

# [MS-ISO8859]: Microsoft 8-bit Single-byte Coded Graphic Character Sets Standards Support Document

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## Revision Summary

Date	Revision History	Revision Class	Comments
03/26/2010	1.0	New	Released new document.
05/26/2010	1.2	None	Introduced no new technical or language changes.
09/08/2010	1.3	Major	Significantly changed the technical content.
02/10/2011	2.0	No change	Introduced no new technical or language changes.
02/22/2012	3.0	Major	Significantly changed the technical content.
07/25/2012	3.1	Minor	Clarified the meaning of the technical content.

# Table of Contents

<b>1</b>	<b>Introduction .....</b>	<b>4</b>
1.1	Glossary .....	4
1.2	References.....	4
1.2.1	Normative References.....	4
1.2.2	Informative References .....	5
1.3	Microsoft Implementations.....	5
1.4	Standards Support Requirements .....	6
1.5	Notation .....	6
<b>2</b>	<b>Standards Support Statements.....</b>	<b>7</b>
2.1	Normative Variations.....	7
2.1.1	ISO-8859-1 .....	7
2.1.2	ISO-8859-8 .....	9
2.1.3	ISO-8859-9 .....	9
2.1.4	ISO-8859-15 .....	12
2.1.5	ISO-8859-16 .....	12
2.2	Clarifications .....	14
2.3	Error Handling .....	14
2.4	Security.....	14
<b>3</b>	<b>Change Tracking.....</b>	<b>15</b>
<b>4</b>	<b>Index .....</b>	<b>17</b>

# 1 Introduction

This document describes the level of support provided by Windows® Internet Explorer® for the following specifications:

- *International Organization for Standardization, Information Technology -- 8-Bit Single-Byte Coded Graphic Character Sets -- Part 1: Latin Alphabet No. 1*, ISO/IEC 8859-1, 1998, [\[ISO-8859-1\]](#)
- *International Organization for Standardization, "Information technology -- 8-bit single-byte coded graphic character sets -- Part 8: Latin/Hebrew alphabet"*, 1999, [\[ISO-8859-8\]](#)
- *International Organization for Standardization, "Information technology -- 8-bit single-byte coded graphic character sets -- Part 9: Latin alphabet No. 5"*, 1999 [\[ISO-8859-9\]](#)
- *International Organization for Standardization, "Information technology -- 8-bit single-byte coded graphic character sets -- Part 15: Latin alphabet No. 9"*, 1999, [\[ISO-8859-15\]](#)
- *International Organization for Standardization, "Information technology -- 8-bit single-byte coded graphic character sets -- Part 16: Latin alphabet No. 10"*, 2001, [\[ISO-8859-16\]](#)

Internet Explorer displays webpages written in HTML.

The [\[ISO-8859-1\]](#), [\[ISO-8859-8\]](#), [\[ISO-8859-9\]](#), [\[ISO-8859-15\]](#), and [\[ISO-8859-16\]](#) specifications may contain guidance for authors of webpages and browser users, in addition to user agents (browser applications). Statements found in this document apply only to normative requirements in the specification targeted to user agents, not those targeted to authors.

## 1.1 Glossary

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

## 1.2 References

References to Microsoft Open Specifications documentation do not include a publishing year because links are to the latest version of the technical documents, which are updated frequently. References to other documents include a publishing year when one is available.

### 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. Please check the archive site, <http://msdn2.microsoft.com/en-us/library/E4BD6494-06AD-4aed-9823-445E921C9624>, as an additional source.

[ISO-8859-1] International Organization for Standardization, "Information Technology -- 8-Bit Single-Byte Coded Graphic Character Sets -- Part 1: Latin Alphabet No. 1", ISO/IEC 8859-1, 1998, [http://www.iso.org/iso/iso\\_catalogue/catalogue\\_tc/catalogue\\_detail.htm?csnumber=28245](http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=28245)

[ISO-8859-15] International Organization for Standardization, "Information technology -- 8-bit single-byte coded graphic character sets -- Part 15: Latin alphabet No. 9", 1999, [http://www.iso.org/iso/iso\\_catalogue/catalogue\\_tc/catalogue\\_detail.htm?csnumber=29505](http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=29505)

[ISO-8859-16] International Organization for Standardization, "Information technology -- 8-bit single-byte coded graphic character sets -- Part 16: Latin alphabet No. 10", 2001, [http://www.iso.org/iso/iso\\_catalogue/catalogue\\_tc/catalogue\\_detail.htm?csnumber=33428](http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=33428)

[ISO-8859-8] International Organization for Standardization, "Information technology -- 8-bit single-byte coded graphic character sets -- Part 8: Latin/Hebrew alphabet", 1999, [http://www.iso.org/iso/iso\\_catalogue/catalogue\\_tc/catalogue\\_detail.htm?csnumber=28252](http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=28252)

[ISO-8859-9] International Organization for Standardization, "Information technology -- 8-bit single-byte coded graphic character sets -- Part 9: Latin alphabet No. 5", 1999, [http://www.iso.org/iso/iso\\_catalogue/catalogue\\_tc/catalogue\\_detail.htm?csnumber=28253](http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=28253)

[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>

## 1.2.2 Informative References

[MSDN-CODEPG-Win1252] Microsoft Corporation, "Windows 1252", Windows Code Pages, <http://msdn.microsoft.com/en-us/global/cc305145.aspx>

## 1.3 Microsoft Implementations

The following Microsoft products implement some portion of the relevant specifications:

- Windows® Internet Explorer® 7
- Windows® Internet Explorer® 8
- Windows® Internet Explorer® 9
- Windows® Internet Explorer® 10

In addition, each version of Windows® Internet Explorer® implements multiple document modes, which can vary individually in their support of the standard. The following table lists the document modes available in each version of Internet Explorer:

Browser Version	Documents Modes Supported
Internet Explorer 7	Quirks Mode Standards Mode
Internet Explorer 8	Quirks Mode IE7 Mode IE8 Mode
Internet Explorer 9	Quirks Mode IE7 Mode IE8 Mode IE9 Mode
Internet Explorer 10	Quirks Mode IE7 Mode IE8 Mode IE9 Mode IE10 Mode

Throughout this document, the document mode appears first followed by the browser version in parentheses. Only those document modes and versions of Internet Explorer for which there is a variation note will be listed. If the document mode is not listed, conformance to the specification can be assumed.

**Note** "Standards mode" in Internet Explorer 7 and "IE7 mode" in Internet Explorer 8 refer to the same document mode. "IE7 mode" is the preferred way of referring to this document mode across all versions of the browser.

Throughout this document, Microsoft XML Core Services (MSXML) 3.0 is referred to as *MSXML3* and Microsoft XML Core Services (MSXML) 6.0 is referred to as *MSXML6*.

MSXML3 is the only version of MSXML that is implemented in Internet Explorer 7 and Internet Explorer 8. Both MSXML3 and MSXML6 are implemented in Internet Explorer 9 and Internet Explorer 10.

## 1.4 Standards Support Requirements

To conform to [\[ISO-8859-1\]](#), [\[ISO-8859-8\]](#), [\[ISO-8859-9\]](#), [\[ISO-8859-15\]](#), and [\[ISO-8859-16\]](#), 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 [\[RFC2119\]](#).)

## 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 a full list of variations, clarifications, and extension points in the Microsoft implementation of [\[ISO-8859-1\]](#), [\[ISO-8859-8\]](#), [\[ISO-8859-9\]](#), [\[ISO-8859-15\]](#), and [\[ISO-8859-16\]](#).

- Section [2.1](#) includes only those variations that violate a MUST requirement in the target specification.
- Section [2.2](#) describes further variations from MAY and SHOULD requirements.
- Section [2.3](#) identifies variations in error handling.
- Section [2.4](#) identifies variations that impact security.

### 2.1 Normative Variations

The following subsections detail the normative variations from MUST requirements in [\[ISO-8859-1\]](#), [\[ISO-8859-8\]](#), [\[ISO-8859-9\]](#), [\[ISO-8859-15\]](#), and [\[ISO-8859-16\]](#).

#### 2.1.1 ISO-8859-1

*All Document Modes (All Versions)*

The following table describes variations from the [\[ISO-8859-1\]](#) character set:

Charset Hex value	Expected Unicode Point	Internet Explorer Unicode Point	Internet Explorer Glyph
0x0080	U+0080	U+20AC	€
0x0082	U+0082	U+201A	,
0x0083	U+0083	U+0192	f
0x0084	U+0084	U+201E	„
0x0085	U+0085	U+2026	...
0x0086	U+0086	U+2020	†
0x0087	U+0087	U+2021	‡

Charset Hex value	Expected Unicode Point	Internet Explorer Unicode Point	Internet Explorer Glyph
0x0088	U+0088	U+02C6	^
0x0089	U+0089	U+2030	‰
0x008A	U+008A	U+0161	Š
0x008B	U+008B	U+2039	‹
0x008C	U+008C	U+0152	Œ
0x008E	U+008E	U+017D	Ž
0x0091	U+0091	U+2018	‘
0x0092	U+0092	U+2019	’
0x0093	U+0093	U+201C	“
0x0094	U+0094	U+201D	”
0x0095	U+0095	U+2022	•
0x0096	U+0096	U+2013	—
0x0097	U+0097	U+2014	—
0x0098	U+0098	U+02DC	~



Charset Hex value	Expected Unicode Point	Internet Explorer Unicode Point	Internet Explorer Glyph
0x0099	U+0099	U+2122	™
0x009A	U+009A	U+0161	Š
0x009B	U+009B	U+203A	›
0x009C	U+009C	U+0153	œ
0x009E	U+009E	U+017E	ž
0x009F	U+009F	U+0178	ÿ

The implementation of [\[ISO-8859-1\]](#) in Internet Explorer is closely related to the Windows-1252 code page [\[MSDN-CODEPG-Win1252\]](#). The code ranges from 0x00 to 0x7F and from 0xA0 to 0xFF are the same in both [\[ISO-8859-1\]](#) and the Windows-1252 code page [\[MSDN-CODEPG-Win1252\]](#).

*MSXML3 and MSXML6*

There are no variations from the [\[ISO-8859-1\]](#) character set.

### 2.1.2 ISO-8859-8

*All Document Modes (All Versions)*

The following table describes variations from the [\[ISO-8859-8\]](#) character set:

Charset Hex value	Unicode Point	Expected Character	Internet Explorer Unicode Point	Internet Explorer
0x00FD	U+200E	LRM (left-to-right mark)	0xF7BF	<box>
0x00FE	U+200F	RLM (right-to-left mark)	0xF7C0	<box>

### 2.1.3 ISO-8859-9

*All Document Modes (All Versions)*

The following table describes variations from the [\[ISO-8859-9\]](#) character set:

Charset Hex value	Expected Unicode Point	Internet Explorer Unicode Point	Internet Explorer Glyph
0x0080	U+0080	U+20AC	€
0x0082	U+0082	U+201A	, <sup>◌</sup>
0x0083	U+0083	U+0192	f
0x0084	U+0084	U+201E	”
0x0085	U+0085	U+2026	...
0x0086	U+0086	U+2020	†
0x0087	U+0087	U+2021	‡
0x0088	U+0088	U+02C6	^
0x0089	U+0089	U+2030	‰
0x008A	U+008A	U+0161	š
0x008B	U+008B	U+2039	‹
0x008C	U+008C	U+0152	Œ
0x008E	U+008E	U+017D	ž
0x0091	U+0091	U+2018	‘

Charset Hex value	Expected Unicode Point	Internet Explorer Unicode Point	Internet Explorer Glyph
0x0092	U+0092	U+2019	,
0x0093	U+0093	U+201C	“
0x0094	U+0094	U+201D	”
0x0095	U+0095	U+2022	•
0x0096	U+0096	U+2013	—
0x0097	U+0097	U+2014	—
0x0098	U+0098	U+02DC	~
0x0099	U+0099	U+2122	™
0x009A	U+009A	U+0161	š
0x009B	U+009B	U+203A	›
0x009C	U+009C	U+0153	œ
0x009E	U+009E	U+017E	ž
0x009F	U+009F	U+0178	ÿ

The implementation of [\[ISO-8859-9\]](#) in Internet Explorer is closely related to the Windows-1252 code page [\[MSDN-CODEPG-Win1252\]](#). The code ranges from 0x00 to 0x7F and from 0xA0 to 0xFF are the same in both [\[ISO-8859-9\]](#) and the Windows-1252 code page [\[MSDN-CODEPG-Win1252\]](#).

There are no variations from the [\[ISO-8859-9\]](#) character set.

#### 2.1.4 ISO-8859-15

There are no variations from the [\[ISO-8859-15\]](#) character set.

#### 2.1.5 ISO-8859-16

*All Document Modes (All Versions)*

The following table describes variations from the [\[ISO-8859-16\]](#) character set:

Charset Hex value	Expected Unicode Point	Internet Explorer Unicode Point	Internet Explorer Glyph
0x0080	U+0080	U+20AC	€
0x0082	U+0082	U+201A	,
0x0083	U+0083	U+0192	f
0x0084	U+0084	U+201E	„
0x0085	U+0085	U+2026	...
0x0086	U+0086	U+2020	†
0x0087	U+0087	U+2021	‡
0x0088	U+0088	U+02C6	^
0x0089	U+0089	U+2030	‰
0x008A	U+008A	U+0161	š

Charset Hex value	Expected Unicode Point	Internet Explorer Unicode Point	Internet Explorer Glyph
0x008B	U+008B	U+2039	‹
0x008C	U+008C	U+0152	Œ
0x008E	U+008E	U+017D	Ž
0x0091	U+0091	U+2018	‘
0x0092	U+0092	U+2019	’
0x0093	U+0093	U+201C	“
0x0094	U+0094	U+201D	”
0x0095	U+0095	U+2022	•
0x0096	U+0096	U+2013	—
0x0097	U+0097	U+2014	—
0x0098	U+0098	U+02DC	~
0x0099	U+0099	U+2122	™
0x009A	U+009A	U+0161	š
0x009B	U+009B	U+203A	›

Charset Hex value	Expected Unicode Point	Internet Explorer Unicode Point	Internet Explorer Glyph
0x009C	U+009C	U+0153	œ
0x009E	U+009E	U+017E	ž
0x009F	U+009F	U+0178	ÿ

The implementation of [\[ISO-8859-16\]](#) in Internet Explorer is closely related to the Windows-1252 code page [\[MSDN-CODEPG-Win1252\]](#). The code ranges from 0x00 to 0x7F and from 0xA0 to 0xFF are the same in both [\[ISO-8859-16\]](#) and the Windows-1252 code page [\[MSDN-CODEPG-Win1252\]](#).

*MSXML3*

There are no variations from the [\[ISO-8859-16\]](#) character set.

## 2.2 Clarifications

There are no additional clarifications to [\[ISO-8859-1\]](#), [\[ISO-8859-8\]](#), [\[ISO-8859-9\]](#), [\[ISO-8859-15\]](#), and [\[ISO-8859-16\]](#).

## 2.3 Error Handling

There are no additional considerations for error handling.

## 2.4 Security

There are no additional security considerations.

### 3 Change Tracking

This section identifies changes that were made to the [MS-ISO8859] protocol document between the February 2012 and July 2012 releases. Changes are classified as New, Major, Minor, Editorial, or No change.

The revision class **New** means that a new document is being released.

The revision class **Major** means that the technical content in the document was significantly revised. Major changes affect protocol interoperability or implementation. Examples of major changes are:

- A document revision that incorporates changes to interoperability requirements or functionality.
- An extensive rewrite, addition, or deletion of major portions of content.
- The removal of a document from the documentation set.
- Changes made for template compliance.

The revision class **Minor** means that the meaning of the technical content was clarified. Minor changes do not affect protocol interoperability or implementation. Examples of minor changes are updates to clarify ambiguity at the sentence, paragraph, or table level.

The revision class **Editorial** means that the language and formatting in the technical content was changed. Editorial changes apply to grammatical, formatting, and style issues.

The revision class **No change** means that no new technical or language changes were introduced. The technical content of the document is identical to the last released version, but minor editorial and formatting changes, as well as updates to the header and footer information, and to the revision summary, may have been made.

Major and minor changes can be described further using the following change types:

- New content added.
- Content updated.
- Content removed.
- New product behavior note added.
- Product behavior note updated.
- Product behavior note removed.
- New protocol syntax added.
- Protocol syntax updated.
- Protocol syntax removed.
- New content added due to protocol revision.
- Content updated due to protocol revision.
- Content removed due to protocol revision.
- New protocol syntax added due to protocol revision.

- Protocol syntax updated due to protocol revision.
- Protocol syntax removed due to protocol revision.
- New content added for template compliance.
- Content updated for template compliance.
- Content removed for template compliance.
- Obsolete document removed.

Editorial changes are always classified with the change type **Editorially updated**.

Some important terms used in the change type descriptions are defined as follows:

- **Protocol syntax** refers to data elements (such as packets, structures, enumerations, and methods) as well as interfaces.
- **Protocol revision** refers to changes made to a protocol that affect the bits that are sent over the wire.

The changes made to this document are listed in the following table. For more information, please contact [protocol@microsoft.com](mailto:protocol@microsoft.com).

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
<a href="#">1 Introduction</a>	Updated document to remove beta tagging.	N	Content updated.



## 4 Index

### C

[Change tracking](#) 15

Character Sets

[ISO-8859-1](#) 7

[ISO-8859-15](#) 12

[ISO-8859-16](#) 12

[ISO-8859-8](#) 9

[ISO-8859-9](#) 9

### G

[Glossary](#) 4

### I

[Informative references](#) 5

[Introduction](#) 4

### N

[Normative references](#) 4

### R

References

[informative](#) 5

[normative](#) 4

### T

[Tracking changes](#) 15