

18.3.1.4 c (Cell)

This collection represents a cell in the worksheet. Information about the cell's location (reference), value, data type, formatting, and formula is expressed here.

[*Example:* This example shows the information stored for a cell whose address in the grid is C6, whose style index is '6', and whose value metadata index is '15'. The cell contains a formula as well as a calculated result of that formula.

```
<c r="C6" s="1" vm="15">
  <f>CUBEVALUE("xllexdat9 Adventure Works",C$5,$A6)</f>
  <v>2838512.355</v>
</c>
```

end example]

While a cell can have a formula element *f* and a value element *v*, when the cell's type *t* is *inlineStr* then only the element *is* is allowed as a child element.

[*Example:*

Here is an example of expressing a string in the cell rather than using the shared string table.

```
<row r="1" spans="1:1">
  <c r="A1" t="inlineStr">
    <is><t>This is inline string example</t></is>
  </c>
</row>
```

end example]

Attributes	Description
cm (Cell Metadata Index)	<p>The zero-based index of the cell metadata record associated with this cell. Metadata information is found in the Metadata Part. Cell metadata is extra information stored at the cell level, and is attached to the cell (travels through moves, copy / paste, clear, etc). Cell metadata is not accessible via formula reference.</p> <p>The possible values for this attribute are defined by the W3C XML Schema unsignedInt datatype.</p>
ph (Show Phonetic)	<p>A Boolean value indicating if the spreadsheet application should show phonetic information. Phonetic information is displayed in the same cell across the top of the cell and serves as a 'hint' which indicates how the text should be pronounced. This should only be used for East Asian languages.</p> <p>The possible values for this attribute are defined by the W3C XML Schema boolean datatype.</p>

r (Reference)	<p>An A1 style reference to the location of this cell</p> <p>The possible values for this attribute are defined by the ST_CellRef simple type (§18.18.7).</p>
s (Style Index)	<p>The index of this cell's style. Style records are stored in the Styles Part.</p> <p>The possible values for this attribute are defined by the W3C XML Schema unsignedInt datatype.</p>
t (Cell Data Type)	<p>An enumeration representing the cell's data type.</p> <p>The possible values for this attribute are defined by the ST_CellType simple type (§18.18.11).</p>
vm (Value Metadata Index)	<p>The zero-based index of the value metadata record associated with this cell's value. Metadata records are stored in the Metadata Part. Value metadata is extra information stored at the cell level, but associated with the value rather than the cell itself. Value metadata is accessible via formula reference.</p> <p>The possible values for this attribute are defined by the W3C XML Schema unsignedInt datatype.</p>

[Note: The W3C XML Schema definition of this element's content model ([CT_Cell](#)) is located in §A.2. *end note*]

18.3.1.95 v (Cell Value)

This element expresses the value contained in a cell. If the cell contains a string, then this value is an index into the shared string table, pointing to the actual string value. Otherwise, the value of the cell is expressed directly in this element. Cells containing formulas express the last calculated result of the formula in this element.

For applications not wanting to implement the shared string table, an 'inline string' can be expressed in an <is> element under <c> (instead of a <v> element under <c>), in the same way a string would be expressed in the shared string table. [Note: See <is> for an example. *end note*]

[Example: In this example, cell B4 contains the number "360", cell C4 contains the local date and time 22 November 1976, 08:30, and cell C5 contains the 1900 date system serial date-time for the date-time in cell C4.

```
<c r="B4">
  <v>360</v>
</c>
<c r="C4" t="d">
  <v>1976-11-22T08:30</v>
</c>
<c r="C5">
  <f>C4</f>
  <v>28086.3541666667</v>
</c>
```

end example]

The possible values for this element are defined by the ST_Xstring simple type (§22.9.2.19).

Attributes	Description
xml:space (Content Contains Significant Whitespace) Namespace: http://www.w3.org/XML/1998/namespace	Specifies how white space should be handled for the contents of this element using the W3C space preservation rules. The possible values for this attribute are defined by §2.10 of the XML 1.0 specification.

[Note: The W3C XML Schema definition of this element's content model ([ST_Xstring](#)) is located in §A.6.9. *end note*]

18.8.30 numFmt (Number Format)

This element specifies number format properties which indicate how to format and render the numeric value of a cell.

Following is a listing of number formats whose formatCode value is implied rather than explicitly saved in the file. In this case, a numFmtId value is written on the xf record, but no corresponding numFmt element is written. Some of these Ids can be interpreted differently, depending on the UI language of the implementing application.

[Note: To maximize interoperability, implementers should restrict the content of this attribute to enumerations present in the lists below. Additional values may be used, but interoperability will only be possible via mutual agreement between implementers. *end note*]

When values not present in the lists below are used, the behavior is implementation-defined.

Ids not specified in the listing, such as 5, 6, 7, and 8, shall follow the number format specified by the formatCode attribute.

All Languages

ID	formatCode
0	General
1	0
2	0.00
3	#,##0
4	#,##0.00
9	0%
10	0.00%

11	0.00E+00
12	# ?/?
13	# ??/??
14	mm-dd-yy
15	d-mmm-yy
16	d-mmm
17	mmm-yy
18	h:mm AM/PM
19	h:mm:ss AM/PM
20	h:mm
21	h:mm:ss
22	m/d/yy h:mm
37	#,##0 ;(#,##0)
38	#,##0 ;[Red](#,##0)
39	#,##0.00;(#,##0.00)
40	#,##0.00;[Red](#,##0.00)
45	mm:ss
46	[h]:mm:ss
47	mmss.0
48	##0.0E+0
49	@

"General" Format

Some additional comments about the "General" number format are appropriate.

The primary goal when a cell is using "General" formatting is to render the cell content without user-specified guidance to the best ability of the application.

Alignment

(Specified for Left-to-Right mode)

- Strings: left aligned
- Boolean/error values: centered
- Numbers: right aligned
- Dates: do not follow the "General" format, instead automatically convert to date formatting.

Numbers

The application shall attempt to display the full number up to 11 digits (inc. decimal point). If the number is too large, the application shall attempt to show exponential format. If the number has too many significant digits, the display shall be truncated. The optimal method of display is based on the available cell width. If the number cannot be displayed using any of these formats in the available width, the application shall show "#" across the width of the cell.

Conditions for switching to exponential format:

1. The cell value shall have at least five digits for xE-xx
2. If the exponent is bigger than the size allowed, a floating point number cannot fit, so try exponential notation.
3. Similarly, for negative exponents, check if there is space for even one (non-zero) digit in floating point format.
4. Finally, if there isn't room for all of the significant digits in floating point format (for a negative exponent), exponential format shall display more digits if the exponent is less than -3. (The 3 is because E-xx takes 4 characters, and the leading 0 in floating point takes only 1 character. Thus, for an exponent less than -3, there is more than 3 additional leading 0's, more than enough to compensate for the size of the E-xx.)

Floating point rule:

For general formatting in cells, max overall length for cell display is 11, not including negative sign, but includes leading zeros and decimal separator.

zh-tw and zh-cn

ID	zh-tw formatCode	zh-cn formatCode
27	[\$-404]e/m/d	yyyy"年"m"月"
28	[\$-404]e"年"m"月"d"日"	m"月"d"日"
29	[\$-404]e"年"m"月"d"日"	m"月"d"日"
30	m/d/yy	m-d-yy
31	yyyy"年"m"月"d"日"	yyyy"年"m"月"d"日"
32	hh"時"mm"分"	h"时"mm"分"
33	hh"時"mm"分"ss"秒"	h"时"mm"分"ss"秒"
34	上午/下午 hh"時"mm"分"	上午/下午 h"时"mm"分"
35	上午/下午 hh"時"mm"分"ss"秒 "	上午/下午 h"时"mm"分"ss"秒 "
36	[\$-404]e/m/d	yyyy"年"m"月"
50	[\$-404]e/m/d	yyyy"年"m"月"
51	[\$-404]e"年"m"月"d"日"	m"月"d"日"
52	上午/下午 hh"時"mm"分"	yyyy"年"m"月"
53	上午/下午 hh"時"mm"分"ss"秒 "	m"月"d"日"

54	[\$-404]e"年"m"月"d"日"	m"月"d"日"
55	上午/下午 hh"時"mm"分"	上午/下午 h"時"mm"分"
56	上午/下午 hh"時"mm"分"ss"秒 "	上午/下午 h"時"mm"分"ss"秒 "
57	[\$-404]e/m/d	yyyy"年"m"月"
58	[\$-404]e"年"m"月"d"日"	m"月"d"日"

zh-tw and zh-cn (with unicode values provided for language glyphs where they occur)

ID	zh-tw formatCode	zh-cn formatCode
27	[\$-404]e/m/d	yyyy"5E74"m"6708"
28	[\$-404]e"5E74"m"6708"d"65E5"	m"6708"d"65E5"
29	[\$-404]e"5E74"m"6708"d"65E5"	m"6708"d"65E5"
30	m/d/yy	m-d-yy
31	yyyy"5E74"m"6708"d"65E5"	yyyy"5E74"m"6708"d"65E5"
32	hh"6642"mm"5206"	h"65F6"mm"5206"
33	hh"6642"mm"5206"ss"79D2"	h"65F6"mm"5206"ss"79D2"
34	4E0A5348/4E0B5348hh"6642"mm"5206"	4E0A5348/4E0B5348h"65F6"mm"5206"
35	4E0A5348/4E0B5348hh"6642"mm"5206"ss"79D2"	4E0A5348/4E0B5348h"65F6"mm"5206"ss"79D2"
36	[\$-404]e/m/d	yyyy"5E74"m"6708"
50	[\$-404]e/m/d	yyyy"5E74"m"6708"
51	[\$-404]e"5E74"m"6708"d"65E5"	m"6708"d"65E5"
52	4E0A5348/4E0B5348hh"6642"mm"5206"	yyyy"5E74"m"6708"
53	4E0A5348/4E0B5348hh"6642"mm"5206"ss"79D2"	m"6708"d"65E5"
54	[\$-404]e"5E74"m"6708"d"65E5"	m"6708"d"65E5"
55	4E0A5348/4E0B5348hh"6642"mm"5206"	4E0A5348/4E0B5348h"65F6"mm"5206"
56	4E0A5348/4E0B5348hh"6642"mm"5206"ss"79D2"	4E0A5348/4E0B5348h"65F6"mm"5206"ss"79D2"
57	[\$-404]e/m/d	yyyy"5E74"m"6708"
58	[\$-404]e"5E74"m"6708"d"65E5"	m"6708"d"65E5"

ja-jp and ko-kr

ID	ja-jp formatCode	ko-kr formatCode
27	[\$-411]ge.m.d	yyyy"年" mm"月" dd"日"
28	[\$-411]ggge"年"m"月"d"日"	mm-dd
29	[\$-411]ggge"年"m"月"d"日"	mm-dd
30	m/d/yy	mm-dd-yy

31	yyyy"年"m"月"d"日"	yyyy"년" mm"월" dd"일"
32	h"時"mm"分"	h"시" mm"분"
33	h"時"mm"分"ss"秒"	h"시" mm"분" ss"초"
34	yyyy"年"m"月"	yyyy-mm-dd
35	m"月"d"日"	yyyy-mm-dd
36	[\$-411]ge.m.d	yyyy"年" mm"月" dd"日"
50	[\$-411]ge.m.d	yyyy"年" mm"月" dd"日"
51	[\$-411]ggge"年"m"月"d"日"	mm-dd
52	yyyy"年"m"月"	yyyy-mm-dd
53	m"月"d"日"	yyyy-mm-dd
54	[\$-411]ggge"年"m"月"d"日"	mm-dd
55	yyyy"年"m"月"	yyyy-mm-dd
56	m"月"d"日"	yyyy-mm-dd
57	[\$-411]ge.m.d	yyyy"年" mm"月" dd"日"
58	[\$-411]ggge"年"m"月"d"日"	mm-dd

ja-jp and ko-kr (with unicode values provided for language glyphs where they occur)

ID	ja-jp formatCode	ko-kr formatCode
27	[\$-411]ge.m.d	yyyy"5E74" mm"6708" dd"65E5"
28	[\$-411]ggge"5E74"m"6708"d"65E5"	mm-dd
29	[\$-411]ggge"5E74"m"6708"d"65E5"	mm-dd
30	m/d/yy	mm-dd-yy
31	yyyy"5E74"m"6708"d"65E5"	yyyy"B144" mm"C6D4" dd"C77C"
32	h"6642"mm"5206"	h"C2DC" mm"BD84"
33	h"6642"mm"5206"ss"79D2"	h"C2DC" mm"BD84" ss"CD08"
34	yyyy"5E74"m"6708"	yyyy-mm-dd
35	m"6708"d"65E5"	yyyy-mm-dd
36	[\$-411]ge.m.d	yyyy"5E74" mm"6708" dd"65E5"
50	[\$-411]ge.m.d	yyyy"5E74" mm"6708" dd"65E5"
51	[\$-411]ggge"5E74"m"6708"d"65E5"	mm-dd
52	yyyy"5E74"m"6708"	yyyy-mm-dd
53	m"6708"d"65E5"	yyyy-mm-dd
54	[\$-411]ggge"5E74"m"6708"d"65E5"	mm-dd

55	yyyy"5E74"m"6708"	yyyy-mm-dd
56	m"6708"d"65E5"	yyyy-mm-dd
57	[\$-411]ge.m.d	yyyy"5E74" mm"6708" dd"65E5"
58	[\$-411]ggge"5E74"m"6708"d"65E5"	mm-dd

th-th

ID	th-th formatCode
59	t0
60	t0.00
61	t#,##0
62	t#,##0.00
67	t0%
68	t0.00%
69	t# ?/?
70	t# ??/??
71	ว/ด/ปปปป
72	ว-ดดด-ปป
73	ว-ดดด
74	ดดด-ปป
75	ช:น
76	ช:น:ทท
77	ว/ด/ปปปป ช:น
78	น:ทท
79	[ช]:น:ทท
80	น:ทท.0
81	d/m/bb

th-th (with unicode values provided for language glyphs where they occur)

ID	th-th formatCode
59	t0
60	t0.00
61	t#,##0
62	t#,##0.00

67	t0%
68	t0.00%
69	t# ?/?
70	t# ??/??
71	0E27/0E14/0E1B0E1B0E1B0E1B
72	0E27-0E140E140E14-0E1B0E1B
73	0E27-0E140E140E14
74	0E140E140E14-0E1B0E1B
75	0E0A:0E190E19
76	0E0A:0E190E19:0E170E17
77	0E27/0E14/0E1B0E1B0E1B0E1B 0E0A:0E190E19
78	0E190E19:0E170E17
79	[0E0A]:0E190E19:0E170E17
80	0E190E19:0E170E17.0
81	d/m/bb

Attributes	Description
formatCode (Number Format Code)	The number format code for this number format. The possible values for this attribute are defined by the ST_Xstring simple type (§22.9.2.19).
numFmtId (Number Format Id)	Id used by the master style records (xf's) to reference this number format. The possible values for this attribute are defined by the ST_NumFmtId simple type (§18.18.47).

[Note: The W3C XML Schema definition of this element's content model ([CT_NumFmt](#)) is located in §A.2. *end note*]

18.8.31 numFmts (Number Formats)

This element defines the number formats in this workbook, consisting of a sequence of numFmt records, where each numFmt record defines a particular number format, indicating how to format and render the numeric value of a cell.

[Example:

This cell is formatting as US currency:

\$1.23

The XML expressing this format shows that the formatId is "166" and the decoded formatCode is \$#,##0.00

```
<numFmts count="1">
  <numFmt numFmtId="166" formatCode="&quot;$#,##0.00" />
</numFmts>
```

end example]

Number Format Codes

Up to four sections of format codes can be specified. The format codes, separated by semicolons, define the formats for positive numbers, negative numbers, zero values, and text, in that order. If only two sections are specified, the first is used for positive numbers and zeros, and the second is used for negative numbers. If only one section is specified, it is used for all numbers. To skip a section, the ending semicolon for that section shall be written.

	Format for positive numbers		Format for zeros
#,###.00_)	; [Red] (#,###.00)	;0.00;	"sales "0
Format for negative numbers			Format for text

The first section, "Format for positive numbers", is the format code that applies to the cell when the cell value contains a positive number.

The second section, "Format for negative numbers", is the format code that applies to the cell when the cell value contains a negative number.

The third section, "Format for zeros", is the format code that applies to the cell when the cell value is zero.

The fourth, and last, section, "Format for text", is the format code that applies to the cell when the cell value is text.

The & (ampersand) text operator is used to join, or concatenate, two values.

The following table describes the different symbols that are available for use in custom number formats.

Format symbol	Description and result
0	Digit placeholder. <i>[Example: If the value 8.9 is to be displayed as 8.90, use the format #.00 end example]</i>
#	Digit placeholder. This symbol follows the same rules as the 0 symbol. However, the application shall not display extra zeros when the number typed has fewer digits on either side of the decimal than there are # symbols in the format. <i>[Example: If the custom format is #.##, and 8.9 is in the cell, the number 8.9 is displayed. end example]</i>
?	Digit placeholder. This symbol follows the same rules as the 0 symbol. However, the application shall put a space for insignificant zeros on either side of the decimal point so that decimal points are aligned in the column. <i>[Example: The custom format 0.0? aligns the decimal points for the numbers 8.9 and 88.99 in a column. end example]</i>
. (period)	Decimal point.

%	Percentage. If the cell contains a number between 0 and 1, and the custom format 0% is used, the application shall multiply the number by 100 and add the percentage symbol in the cell.
, (comma)	Thousands separator. The application shall separate thousands by commas if the format contains a comma that is enclosed by number signs (#) or by zeros. A comma that follows a placeholder scales the number by one thousand. <i>[Example: If the format is #.0,, and the cell value is 12,200,000 then the number 12.2 is displayed. end example]</i>
E- E+ e- e+	Scientific format. The application shall display a number to the right of the "E" symbol that corresponds to the number of places that the decimal point was moved. <i>[Example: If the format is 0.00E+00, and the value 12,200,000 is in the cell, the number 1.22E+07 is displayed. If the number format is #0.0E+0, then the number 12.2E+6 is displayed. end example]</i>
\$-+():space	Displays the symbol. If it is desired to display a character that differs from one of these symbols, precede the character with a backslash (\). Alternatively, enclose the character in quotation marks. <i>[Example: If the number format is (000), and the value 12 is in the cell, the number (012) is displayed. end example]</i>
/	If this symbol is preceded and followed by a number symbol (0, #, and ?), it is interpreted as the fraction format symbol and will display the number in the format of a fraction. Otherwise, it is interpreted as the forward slash character and is displayed as such.
\	Displays the next character in the format. The application shall not display the backslash. <i>[Example: If the number format is 0\!, and the value 3 is in the cell, the value 3! is displayed. end example]</i>
*	Repeats the next character in the format enough times to fill the column to its current width. There shall not be more than one asterisk in one section of the format. If more than one asterisk appears in one section of the format, all but the last asterisk shall be ignored. <i>[Example: if the number format is 0*x, and the value 3 is in the cell, the value 3xxxxxx is displayed. The number of x characters that are displayed in the cell varies based on the width of the column. end example]</i>
_ (underline)	Skips the width of the next character. This is useful for lining up negative and positive values in different cells of the same column. <i>[Example: The number format _(0.0_);(0.0) aligns the numbers 2.3 and -4.5 in the column even though the negative number is enclosed by parentheses. end example]</i>
"text"	Displays whatever text is inside the quotation marks. <i>[Example: The format 0.00 "dollars" displays 1.23 dollars when the value 1.23 is in the cell. end example]</i>
@	Text placeholder. If text is typed in the cell, the text from the cell is placed in the format where the at symbol (@) appears. <i>[Example: If the number format is "Bob @" Smith" (including quotation marks), and the value "John" is in the cell, the value Bob John Smith is displayed. end example]</i>

Text and spacing

Display both text and numbers

To display both text and numbers in a cell, enclose the text characters in double quotation marks (" ") or precede a single character with a backslash (\). Single quotation marks shall not be used to denote text. Characters inside double quotes, or immediately following backslash shall never be interpreted as part of the

format code lexicon; instead they shall always be treated as literal strings. Remember to include the characters in the appropriate section of the format codes. [Example: Use the format "\$0.00" Surplus";\$-0.00" Shortage" to display a positive amount as "\$125.74 Surplus" and a negative amount as "\$-125.74 Shortage." end example]

The following characters are displayed without the use of quotation marks.

\$	Dollar sign			-	Minus sign
+	Plus sign			/	Slash mark
(Left parenthesis)	Right parenthesis
:	Colon			!	Exclamation point
^	Circumflex accent (caret)			&	Ampersand
'	Apostrophe			~	Tilde
{	Left curly bracket			}	Right curly bracket
<	Less-than sign			>	Greater-than sign
=	Equal sign				Space character

Include a section for text entry

If included, a text section shall be the last section in the number format. Include an "at" sign (@) in the section, precisely where the cell's text value should be displayed. If the @ character is omitted from the text section, text typed in the cell will not be displayed. To always display specific text characters with the typed text, enclose the additional text in double quotation marks (" "). [Example: If "June" is typed into the cell, and the text format is "gross receipts for "@ , then the cell will display "gross receipts for June". end example]

If the format does not include a text section, text entered in a cell is not affected by the format code.

Add spaces

To create a space that is the width of a character in a number format, include an underscore, followed by the character. [Example: When an underscore is followed with a right parenthesis, such as _), positive numbers line up correctly with negative numbers that are enclosed in parentheses because positive numbers are displayed with a blank space after them exactly the width of the right parenthesis character. end example]

Repeat characters

To repeat the next character in the format to fill the column width, include an asterisk (*) in the number format. [Example: Use 0*- to include enough dashes after a number to fill the cell, or use *0 before any format to include leading zeros. end example]

Decimal places, spaces, colors, and conditions

Include decimal places and significant digits

To format fractions or numbers with decimal points, include the following digit placeholders in a section. If a number has more digits to the right of the decimal point than there are placeholders in the format, the number rounds to as many decimal places as there are placeholders. If there are more digits to the left of the decimal point than there are placeholders, the extra digits are displayed. If the format contains only number signs (#) to

the left of the decimal point, numbers less than 1 begin with a decimal point.

(number sign) displays only significant digits and does not display insignificant zeros.

0 (zero) displays insignificant zeros if a number has fewer digits than there are zeros in the format.

? (question mark) adds spaces for insignificant zeros on either side of the decimal point so that decimal points align when they are formatted with a fixed-width font, such as Courier New. ? can also be used for fractions that have varying numbers of digits.

To display	As	Use this code
1234.59	1234.6	####.#
8.9	8.900	#.000
.631	0.6	0.#
12 1234.568	12.0 1234.57	#.0#
44.398 102.65 2.8	44.398 102.65 2.8 (with aligned decimals)	???.???
5.25 5.3	5 1/4 5 3/10 (with aligned fractions)	# ???/???

Display a thousands separator

To display a comma as a thousands separator or to scale a number by a multiple of 1,000, include a comma in the number format.

To display	As	Use this code
12000	12,000	#,###
12000	12	#,
12200000	12.2	0.0,,

Specify colors

To set the text color for a section of the format, use the name of one of the following eight colors in square brackets in the section. The color code shall be the first item in the section.

[Black]			[Blue]			[Cyan]
[Green]			[Magenta]			[Red]
[White]			[Yellow]			

Instead of using the name of the color, the color index can be used, like this [Color3] for Red. Numeric indexes for color are restricted to the range from 1 to 56, which reference by index to the legacy color palette.

[*Note:* the default legacy color palette values are listed in §18.8.27. In the format codes, [Color1] refers to the color associated with indexed="8", or black (by default), [Color2] refers to the color associated with indexed="9", or white (by default), and so on up to [Color56] referring to the color associated with indexed="63". If the color palette has been customized from default values, then the colors associated with these indexes will reflect those customizations.

Specify conditions

To set number formats that are applied only if a number meets a specified condition, enclose the condition in square brackets. The condition consists of a comparison operator and a value. Comparison operators include: = Equal to; > Greater than; < Less than; >= Greater than or equal to, <= Less than or equal to, and <> Not equal to. [*Example:* The following format displays numbers that are less than or equal to 100 in a red font and numbers that are greater than 100 in a blue font.

```
[Red][<=100];[Blue][>100]
```

end example]

If the cell value does not meet any of the criteria, then pound signs (" # ") are displayed across the width of the cell.

Currency, percentages, and scientific notation

Include currency symbols

To include currency symbols, place the currency symbol in the location it should when displayed.

Display percentages

To display numbers as a percentage of 100 — [*Example:* To display .08 as 8% or 2.8 as 280% *end example]*— include the percent sign (%) in the number format.

Display scientific notations

To display numbers in scientific format, use exponent codes in a section — [*Example:* E-, E+, e-, or e+. *end example]*

If a format contains a zero (0) or number sign (#) to the right of an exponent code, the application displays the number in scientific format and inserts an "E" or "e". The number of zeros or number signs to the right of a code determines the number of digits in the exponent. "E-" or "e-" places a minus sign by negative exponents. "E+" or "e+" places a minus sign by negative exponents and a plus sign by positive exponents.

Dates and times

Display days, months, and years

To display	As	Use this code
Months	1–12	m
Months	01–12	mm
Months	Jan–Dec	mmm
Months	January–December	mmmm
Months	J–D	mmmmm
Days	1–31	d
Days	01–31	dd
Days	Sun–Sat	ddd
Days	Sunday–Saturday	dddd
Years	00–99	yy
Years	date-base minimum value –9999	yyyy

See §18.17.4.1 for details on possible date systems.

Month versus minutes

If "m" or "mm" code is used immediately after the "h" or "hh" code (for hours) or immediately before the "ss" code (for seconds), the application shall display minutes instead of the month.

Display hours, minutes, and seconds

To display	As	Use this code
Hours	0–23	h
Hours	00–23	hh
Minutes	0–59	m
Minutes	00–59	mm
Seconds	0–59	s
Seconds	00–59	ss
Time	4 AM	h AM/PM
Time	4:36 PM	h:mm AM/PM
Time	4:36:03 PM	h:mm:ss A/P
Time	36:03.8	h:mm:ss.00
Elapsed time (hours and minutes)	1:02	[h]:mm
Elapsed time (minutes and seconds)	62:16:00	[mm]:ss
Elapsed time (seconds and hundredths)	3735.8	[ss].00

Minutes versus month

The "m" or "mm" code shall appear immediately after the "h" or "hh" code or immediately before the "ss" code;

otherwise, these will display as the month instead of minutes.

AM and PM

If the format contains AM or PM, the hour is based on the 12-hour clock, where "AM" or "A" indicates times from midnight until noon and "PM" or "P" indicates times from noon until midnight. Otherwise, the hour is based on the 24-hour clock.

Illegal date and time values

Cells formatted with a date or time format and which contain date or time values which do not meet the requirements specified shall show the pound sign ("£") across the width of the cell.

International Considerations

Format Code	Description
r	ja-jp/zh-tw only. When loading in ja-jp locale, code becomes "ee". When loading in zh-tw locale, code becomes "e".
rr	ja-jp/zh-tw only. When loading in ja-jp locale, code becomes "gggee". When loading in zh-tw locale, code becomes "e".
g	When loading in ja-jp locale: Single Roman character emperor reign When loading in zh-tw (Taiwan only) locale: treat same as "gg".
gg	When loading in ja-jp locale: Single Kanji character emperor reign When loading in zh-tw locale: Last era short name (since 1911)
ggg	When loading in ja-jp locale: Tow Kanji character emperor reign When loading in zh-tw locale: Last era long name (since 1911)
e	When loading in ja-jp locale: Era year When lading in zh-tw (Taiwan only) locale: Era year since 1912. If preceded by "g", "gg", or "ggg" then year of 1912, and years before 1912 are special, otherwise years before 1912 are Gregorian. OTHER locales: becomes "yyyy"
ee	When loading in ja-jp locale: Era year w/ leading zero When loading in zh-tw (Taiwan only) locale: Era year since 1911 OTHER locales: becomes "yy"
b2	Hijri calander
b1	Gregorian calendar
[\$USD-409]	Specifies currency and locale/date system/number system information. Syntax is [\$<Currency String>-<language info>]. Currency string is a string to use as a currency symbol. Language info is a 32-bit value entered in hexadecimal format. Language info format (byte 3 is most significant byte): Bytes 0,1: 16-bit Language ID (LID). Byte 2: Calendar type. High bit indicates that input is parsed using specified calendar.

	<p>Byte 3: Number system type. High bit indicates that input is parsed using specified number system.</p> <p>Special language info values: 0xf800: System long date format 0xf400: System time format</p>
count (Number Format Count)	<p>Count of number format elements.</p> <p>The possible values for this attribute are defined by the W3C XML Schema unsignedInt datatype.</p>

[Note: The W3C XML Schema definition of this element's content model ([CT_NumFmts](#)) is located in §A.2. *end note*]

15.8.1 Removed enumeration values for ST_CellType (Part 1, §18.18.11)

For transitional documents, the restriction on the simple type ST_CellType having the value “d” (ISO 8601 format) is removed.