

Units of measurement

The table below shows the units of measurement that can be used in FOSI characteristic and attribute values. Decimals are allowed. The zero before a decimal point is optional.

Table 3 FOSI units of measurement

Unit	Abbreviation	Examples
centimeters	cm	5cm, 0.65cm, .2cm
inches	in	11in, 8.5in, 0.5in, .25in
millimeters	mm	6mm, 10.1mm, 0.5mm, .1em
points	pt	4pt, 0.5pt, .75pt
picas	pi	20pi, 1.25pi
relative units	em†	2em, 0.5em‡, .33em

†The em is a relative unit of measurement equal to the current font size. When the font size changes, the size of the em changes.

‡0.5em represents an en space

Except for relative units, you can mix units of measurement, with or without a plus sign: `1in+2pi` is the same as `1in2pi`.

Subtraction is allowed. For example: `-1pi-4pt` calculates to `-16pt`, `-1pt+4pt` calculates to `+8pt`, and `1in-2pi` calculates to `48.27pt`.

The default unit of measurement is point (pt).

TYPE TIP

1 pica=12 points.

In Arbortext Editor, 1 inch=72.27 points

FOSI TIP

Explicitly coding `pt` rather than letting it default is helpful when you search the FOSI as an ASCII file.

FOSI TIP 

Including the pound sign (#) with RGB values facilitates searching the FOSI as an ASCII file.

Value types

The tables in **FOSI categories and characteristics** below that describe characteristics and attributes refer to the following types of values:

NOTE: FOSI values are case-insensitive.

NOTE: The types of values listed below do not strictly follow the FOSI standard. Instead, they are designed to communicate as easily as possible PTC/Arbortext's support for FOSI.

COLOR	An RGB value or a named color. An RGB value must be hexadecimal digits from 0 through F, optionally preceded by a pound sign (#). Named colors are: aqua, black, blue, brown, gray, gray1, gray2, gray3, gray4, gray5, green, lime, maroon, navy, olive, orange, red, teal, violet, white, and yellow. Note that named colors may not be output at "full strength" For example, when <code>high1t bckc1r</code> is specified as <code>b1ue</code> , the color is lighter than when <code>#0000FF</code> is specified. Also, gray and gray 3 are the same. gray1 is the same as <code>#EEEEEE</code> ; gray2 is equivalent to <code>#DDDDDD</code> ; gray3 matches <code>#CCCCCC</code> ; gray4 is identical to <code>#BBBBBB</code> ; gray 5 is equal to <code>#AAAAAA</code> .
DEGREES	A positive integer between 0 (zero) and 360. A value of 361 is the same as 1, 362 is the same as 2, etc.
ID/IDREF	An ID is used to uniquely identify a characteristic or set of characteristics so that it can be referenced by an IDREF. See IDs on page 58 for details on ID and IDREF characteristics in a FOSI.
INTEGER	A whole number that is either positive, zero, or negative. A keyboard hyphen character ("-") before the number designates a negative integer. Some characteristics do not accept negative integers.
NAME TOKEN	A string of no more than 8 characters limited to the following: uppercase and lowercase letters ("A" through "Z" and "a" through "z"), Arabic numbers zero through nine ("0" through "9"); a period (.) character; and/or a dash (-).
PERCENTAGE	A positive integer, where 100 indicates 100%.
PLACEMENT	Placement may be "before" or "after." "Before" means after the start tag, but before the beginning of the element content. "After" means after the element content, but before the end tag.

POINTER	A reference to information contained in an external file. A pointer has the attribute type of "entity" and thus requires an entity declaration in the FOSI declaration subset to identify the external file.
SIZE/DISTANCE	A positive or negative number, which may include up to three decimal points, followed by a two-letter abbreviation for a unit of measurement, as shown in Table 3 FOSI units of measurement on page 48. For example "6pt" means 6 points, and "6.4pt" means 6 and 4/10ths of a point. If a unit of measurement is not included, points are assumed.
STRING	A string is a sequence of one or more characters. Character entities may be used for non-keyboard characters. The syntax for string depends on its context in a FOSI.
TOGGLE	0 (zero) or 1 (one). 0 equates to "no," "off," and "false." 1 means "yes," "on," and "true." In the tagged FOSI editor and the ASCII file, 0 and 1 are used. In the FOSI style panels interface, the choices are "no" and "yes."
URI	Uniform Resource Identifier a string of characters that identifies resources in the web: documents, images, downloadable files, services, electronic mailboxes, and other resources.

Syntax that applies only to specific categories and characteristics is described with the relevant categories, as follows:

- Context syntax** on page 332
- Table 52 Leftind syntax** on page 369
- Table 53 Firstln indent syntax** on page 369
- Table 54 Rightind syntax** on page 370
- Table 74 Savetext conrule and usetext source syntax** on page 474

Spacing specification

A **spacing specification** is horizontal space. The amount of space can be fixed or relative.

A fixed spacing spec inserts the specified amount of space in the writing direction. A negative fixed value moves the current location on the current writing line in the opposite direction from the writing direction.

A relative spacing spec refers to a location on the current line (in the writing direction) using what Arbortext Editor refers to as a kern-to. The space in between is called “padding.” A kern-to is coded as a spacing spec preceded by an at sign (@).

The effect is similar to a “tab stop.” However, if two “tab stops” are too close together, the content may not fit. If the content of the element is too long, it continues through the next “tab stop”.

More than one relative spacing specification can be included in a `savetext` `conrule` or `usetext` source, as illustrated in **Figure 11 “Tab stops” in Edit window** on page 52. Furthermore, fixed spacing and relative spacing specs can be mixed in a `savetext` `conrule` or `usetext` source, as shown in **Figure 13 Right-aligned, hanging numbers** on page 56

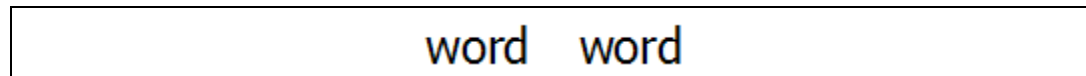
NOTE: padding works only for the first line of a block element.

Table 3 above shows valid units of measurement for spacing specifications.

Spacing specification examples

In the following figure, a fixed spacing specification separates two words.

Figure 9 Spacing specification in writing direction



FOSI fragment

```
<usetext placemnt="before" source="\word\, 2pi, \word\"></usetext>
```

When preceded by a minus sign (-), the horizontal space moves the current position in the opposite direction, as illustrated by the following example.

Figure 10 Negative spacing specification**FOSI fragment**

```
<usetext source="\&block;&block;\,-16pt,<para.fmt>,\&para;\,</para.fmt>">
<subchars>
<font inherit="1" size="24pt">
</subchars>
</usetext>
...
<e-i-c gi="para.fmt">
<charlist inherit="1">
<font inherit="1" size="0.7em" weight="bold" offset="5pt">
<highlt inherit="1" fontclr="#FFFFFF">
</charlist>
</e-i-c>
```

Relative spacing specification can create “tab stops” in the Edit window. However, as the following figure shows, alignment depends on the content.

Figure 11 “Tab stops” in Edit window

<u>Part</u>	<u>Part Description</u>	<u>Unit Price</u>
12345	A long description about a hammer	\$12.34
67890	A saw	\$56.78
ABCDE	A set of screwdrivers, with a description of each one	\$234.56

XML fragment

```
<partlist>
<part><partno>12345</partno><partdesc>A long description about
a hammer</partdesc><unit-price>12.34</unit-price></part>
<part><partno>67890</partno><partdesc>A saw</partdesc><unit-price>
56.78</unit-price></part>
<part><partno>ABCDE</partno><partdesc>A set of screwdrivers, with a
description of each one</partdesc><unit-price>234.56</unit-price></part>
</partlist>
```

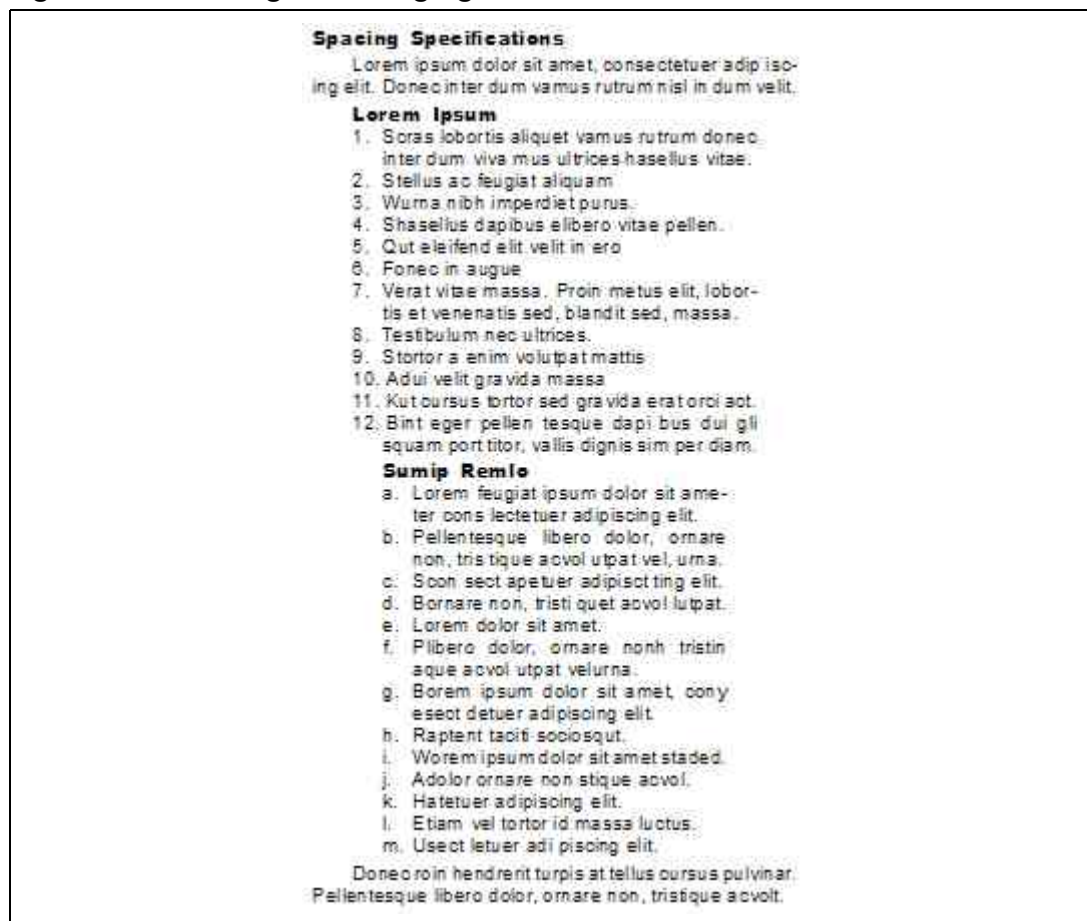
FOSI fragment

```
<e-i-c gi="partlist">
<charlist inherit="1">
<usetext source="@20pi,\ Unit\">
<subchars charsubsetref="startline bold"></subchars>
</usetext>
<usetext source="\Part\,@3pi,\Part Description\,@20pi,\Price\">
```

```
<subchars charsubsetref="startline bold underline"></subchars>
</usetext>
...
<e-i-c gi="part" context="partlist">
<charlist inherit="1" charsubsetref="startline">
...
<e-i-c gi="partno" context="part partlist">
<charlist inherit="1">
...
<e-i-c gi="partdesc" context="part partlist">
<charlist inherit="1" charsubsetref="inline">
<usetext source="@3pi"></usetext>
...
<e-i-c gi="unit-price" context="part partlist">
<charlist inherit="1" charsubsetref="endline">
<usetext source="@20pi, \$\"></usetext>
...
```

A relative spacing specification is often used to support lists with numbers or bullet characters that “hang” in the margin, as shown in the following figures.

Figure 12 Left-aligned, hanging numbers

**XML fragment**

```

<title>Spacing Specifications</title>
<paragraph>Lorem ipsum dolor...</paragraph>
<number-list1><title>Lorem Ipsum</title>
<item1><paragraph>Scras lobortis aliquet...</paragraph></item1>
...
<item1><paragraph>Binteger pellentesque ...</paragraph>
<number-list2><title>Sumip Remlo</title>
<item2><paragraph>Lorem feugiat...</paragraph></item2>
...
<item2><paragraph>Usect letuer...</paragraph></item2>
</number-list2>
</item1>
</number-list1>

```

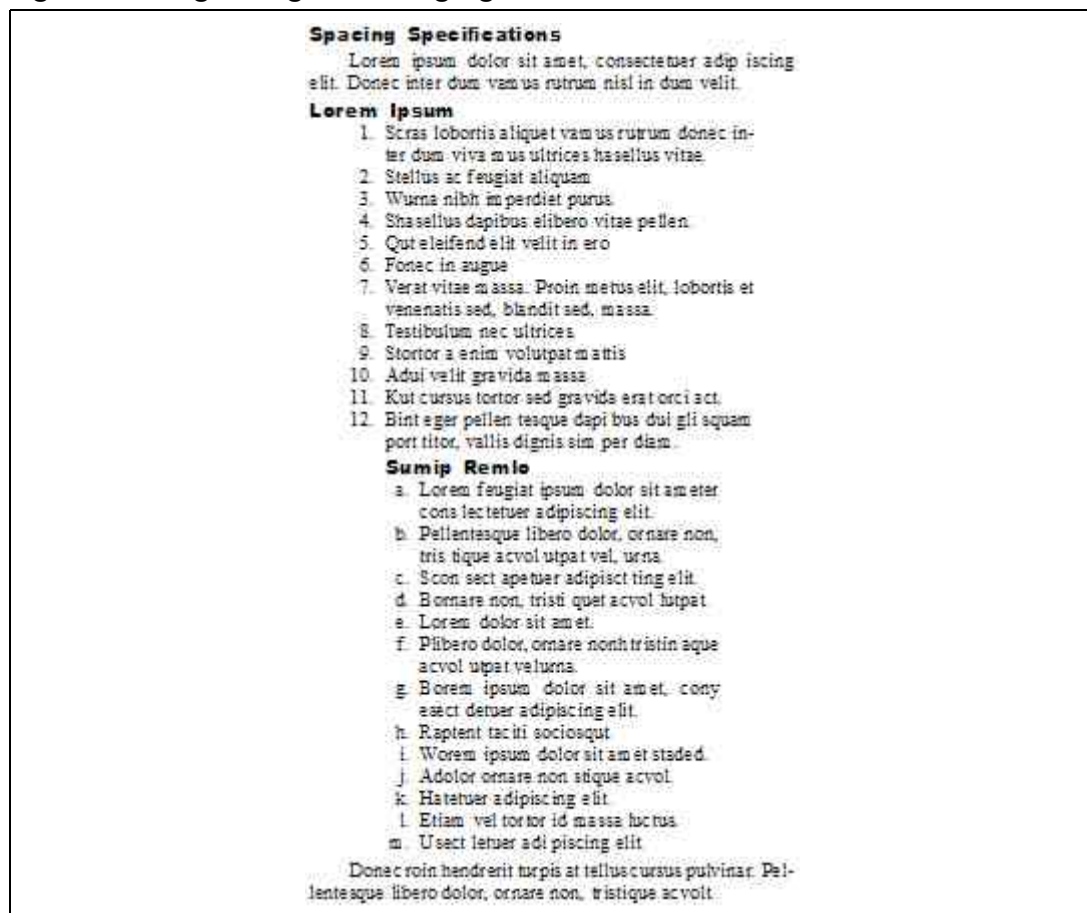
FOSI fragment

```

<counter initial="0" style="arabic" enumid="item1ct">
<counter initial="0" style="alphalc" enumid="item2ct">
...
<e-i-c gi="item1" context="number-list1">
<charlist inherit="1" charsubsetref="block">
<indent inherit="1" leftind="@+1.5em" firstln="*-1.5em">
<enumerat increm="1" enumid="item1ct">
<usetext source="item1ct,\. \,@1.5em" placemnt="before"></usetext>
...
<e-i-c gi="item2" context="number-list2">
<charlist inherit="1" charsubsetref="block">
<enumerat increm="1" enumid="item2ct">
<usetext source="item2ct,\. \,@1.5em" placemnt="before"></usetext>
...
<e-i-c gi="number-list1">
<charlist inherit="1" charsubsetref="block">
<indent inherit="1" leftind="@+2em" rightind="@+2em" firstln="*">
<reset resetlist="item1ct">
...
<e-i-c gi="number-list2" context="* number-list1">
<charlist inherit="1" charsubsetref="block">
<indent inherit="1" leftind="@+1.5em" rightind="@+1.5em" firstln="*-1.5em">
<reset resetlist="item2ct">
...
<e-i-c gi="paragraph" context="item1">
<charlist inherit="1" charsubsetref="endline"></charlist>
...
<e-i-c gi="paragraph" context="item2">
<charlist inherit="1" charsubsetref="endline"></charlist>
...
<e-i-c gi="title" context="number-list1">
<charlist inherit="1" charsubsetref="title"></charlist>
...
<e-i-c gi="title" context="number-list2">
<charlist inherit="1" charsubsetref="title"></charlist>
...

```

Figure 13 Right-aligned, hanging numbers



FOSI fragment

```

<counter initial="0" style="arabic" enumid="item1ct">
<counter initial="0" style="alpha" enumid="item2ct">
...
<e-i-c gi="item1" context="number-list1">
<charlist inherit="1" charsubsetref="block">
<indent inherit="1" leftind="@+1.75em">
<enumerat increm="1" enumid="item1ct">
<usetext source="spacefill,item1ct,\\.\\,0.5em,@3.75em" placemnt="before">
...
<e-i-c gi="item2" context="number-list2">
<charlist inherit="1" charsubsetref="block">
<enumerat increm="1" enumid="item2ct">
<usetext source="spacefill,item2ct,\\.\\,0.5em,@1.75em" placemnt="before">

```

```

...
<e-i-c gi="number-list1">
<charlist inherit="1" charsubsetref="block">
<indent inherit="1" leftind="@+2em" rightind="@+2em" firstln="*-2em">
<reset resetlist="item1ct">
...
<e-i-c gi="number-list2" context="* number-list1">
<charlist inherit="1" charsubsetref="block">
<indent inherit="1" leftind="@+1.75em" rightind="@+1.75em"
firstln="*-1.75em">
<reset resetlist="item2ct">
...
<e-i-c gi="paragraph" context="item1">
<charlist inherit="1" charsubsetref="endline">
...
<e-i-c gi="paragraph" context="item2">
<charlist inherit="1" charsubsetref="endline">
...
<e-i-c gi="title" context="number-list1">
<charlist inherit="1" charsubsetref="title">
...
<e-i-c gi="title" context="number-list2">
<charlist inherit="1" charsubsetref="title">
...

```

Figure 14 Right alignment of list numbering

