribute to modify publication package data are not supported

The specification states:

> 4.3.2 Metadata meta Properties

The meta element properties enhance Rendition metadata by providing additional level(s) of detail.

These properties must reference the expression or resource they augment in the refines attribute on their parent meta element.

The following tables detail the available properties.

> 4.3.2.1 Publication

### **EdgeHTML Mode**

meta elements that use the refines attribute to modify publication package data are not supported and are ignored. This includes meta elements that specify the alternate-script, belongs-to-collection, collection-type, display-seq, file-as, group-position, identifier-type, meta-auth, role, source-of, and title-type properties.

## **2.1.12 [W3C-EPUB3] Section 4.4.2.4.2. Allowed values**

V0016: The rendition:spread property is not supported and is ignored

The specification states:

> 4.4.2.4 The rendition:spread Property

> 4.4.2.4.2 Allowed values

The following values are defined for use with the rendition:spread property:

### **EdgeHTML Mode**

The rendition:spread property is not supported and is ignored.

### 2.1.13 [W3C-EPUB3] Section 4.4.2.4.3. Spine Overrides

V0017: The rendition:spread property is not supported and is ignored

The specification states:

> 4.4.2.4 The rendition:spread Property

> 4.4.2.4.3 Spine Overrides

The rendition:spread-landscape, rendition:spread-portrait, rendition:spread-both, rendition:spread-auto and rendition:spread-none properties may be specified locally on spine itemref elements, and will, in such cases, override the global value for the given spine item.

#### **EdgeHTML Mode**

The rendition:spread property is not supported and is ignored.

### 2.1.14 [W3C-EPUB3] Section 5.2.2. Manifest Fallbacks

V0018: Manifest fallbacks are not supported and are ignored

The specification states:

> 5.2.2 Manifest Fallbacks

Manifest fallbacks are provided using the fallback attribute on the manifest item element that represents the Publication Resource. The fallback attribute's IDREF [XML] value must resolve to another item in the manifest. This fallback item may itself specify another fallback item, and so on.

#### **EdgeHTML Mode**

Manifest fallbacks are not supported and are ignored.

## 2.2 Clarifications

The following subsections describe clarifications of the MAY and SHOULD requirements of [\[W3C-EPUB3\]](#).

### 2.2.1 [W3C-EPUB3] Section 2.2. Reading System Conformance

C0001: Core Media Type application/smil+xml is not supported

The specification states:

> 2.2 Reading System Conformance

An EPUB Reading System must meet all of the following criteria:

EPUB 3 Processing

...

> Unless specified as conditional behavior in this section, it must support all Core

Media Type Resources.

### **EdgeHTML Mode**

Core Media Type `application/smil+xml` (see section 5.1 of [\[W3C-EPUB3\]](#)) is not supported.

C0002: Embedded scripts and obfuscated fonts are not supported

The specification states:

```
> 2.2 Reading System Conformance

An EPUB Reading System must meet all of the following criteria:

EPUB 3 Processing
...
> It may support an arbitrary set of Foreign Resource types, and must process
  fallbacks for unsupported Foreign Resources as defined in Restrictions and Fallbacks
  if not.
```

### **EdgeHTML Mode**

These Foreign Resource types are not supported: embedded scripts and obfuscated fonts.

C0003: Media Type `application/pls+xml` is not supported

The specification states:

```
> 2.2 Reading System Conformance

An EPUB Reading System must meet all of the following criteria:

EPUB 3 Processing
...
> Unless specified as conditional behavior in this section, it must support all Core
  Media Type Resources.
```

### **EdgeHTML Mode**

Media Type `application/pls+xml` (see section 5.1 of [\[W3C-EPUB3\]](#)) is not supported.

C0004: XML 1.1 OPF, navigation, and content documents are not supported

The specification states:

```
> 2.2 Reading System Conformance

An EPUB Reading System must meet all of the following criteria:
...
Backward Compatibility
> It should process EPUB version 2 Publications as defined in [OPF2], [OPS2] and
  [OCF2].
```

### **EdgeHTML Mode**

XML 1.1 OPF, navigation, and content documents are not supported.

### **2.2.2 [W3C-EPUB3] Section 3.3. Reading System Conformance**

C0005: The `rendition:flow-scrolled-continous` and `rendition:flow-scrolled-doc` properties are ignored

The specification states:

```
> 3.3 Reading System Conformance

An EPUB Reading System must meet all of the following criteria:

Processing
...
> It must process fixed layout metadata, as expressed in Fixed-Layout Properties
```

### **EdgeHTML Mode**

The `rendition:flow-scrolled-continous` and `rendition:flow-scrolled-doc` properties are ignored, and the viewer defaults to the reflowable pagination mode.

### **2.2.3 [W3C-EPUB3] Section 3.4.12. The spine Element**

C0006: There are no mechanisms to override the default direction

The specification states:

```
> 3.4.12 The spine Element

The spine element defines the default reading order of the given Rendition of the EPUB
Publication content by defining an ordered list of manifest item references.
...
... Reading Systems may also provide mechanisms to override the default direction (e.g.,
buttons or settings that allow the application of alternate style sheets).
```

### **EdgeHTML Mode**

There are no mechanisms to override the default direction.

### **2.2.4 [W3C-EPUB3] Section 3.4.13. The itemref Element**

C0007: No control is provided over the rendering order for non-linear content

The specification states:

```
> 3.4.13 The itemref Element

The child itemref elements of the spine represent a sequential list of Publication
Resources (typically EPUB Content Documents). The order of the itemref elements defines
the default reading order of the given Rendition of the EPUB Publication.
```

...

The linear attribute may be used to enable Reading Systems to distinguish presentation of body content from supplementary content which might be, for example, presented in a popup window or omitted from an aural rendering. Reading Systems should provide Users the ability to control whether non-linear content is rendered in the default reading order.

### **EdgeHTML Mode**

No control is provided over the rendering order for non-linear content.

## **2.2.5 [W3C-EPUB3] Section 4.4.1.2.1. Usage**

C0008: The rendition:flow property is not supported

The specification states:

> 4.4.1.2 The rendition:flow Property

> 4.4.1.2.1 Usage

When the rendition:flow property is specified on a meta element, it indicates the Author's global preference for overflow content handling (i.e., for all spine items). Authors may indicate a preference for dynamic pagination or scrolling. For scrolled content, it is also possible to specify whether consecutive EPUB Content Documents are to be rendered as a continuous scrolling view or whether each is to be rendered separately (i.e., with a dynamic page break between each).

### **EdgeHTML Mode**

The rendition:flow property is not supported; instead, a default automatic flow mode is used.

## **2.2.6 [W3C-EPUB3] Section 4.4.1.2.2. Allowed values**

C0009: The rendition:flow property is not supported

The specification states:

> 4.4.1.2.2 Allowed values

The following values are defined for use with the rendition:flow property:

### **EdgeHTML Mode**

The rendition:flow property is not supported; instead, a default automatic flow mode is used.

## **2.2.7 [W3C-EPUB3] Section 4.4.1.2.3. Spine Overrides**

C0010: The rendition:flow property is not supported

The specification states:

> 4.4.1.2.3 Spine Overrides

The `rendition:flow-auto`, `rendition:flow-paginated`, `rendition:flow-scrolled-continuous`, `rendition:flow-scrolled-doc` and properties may be specified locally on spine `itemref` elements, and will, in such cases, override the global value for the given spine item.

### **EdgeHTML Mode**

The `rendition:flow` property is not supported; instead, a default automatic flow mode is used.

## **2.2.8 [W3C-EPUB3] Section 4.4.1.3. The `rendition:align-x-center` Property**

C0011: The `rendition:align-x-center` property is not supported and is ignored

The specification states:

> 4.4.1.3 The `rendition:align-x-center` Property

When the `rendition:align-x-center` property is set on a spine item, it indicates that the rendered content should be centered horizontally within the viewport or spread, as applicable. This property does not affect the rendering of the spine item, only the placement of the resulting content box.

### **EdgeHTML Mode**

The `rendition:align-x-center` property is not supported and is ignored.

## **2.2.9 [W3C-EPUB3] Section 4.4.2.3.1. Usage**

C0012: The `rendition:orientation` property is not supported and is ignored

The specification states:

> 4.4.2.3.1 Usage

When the `rendition:orientation` property is specified on a meta element, it indicates that the intended orientation applies globally for the given Rendition (i.e., for all spine items).

### **EdgeHTML Mode**

The `rendition:orientation` property is not supported and is ignored.

## **2.2.10 [W3C-EPUB3] Section 4.4.2.3.2. Allowed values**

C0013: The `rendition:orientation` property is not supported and is ignored

The specification states:

> 4.4.2.3.2 Allowed values



The following values are defined for use with the `rendition:orientation` property:

### **EdgeHTML Mode**

The `rendition:orientation` property is not supported and is ignored.

## **2.2.11 [W3C-EPUB3] Section 4.4.2.3.3. Spine Overrides**

C0014: The `rendition:orientation-` properties for `itemref` elements are not supported and are ignored

The specification states:

> 4.4.2.3.3 Spine Overrides

The `rendition:orientation-landscape`, `rendition:orientation-portrait` and `rendition:orientation-auto` properties may be specified locally on spine `itemref` elements, and will, in such cases, override the global value for the given spine item.

### **EdgeHTML Mode**

The `rendition:orientation-` properties for `itemref` elements are not supported and are ignored.

## **2.2.12 [W3C-EPUB3] Section 4.4.2.4.1. Usage**

C0015: The `rendition:spread` property is not supported and is ignored

The specification states:

> 4.4.2.4.1 Usage

When the `rendition:spread` property is specified on a meta element, it indicates that the intended Synthetic Spread behavior applies globally for the given Rendition (i.e., for all spine items).

### **EdgeHTML Mode**

The `rendition:spread` property is not supported and is ignored.

## **2.2.13 [W3C-EPUB3] Section 4.4.2.5. The page-spread-\* Properties**

C0016: The `page-spread-*` properties are not supported are ignored

The specification states:

> 4.4.2.5 The `page-spread-*` Properties

When a Reading System renders a Synthetic Spread, the default behavior is to populate the spread by rendering the next EPUB Content Document in the next available unpopulated viewport, where the next available viewport is determined by the given page progression direction or by local declarations within Content Documents. By providing one of the

page-spread-left, page-spread-right or rendition:page-spread-center properties on a spine itemref element, an Author may override this automatic population behavior by forcing that document to be placed in a particular viewport.

### **EdgeHTML Mode**

The page-spread-\* properties are not supported and are ignored.

## **2.3 Extensions**

There are no extensions to the requirements of [\[W3C-EPUB3\]](#).

## **2.4 Error Handling**

There are no additional error handling considerations.

## **2.5 Security**

There are no additional security considerations.

### **3 Change Tracking**

No table of changes is available. The document is either new or has had no changes since its last release.

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