#### [shd](shd.docx) (Run Shading)

Like paragraph shading, this element specifies the shading applied to the contents of the run.

This shading consists of three components:

* Background Color
* (optional) Pattern
* (optional) Pattern Color

The resulting shading is applied by setting the [background](background.docx) [color](color.docx) behind the paragraph, then applying the pattern [color](color.docx) using the mask supplied by the pattern over that background.

If this element is not present, the default value is to leave the formatting applied at previous level in the style hierarchy. If this element is never applied in the style hierarchy, then run shading shall not be applied to the contents of this run.

[Example: Consider a run which shall have a [background](background.docx) consisting of a theme [color](color.docx) accent6 with a theme [color](color.docx) text2 overlaid using a 20% fill pattern. This requirement is specified using the following WordprocessingML:

<w:[pPr](pPr.docx)>

 <w:[shd](shd.docx) w:val="pct20" w:themeColor="text2" w:themeFill="accent6" />

</w:[pPr](pPr.docx)>

The resulting run will use the [background](background.docx) [color](color.docx) accent6 under the foreground pattern [color](color.docx) text2 as specified by the pct20 pattern mask. end example]

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| Parent Elements |
| [rPr](rPr.docx) (§); [rPr](rPr.docx) (§); [rPr](rPr.docx) (§); [rPr](rPr.docx) (§); [rPr](rPr.docx) (§); [rPr](rPr.docx) (§); [rPr](rPr.docx) (§); [rPr](rPr.docx) (§); [rPr](rPr.docx) (§); [rPr](rPr.docx) (§) |

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| Attributes | Description |
| [color](color.docx) (Shading Pattern Color) | Specifies the [color](color.docx) used for any foreground pattern specified for this shading using the val attribute.This [color](color.docx) may either be presented as a hex value (in RRGGBB format), or auto to allow a consumer to automatically determine the foreground shading [color](color.docx) as appropriate.If the shading style (the val attribute) specifies the use of no shading [format](format.docx) or is omitted, then this property has no effect. Also, if the shading specifies the use of a theme [color](color.docx) via the themeColor attribute, then this value is superseded by the theme [color](color.docx) value.If this attribute is omitted, then its value shall be assumed to be auto.[Example: Consider a shading of [type](type.docx) pct20 with a foreground [color](color.docx) value of auto, as follows:<w:[shd](shd.docx) w:val="pct20"... w:[color](color.docx)="auto"/>The foreground [color](color.docx) for this shading pattern therefore may be automatically be modified by a consumer as appropriate, for example, in order to ensure that the shading [color](color.docx) can be distinguished against the page's [background](background.docx) color. end example]The possible values for this attribute are defined by the [ST\_HexColor](ST_HexColor.docx) simple [type](type.docx) (§). |
| fill (Shading Background Color) | Specifies the [color](color.docx) used for the [background](background.docx) for this shading.This [color](color.docx) may either be presented as a hex value (in RRGGBB format), or auto to allow a consumer to automatically determine the [background](background.docx) shading [color](color.docx) as appropriate.If this attribute is omitted, then its value shall be assumed to be auto.[Example: Consider a shading using a [background](background.docx) [color](color.docx) of hex value C3D69B, using the following WordprocessingML:<w:[shd](shd.docx) w:fill="C3D69B" />The [background](background.docx) [color](color.docx) for this shading therefore will be a [color](color.docx) with a hex value of C3D69B. end example]If the shading specifies the use of a theme [color](color.docx) via the themeFill attribute, then this value is superseded by the theme [color](color.docx) value.The possible values for this attribute are defined by the [ST\_HexColor](ST_HexColor.docx) simple [type](type.docx) (§). |
| themeColor (Shading Pattern Theme Color) | Specifies a theme [color](color.docx) which should be applied to any foreground pattern specified for this shading using the val attribute.The specified theme [color](color.docx) is a reference to one of the predefined theme colors, located in the document's themes part, which allows for [color](color.docx) information to be set centrally in the document.If this element is omitted, then no theme [color](color.docx) is applied, and the [color](color.docx) attribute shall be used to determine the shading pattern color.[Example: Consider a paragraph which shall have a [background](background.docx) consisting of a theme [color](color.docx) accent3 with a theme [color](color.docx) accent6 overlaid using a 20% fill pattern. This requirement is specified using the following WordprocessingML:<w:[pPr](pPr.docx)> <w:[shd](shd.docx) w:val="pct20" w:themeColor="accent6" w:themeFill="accent3" /> </w:[pPr](pPr.docx)>The resulting paragraph will use the foreground pattern [color](color.docx) accent6 in the region specified by the pct20 pattern mask. end example]The possible values for this attribute are defined by the [ST\_ThemeColor](ST_ThemeColor.docx) simple [type](type.docx) (§). |
| themeFill (Shading Background Theme Color) | Specifies a theme [color](color.docx) which should be applied to the [background](background.docx) for this shading.The specified theme [color](color.docx) is a reference to one of the predefined theme colors, located in the document's themes part, which allows for [color](color.docx) information to be set centrally in the document.If this element is omitted, then no theme [color](color.docx) is applied, and the [color](color.docx) attribute shall be used to determine the shading [background](background.docx) color.[Example: Consider a paragraph which shall have a [background](background.docx) consisting of a theme [color](color.docx) accent3 with a theme [color](color.docx) accent6 overlaid using a 20% fill pattern. This requirement is specified using the following WordprocessingML:<w:[shd](shd.docx) w:val="pct20" w:themeColor="accent6" w:themeFill="accent3" /> The resulting shading will use the [background](background.docx) [color](color.docx) specified by the accent3 theme color. end example]The possible values for this attribute are defined by the [ST\_ThemeColor](ST_ThemeColor.docx) simple [type](type.docx) (§). |
| themeFillShade (Shading Background Theme Color Shade) | Specifies the shade value applied to the supplied theme [color](color.docx) (if any) for this shading color.If the themeFillShade is supplied, then it is applied to the RGB value of the themeFill [color](color.docx) (from the theme part) to determine the final [color](color.docx) applied to this border.The themeFillShade value is stored as a hex [encoding](encoding.docx) of the shade value (from 0 to 255) applied to the current border.[Example: Consider a shade of 40% applied to a [background](background.docx) shading [color](color.docx) in a document. This shade is calculated as follows:The resulting themeFillShade value in the file [format](format.docx) would be 66. end example]Given an RGB [color](color.docx) defined as three hex values in RRGGBB [format](format.docx), the shade is applied as follows:* Convert the [color](color.docx) to the HSL [color](color.docx) [format](format.docx) (values from 0 to 1)
* Modify the luminance factor as follows:
* Convert the resultant HSL [color](color.docx) to RGB

[Example: Consider a document with a [background](background.docx) using the accent2 theme [color](color.docx), whose RGB value (in RRGGBB hex format) is C0504D.The equivalent HSL [color](color.docx) value would be. Applying the shade formula with a shade percentage of 75% to the luminance, we get:Taking the resulting HSL [color](color.docx) value of and converting back to RGB, we get 943634.This transformed value can be seen in the resulting shading's fill attribute:<w:[shd](shd.docx) w:fill="943634" w:themeFill="accent2" w:themeFillShade="BF" />end example]The possible values for this attribute are defined by the [ST\_UcharHexNumber](ST_UcharHexNumber.docx) simple [type](type.docx) (§). |
| themeFillTint (Shading Background Theme Color Tint) | Specifies the tint value applied to the supplied theme [color](color.docx) (if any) for this shading instance.If the themeFillTint is supplied, then it is applied to the RGB value of the themeFill [color](color.docx) (from the theme part) to determine the final [color](color.docx) applied to this border.The themeFillTint value is stored as a hex [encoding](encoding.docx) of the tint value (from 0 to 255) applied to the current border.[Example: Consider a tint of 60% applied to a border in a document. This tint is calculated as follows:The resulting themeFillTint value in the file [format](format.docx) would be 99. end example]Given an RGB [color](color.docx) defined as three hex values in RRGGBB [format](format.docx), the shade is applied as follows:* Convert the [color](color.docx) to the HSL [color](color.docx) [format](format.docx) (values from 0 to 1)
* Modify the luminance factor as follows:
* Convert the resultant HSL [color](color.docx) to RGB

[Example: Consider a document with a [background](background.docx) using the accent2 theme [color](color.docx), whose RGB value (in RRGGBB hex format) is 4F81BD.The equivalent HSL [color](color.docx) value would be. Applying the tint formula with a tint percentage of 60% to the luminance, we get:Taking the resulting HSL [color](color.docx) value of and converting back to RGB, we get 95B3D7.This transformed value can be seen in the resulting shading's fill attribute:<w:top w:val="single" w:[sz](sz.docx)="4" w:space="24"  w:fill="95B3D7" w:themeFillColor="accent2"  w:themeFillTint="99" />end example]The possible values for this attribute are defined by the [ST\_UcharHexNumber](ST_UcharHexNumber.docx) simple [type](type.docx) (§). |
| themeShade (Shading Pattern Theme Color Shade) | Specifies the shade value applied to the supplied theme [color](color.docx) (if any) for this shading color.If the themeShade is supplied, then it is applied to the RGB value of the themeColor [color](color.docx) (from the theme part) to determine the final [color](color.docx) applied to this border.The themeShade value is stored as a hex [encoding](encoding.docx) of the shade value (from 0 to 255) applied to the current border.[Example: Consider a shade of 40% applied to a [background](background.docx) shading [color](color.docx) in a document. This shade is calculated as follows:Te resulting themeShade value in the file [format](format.docx) would be 66. end example]Given an RGB [color](color.docx) defined as three hex values in RRGGBB [format](format.docx), the shade is applied as follows:* Convert the [color](color.docx) to the HSL [color](color.docx) [format](format.docx) (values from 0 to 1)
* Modify the luminance factor as follows:
* Convert the resultant HSL [color](color.docx) to RGB

[Example: Consider a document with a [background](background.docx) using the accent2 theme [color](color.docx), whose RGB value (in RRGGBB hex format) is C0504D.The equivalent HSL [color](color.docx) value would be. Applying the shade formula with a shade percentage of 75% to the luminance, we get:Taking the resulting HSL [color](color.docx) value of and converting back to RGB, we get 943634.This transformed value can be seen in the resulting background's [color](color.docx) attribute:<w:[shd](shd.docx) w:[color](color.docx)="943634" w:themeColor="accent2" w:themeShade="BF" />end example]The possible values for this attribute are defined by the [ST\_UcharHexNumber](ST_UcharHexNumber.docx) simple [type](type.docx) (§). |
| themeTint (Shading Pattern Theme Color Tint) | Specifies the tint value applied to the supplied theme [color](color.docx) (if any) for this shading instance.If the themeTint is supplied, then it is applied to the RGB value of the themeColor [color](color.docx) (from the theme part) to determine the final [color](color.docx) applied to this border.The themeTint value is stored as a hex [encoding](encoding.docx) of the tint value (from 0 to 255) applied to the current border.[Example: Consider a tint of 60% applied to a border in a document. This tint is calculated as follows:The resulting themeTint value in the file [format](format.docx) would be 99. end example]Given an RGB [color](color.docx) defined as three hex values in RRGGBB [format](format.docx), the shade is applied as follows:* Convert the [color](color.docx) to the HSL [color](color.docx) [format](format.docx) (values from 0 to 1)
* Modify the luminance factor as follows:
* Convert the resultant HSL [color](color.docx) to RGB

[Example: Consider a document with a [background](background.docx) using the accent2 theme [color](color.docx), whose RGB value (in RRGGBB hex format) is 4F81BD.The equivalent HSL [color](color.docx) value would be. Applying the tint formula with a tint percentage of 60% to the luminance, we get:Taking the resulting HSL [color](color.docx) value of and converting back to RGB, we get 95B3D7.This transformed value can be seen in the resulting shading's [color](color.docx) attribute:<w:[shd](shd.docx) w:[color](color.docx)="95B3D7" w:themeColor="accent2"  w:themeTint="99" />end example]The possible values for this attribute are defined by the [ST\_UcharHexNumber](ST_UcharHexNumber.docx) simple [type](type.docx) (§). |
| val (Shading Pattern) | Specifies the pattern which shall be used to lay the pattern [color](color.docx) over the [background](background.docx) [color](color.docx) for this paragraph shading.This pattern consists of a mask which is applied over the [background](background.docx) shading [color](color.docx) to get the locations where the pattern [color](color.docx) should be shown. Each of these possible masks are shown in the simple [type](type.docx) values referenced below.[Example: Consider a shaded paragraph which uses a 10 percent foreground fill, resulting in the following WordprocessingML:<w:[shd](shd.docx) w:val="pct10" .../>This shading val is pct10, indicating that the border style is a 10 percent foreground fill mask. end example]The possible values for this attribute are defined by the [ST\_Shd](ST_Shd.docx) simple [type](type.docx) (§). |

The following [XML](XML.docx) Schema fragment defines the contents of this element:

<complexType [name](name.docx)="CT\_Shd">

 <attribute [name](name.docx)="val" [type](type.docx)="[ST\_Shd](ST_Shd.docx)" use="required"/>

 <attribute [name](name.docx)="[color](color.docx)" [type](type.docx)="[ST\_HexColor](ST_HexColor.docx)" use="optional"/>

 <attribute [name](name.docx)="themeColor" [type](type.docx)="[ST\_ThemeColor](ST_ThemeColor.docx)" use="optional"/>

 <attribute [name](name.docx)="themeTint" [type](type.docx)="[ST\_UcharHexNumber](ST_UcharHexNumber.docx)" use="optional"/>

 <attribute [name](name.docx)="themeShade" [type](type.docx)="[ST\_UcharHexNumber](ST_UcharHexNumber.docx)" use="optional"/>

 <attribute [name](name.docx)="fill" [type](type.docx)="[ST\_HexColor](ST_HexColor.docx)" use="optional"/>

 <attribute [name](name.docx)="themeFill" [type](type.docx)="[ST\_ThemeColor](ST_ThemeColor.docx)" use="optional"/>

 <attribute [name](name.docx)="themeFillTint" [type](type.docx)="[ST\_UcharHexNumber](ST_UcharHexNumber.docx)" use="optional"/>

 <attribute [name](name.docx)="themeFillShade" [type](type.docx)="[ST\_UcharHexNumber](ST_UcharHexNumber.docx)" use="optional"/>

</complexType>