Intellectual Property Rights Notice for Open Specifications Documentation

- **Technical Documentation.** Microsoft publishes Open Specifications documentation ("this documentation") for protocols, file formats, data portability, computer languages, and standards support. Additionally, overview documents cover inter-protocol relationships and interactions.

- **Copyrights.** This documentation is covered by Microsoft copyrights. Regardless of any other terms that are contained in the terms of use for the Microsoft website that hosts this documentation, you can make copies of it in order to develop implementations of the technologies that are described in this documentation and can distribute portions of it in your implementations that use these technologies or in your documentation as necessary to properly document the implementation. You can also distribute in your implementation, with or without modification, any schemas, IDLs, or code samples that are included in the documentation. This permission also applies to any documents that are referenced in the Open Specifications documentation.

- **No Trade Secrets.** Microsoft does not claim any trade secret rights in this documentation.

- **Patents.** Microsoft has patents that might cover your implementations of the technologies described in the Open Specifications documentation. Neither this notice nor Microsoft’s delivery of this documentation grants any licenses under those patents or any other Microsoft patents. However, a given Open Specifications document might be covered by the Microsoft [Open Specifications Promise](#) or the [Microsoft Community Promise](#). If you would prefer a written license, or if the technologies described in this documentation are not covered by the Open Specifications Promise or Community Promise, as applicable, patent licenses are available by contacting [iplg@microsoft.com](mailto:iplg@microsoft.com).

- **License Programs.** To see all of the protocols in scope under a specific license program and the associated patents, visit the [Patent Map](#).

- **Trademarks.** The names of companies and products contained in this documentation might be covered by trademarks or similar intellectual property rights. This notice does not grant any licenses under those rights. For a list of Microsoft trademarks, visit [www.microsoft.com/trademarks](http://www.microsoft.com/trademarks).

- **Fictitious Names.** The example companies, organizations, products, domain names, email addresses, logos, people, places, and events that are depicted in this documentation are fictitious. No association with any real company, organization, product, domain name, email address, logo, person, place, or event is intended or should be inferred.

**Reservation of Rights.** All other rights are reserved, and this notice does not grant any rights other than as specifically described above, whether by implication, estoppel, or otherwise.

**Tools.** The Open Specifications documentation does not require the use of Microsoft programming tools or programming environments in order for you to develop an implementation. If you have access to Microsoft programming tools and environments, you are free to take advantage of them. Certain Open Specifications documents are intended for use in conjunction with publicly available standards specifications and network programming art and, as such, assume that the reader either is familiar with the aforementioned material or has immediate access to it.

**Support.** For questions and support, please contact [dochelp@microsoft.com](mailto:dochelp@microsoft.com).
## Revision Summary

<table>
<thead>
<tr>
<th>Date</th>
<th>Revision History</th>
<th>Revision Class</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/7/2011</td>
<td>1.0</td>
<td>New</td>
<td>Released new document.</td>
</tr>
<tr>
<td>2/22/2012</td>
<td>1.1</td>
<td>Minor</td>
<td>Clarified the meaning of the technical content.</td>
</tr>
<tr>
<td>7/25/2012</td>
<td>1.2</td>
<td>Minor</td>
<td>Clarified the meaning of the technical content.</td>
</tr>
<tr>
<td>6/26/2013</td>
<td>2.0</td>
<td>Major</td>
<td>Significantly changed the technical content.</td>
</tr>
<tr>
<td>3/31/2014</td>
<td>2.0</td>
<td>None</td>
<td>No changes to the meaning, language, or formatting of the technical content.</td>
</tr>
<tr>
<td>1/22/2015</td>
<td>3.0</td>
<td>Major</td>
<td>Updated for new product version.</td>
</tr>
<tr>
<td>7/7/2015</td>
<td>3.1</td>
<td>Minor</td>
<td>Clarified the meaning of the technical content.</td>
</tr>
<tr>
<td>11/2/2015</td>
<td>3.1</td>
<td>None</td>
<td>No changes to the meaning, language, or formatting of the technical content.</td>
</tr>
<tr>
<td>3/22/2016</td>
<td>3.1</td>
<td>None</td>
<td>No changes to the meaning, language, or formatting of the technical content.</td>
</tr>
<tr>
<td>11/2/2016</td>
<td>3.1</td>
<td>None</td>
<td>No changes to the meaning, language, or formatting of the technical content.</td>
</tr>
<tr>
<td>3/14/2017</td>
<td>3.1</td>
<td>None</td>
<td>No changes to the meaning, language, or formatting of the technical content.</td>
</tr>
<tr>
<td>10/3/2017</td>
<td>3.1</td>
<td>None</td>
<td>No changes to the meaning, language, or formatting of the technical content.</td>
</tr>
</tbody>
</table>
Table of Contents

1 Introduction ................................................................. 4
  1.1 Glossary ............................................................... 4
  1.2 References ........................................................... 4
    1.2.1 Normative References ........................................ 4
    1.2.2 Informative References ..................................... 4
  1.3 Microsoft Implementations ........................................ 4
  1.4 Standards Support Requirements ................................ 5
  1.5 Notation ............................................................. 6

2 Standards Support Statements ........................................ 7
  2.1 Normative Variations ................................................ 7
    2.1.1 [W3C-CSS3-Color] Section 3.1, Foreground color: the 'color' property ............ 7
    2.1.2 [W3C-CSS3-Color] Section 3.2, Transparency: the 'opacity' property ............ 7
    2.1.3 [W3C-CSS3-Color] Section 4.2.1, RGB color values ............................... 8
    2.1.4 [W3C-CSS3-Color] Section 4.2.2, RGBA color values .............................. 8
    2.1.5 [W3C-CSS3-Color] Section 4.2.3, 'transparent' color keyword .................... 9
    2.1.6 [W3C-CSS3-Color] Section 4.2.4, HSL color values ............................... 9
    2.1.7 [W3C-CSS3-Color] Section 4.2.5, HSLA color values ............................. 9
    2.1.8 [W3C-CSS3-Color] Section 4.4, 'currentColor' color keyword .................... 10
  2.2 Clarifications .......................................................... 10
  2.3 Error Handling ....................................................... 10
  2.4 Security .............................................................. 10

3 Change Tracking ........................................................ 11

4 Index ............................................................................. 12
1 Introduction

This document describes the level of support provided by Microsoft web browsers for the CSS3 Color Module specification, published June 07, 2011.

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. We will assist you in finding the relevant information.


1.2.2 Informative References

None.

1.3 Microsoft Implementations

The following Microsoft web browser versions implement some portion of the CSS specification:

- Windows Internet Explorer 7
- Windows Internet Explorer 8
- Windows Internet Explorer 9
- Windows Internet Explorer 10
- Internet Explorer 11
- Internet Explorer 11 for Windows 10
- Microsoft Edge
Each browser version may implement multiple document rendering modes. The modes vary from one another in support of the standard. The following table lists the document modes supported by each browser version.

<table>
<thead>
<tr>
<th>Browser Version</th>
<th>Document Modes Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet Explorer 7</td>
<td>Quirks Mode</td>
</tr>
<tr>
<td></td>
<td>Standards Mode</td>
</tr>
<tr>
<td>Internet Explorer 8</td>
<td>Quirks Mode</td>
</tr>
<tr>
<td></td>
<td>IE7 Mode</td>
</tr>
<tr>
<td></td>
<td>IE8 Mode</td>
</tr>
<tr>
<td>Internet Explorer 9</td>
<td>Quirks Mode</td>
</tr>
<tr>
<td></td>
<td>IE7 Mode</td>
</tr>
<tr>
<td></td>
<td>IE8 Mode</td>
</tr>
<tr>
<td></td>
<td>IE9 Mode</td>
</tr>
<tr>
<td>Internet Explorer 10</td>
<td>Quirks Mode</td>
</tr>
<tr>
<td></td>
<td>IE7 Mode</td>
</tr>
<tr>
<td></td>
<td>IE8 Mode</td>
</tr>
<tr>
<td></td>
<td>IE9 Mode</td>
</tr>
<tr>
<td></td>
<td>IE10 Mode</td>
</tr>
<tr>
<td>Internet Explorer 11</td>
<td>Quirks Mode</td>
</tr>
<tr>
<td></td>
<td>IE7 Mode</td>
</tr>
<tr>
<td></td>
<td>IE8 Mode</td>
</tr>
<tr>
<td></td>
<td>IE9 Mode</td>
</tr>
<tr>
<td></td>
<td>IE10 Mode</td>
</tr>
<tr>
<td>Internet Explorer 11 for Windows 10</td>
<td>Quirks Mode</td>
</tr>
<tr>
<td></td>
<td>IE7 Mode</td>
</tr>
<tr>
<td></td>
<td>IE8 Mode</td>
</tr>
<tr>
<td></td>
<td>IE9 Mode</td>
</tr>
<tr>
<td></td>
<td>IE10 Mode</td>
</tr>
<tr>
<td></td>
<td>IE11 Mode</td>
</tr>
<tr>
<td>Microsoft Edge</td>
<td>EdgeHTML Mode</td>
</tr>
</tbody>
</table>

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:

Quirks Mode, IE7 Mode, and IE8 Mode (All Versions)

**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.

### 1.4 Standards Support Requirements

To conform to [W3C-CSS3-Color](https://www.w3.org/TR/css-color-3) 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 extension points.

<table>
<thead>
<tr>
<th>Notation</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>C####</td>
<td>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.</td>
</tr>
<tr>
<td>V####</td>
<td>Identifies an intended point of variability in the target specification such as the use of MAY, SHOULD, or RECOMMENDED. (See [RFC2119].) This does not include extensibility points.</td>
</tr>
<tr>
<td>E####</td>
<td>Identifies extensibility points (such as optional implementation-specific data) in the target specification, which can impair interoperability.</td>
</tr>
</tbody>
</table>

For document mode and browser version notation, see section 1.3.
2 Standards Support Statements

This section contains a full list of variations, clarifications, and extension points in the Microsoft implementation of [CSS-Level2-2009].

- 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 [W3C-CSS3-Color].

2.1.1 [W3C-CSS3-Color] Section 3.1, Foreground color: the ‘color’ property

V0001:

The specification states:

- Name: color
- Value: <color> | inherit
- Initial: depends on user agent
- Applies to: all elements
- Inherited: yes
- Percentages: N/A
- Media: visual

Quirks Mode, IE7 Mode, and IE8 Mode (All Versions)

The transparent, currentColor, and inherit keywords are not supported.

V0002:

The specification states:

The computed value of the keyword ‘transparent’ is the quadruplet of all zero numerical RGBA values, e.g. rgba(0, 0, 0, 0). See the definition of the ‘currentColor’ for how its computed value is determined. For all other values, the computed value is the specified value.

Quirks Mode, IE7 Mode, and IE8 Mode (All Versions)

The transparent keyword is not supported.

2.1.2 [W3C-CSS3-Color] Section 3.2, Transparency: the ‘opacity’ property

V0003:

The specification states:

- Name: opacity
Value: \(<\text{alphavalue}>\) | \text{inherit}
Initial: 1
Applies to: all elements
Inherited: no
Percentages: N/A
Media: visual
Computed value: The same as the specified value after clipping the \(<\text{alphavalue}>\) to the range \([0.0,1.0]\).

**Quirks Mode, IE7 Mode, and IE8 Mode (All Versions)**

The \textbf{opacity} property is not supported.

**2.1.3 \[W3C-CSS3-Color\] Section 4.2.1, RGB color values**

V0005:

The specification states:

The format of an RGB value in the functional notation is \('rgb(' followed by a comma-separated list of three numerical values (either three integer values or three percentage values) followed by ')'. The integer value 255 corresponds to 100\%, and to F or FF in the hexadecimal notation: rgb(255,255,255)\(=\)rgb(100\%,100\%,100\%)\(=\)#FFF. White space characters are allowed around the numerical values.

**Quirks Mode and IE7 Mode (All Versions)**

Signed RGB values are not supported.

**IE8 Mode (Internet Explorer 8)**

Signed RGB values are not supported.

**2.1.4 \[W3C-CSS3-Color\] Section 4.2.2, RGBA color values**

V0006:

The specification states:

The format of an RGBA value in the functional notation is \('rgba(' followed by a comma-separated list of three numerical values (either three integer values or three percentage values), followed by an \(<\text{alphavalue}>\), followed by ')'. The integer value 255 corresponds to 100\%, rgb(255,255,255,0.8)\(=\)rgba(100\%,100\%,100\%,0.8). White space characters are allowed around the numerical values.

**Quirks Mode, IE7 Mode, and IE8 Mode (All Versions)**

RGBA color values are not supported.

V0007:

The specification states:

Implementations must clip the red, green, and blue components of RGBA color values to the device gamut according to the rules for the RGB color value composed of those components.
Quirks Mode, IE7 Mode, and IE8 Mode (All Versions)

RGBA color values are not supported.

2.1.5 [W3C-CSS3-Color] Section 4.2.3, ‘transparent’ color keyword

V0008:

The specification states:

```
transparent
Fully transparent. This keyword can be considered a shorthand for transparent
black, rgba(0,0,0,0), which is its computed value.
```

Quirks Mode, IE7 Mode, and IE8 Mode (All Versions)

The `transparent` keyword is not supported.

2.1.6 [W3C-CSS3-Color] Section 4.2.4, HSL color values

V0009:

The specification states:

```
HSL colors are encoding as a triple (hue, saturation, lightness). Hue is
represented as an angle of the color circle (i.e. the rainbow represented in a
circle). This angle is so typically measured in degrees that the unit is implicit
in CSS; syntactically, only a `<number>` is given.
```

Quirks Mode, IE7 Mode, and IE8 Mode (All Versions)

HSL color values are not supported.

2.1.7 [W3C-CSS3-Color] Section 4.2.5, HSLA color values

V0010:

The specification states:

```
The format of an HSLA color value in the functional notation is ‘hsla(’ followed by
the hue in degrees, saturation and lightness as a percentage, and an <alphavalue>,
followed by ’)’. White space characters are allowed around the numerical values.
```

Quirks Mode, IE7 Mode, and IE8 Mode (All Versions)

HSLA color values are not supported.

V0011:

The specification states:

```
Implementations must clip the hue, saturation, and lightness components of HSLA color values
to the device gamut according to the rules for the HSL color value composed of those
components.
```
Quirks Mode, IE7 Mode, and IE8 Mode (All Versions)

HSLA color values are not supported.

2.1.8 [W3C-CSS3-Color] Section 4.4, 'currentColor' color keyword

V0012:

The specification states:

currentColor
The value of the 'color' property. The computed value of the 'currentColor' keyword is the computed value of the 'color' property. If the 'currentColor' keyword is set on the 'color' property itself, it is treated as 'color:inherit' at parse time.

Quirks Mode, IE7 Mode, and IE8 Mode (All Versions)

The **currentColor** keyword is not supported.

2.2 Clarifications

There are no additional clarifications to [W3C-CSS3-Color].

2.3 Error Handling

There are no additional considerations for error handling.

2.4 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.
4 Index

'transparent' color keyword 9

C
Change tracking 11

'currentColor' color keyword 10

F
Foreground color; the 'color' property 7

G
Glossary 4

H
HSL color values 9
HSLA color values 9

I
Informative references 4
Introduction 4

N
Normative references 4

R
References
informative 4
normative 4
RGB color values 8
RGBA color values 8

T
Tracking changes 11
Transparency: the 'opacity' property 7