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sf::ConvexShape Class Reference

[Graphics module](http://docs.google.com/group__graphics.htm)

Specialized shape representing a convex polygon. [More...](http://docs.google.com/classsf_1_1ConvexShape.htm#details)

#include <[ConvexShape.hpp](http://docs.google.com/ConvexShape_8hpp_source.htm)>

Inheritance diagram for sf::ConvexShape:



| Public Member Functions | |
| --- | --- |
|  | [ConvexShape](http://docs.google.com/classsf_1_1ConvexShape.htm#a4f4686f57622bfbbe419ac1420b1432a) (unsigned int pointCount=0) |
|  | Default constructor. |
|  | |
| void | [setPointCount](http://docs.google.com/classsf_1_1ConvexShape.htm#aea7c3f0f08f5cd457fe128a75b7c1e70) (unsigned int count) |
|  | Set the number of points of the polygon. |
|  | |
| virtual unsigned int | [getPointCount](http://docs.google.com/classsf_1_1ConvexShape.htm#af81b86134fe54f2d50d9fab0db065ef1) () const |
|  | Get the number of points of the polygon. |
|  | |
| void | [setPoint](http://docs.google.com/classsf_1_1ConvexShape.htm#ae5c7f87d0e776952e2ec6f0aa12ded31) (unsigned int index, const [Vector2f](http://docs.google.com/classsf_1_1Vector2.htm) &point) |
|  | Set the position of a point. |
|  | |
| virtual [Vector2f](http://docs.google.com/classsf_1_1Vector2.htm) | [getPoint](http://docs.google.com/classsf_1_1ConvexShape.htm#ae2a18b837cd4454e340599a220c09a34) (unsigned int index) const |
|  | Get the position of a point. |
|  | |
| void | [setTexture](http://docs.google.com/classsf_1_1Shape.htm#af8fb22bab1956325be5d62282711e3b6) (const [Texture](http://docs.google.com/classsf_1_1Texture.htm) \*texture, bool resetRect=false) |
|  | Change the source texture of the shape. |
|  | |
| void | [setTextureRect](http://docs.google.com/classsf_1_1Shape.htm#a2029cc820d1740d14ac794b82525e157) (const [IntRect](http://docs.google.com/classsf_1_1Rect.htm) &rect) |
|  | Set the sub-rectangle of the texture that the shape will display. |
|  | |
| void | [setFillColor](http://docs.google.com/classsf_1_1Shape.htm#a3506f9b5d916fec14d583d16f23c2485) (const [Color](http://docs.google.com/classsf_1_1Color.htm) &color) |
|  | Set the fill color of the shape. |
|  | |
| void | [setOutlineColor](http://docs.google.com/classsf_1_1Shape.htm#a5978f41ee349ac3c52942996dcb184f7) (const [Color](http://docs.google.com/classsf_1_1Color.htm) &color) |
|  | Set the outline color of the shape. |
|  | |
| void | [setOutlineThickness](http://docs.google.com/classsf_1_1Shape.htm#a5ad336ad74fc1f567fce3b7e44cf87dc) (float thickness) |
|  | Set the thickness of the shape's outline. |
|  | |
| const [Texture](http://docs.google.com/classsf_1_1Texture.htm) \* | [getTexture](http://docs.google.com/classsf_1_1Shape.htm#a1bf27ac425fcce36efd0eed67531a403) () const |
|  | Get the source texture of the shape. |
|  | |
| const [IntRect](http://docs.google.com/classsf_1_1Rect.htm) & | [getTextureRect](http://docs.google.com/classsf_1_1Shape.htm#af7c4c80a435b85a622812711cf510439) () const |
|  | Get the sub-rectangle of the texture displayed by the shape. |
|  | |
| const [Color](http://docs.google.com/classsf_1_1Color.htm) & | [getFillColor](http://docs.google.com/classsf_1_1Shape.htm#ad7f7fe601a8bb24efe9aa77809a35c12) () const |
|  | Get the fill color of the shape. |
|  | |
| const [Color](http://docs.google.com/classsf_1_1Color.htm) & | [getOutlineColor](http://docs.google.com/classsf_1_1Shape.htm#a4fa7d3bf5ee2332f6b9d9bebe9b1e2fd) () const |
|  | Get the outline color of the shape. |
|  | |
| float | [getOutlineThickness](http://docs.google.com/classsf_1_1Shape.htm#ac66f917b41eda6159a8ba6571d77f2ad) () const |
|  | Get the outline thickness of the shape. |
|  | |
| [FloatRect](http://docs.google.com/classsf_1_1Rect.htm) | [getLocalBounds](http://docs.google.com/classsf_1_1Shape.htm#a5d26a18ccfe850ff8d327ca97edbc34a) () const |
|  | Get the local bounding rectangle of the entity. |
|  | |
| [FloatRect](http://docs.google.com/classsf_1_1Rect.htm) | [getGlobalBounds](http://docs.google.com/classsf_1_1Shape.htm#a5257341fe832884dbba6b9dc855e33cc) () const |
|  | Get the global bounding rectangle of the entity. |
|  | |
| void | [setPosition](http://docs.google.com/classsf_1_1Transformable.htm#a4dbfb1a7c80688b0b4c477d706550208) (float x, float y) |
|  | set the position of the object |
|  | |
| void | [setPosition](http://docs.google.com/classsf_1_1Transformable.htm#af1a42209ce2b5d3f07b00f917bcd8015) (const [Vector2f](http://docs.google.com/classsf_1_1Vector2.htm) &position) |
|  | set the position of the object |
|  | |
| void | [setRotation](http://docs.google.com/classsf_1_1Transformable.htm#a32baf2bf1a74699b03bf8c95030a38ed) (float angle) |
|  | set the orientation of the object |
|  | |
| void | [setScale](http://docs.google.com/classsf_1_1Transformable.htm#aaec50b46b3f41b054763304d1e727471) (float factorX, float factorY) |
|  | set the scale factors of the object |
|  | |
| void | [setScale](http://docs.google.com/classsf_1_1Transformable.htm#a4c48a87f1626047e448f9c1a68ff167e) (const [Vector2f](http://docs.google.com/classsf_1_1Vector2.htm) &factors) |
|  | set the scale factors of the object |
|  | |
| void | [setOrigin](http://docs.google.com/classsf_1_1Transformable.htm#a56c67bd80aae8418d13fb96c034d25ec) (float x, float y) |
|  | set the local origin of the object |
|  | |
| void | [setOrigin](http://docs.google.com/classsf_1_1Transformable.htm#aa93a835ffbf3bee2098dfbbc695a7f05) (const [Vector2f](http://docs.google.com/classsf_1_1Vector2.htm) &origin) |
|  | set the local origin of the object |
|  | |
| const [Vector2f](http://docs.google.com/classsf_1_1Vector2.htm) & | [getPosition](http://docs.google.com/classsf_1_1Transformable.htm#a6a0552d8cf155b7df25f6ceda8ee45a5) () const |
|  | get the position of the object |
|  | |
| float | [getRotation](http://docs.google.com/classsf_1_1Transformable.htm#ad783a7e9971398ec613d22455252809e) () const |
|  | get the orientation of the object |
|  | |
| const [Vector2f](http://docs.google.com/classsf_1_1Vector2.htm) & | [getScale](http://docs.google.com/classsf_1_1Transformable.htm#a3ea9639abd7a430ac99afb0aaf1ea562) () const |
|  | get the current scale of the object |
|  | |
| const [Vector2f](http://docs.google.com/classsf_1_1Vector2.htm) & | [getOrigin](http://docs.google.com/classsf_1_1Transformable.htm#a6bddc485d22bb64449d9d2d3a99a778f) () const |
|  | get the local origin of the object |
|  | |
| void | [move](http://docs.google.com/classsf_1_1Transformable.htm#a86b461d6a941ad390c2ad8b6a4a20391) (float offsetX, float offsetY) |
|  | Move the object by a given offset. |
|  | |
| void | [move](http://docs.google.com/classsf_1_1Transformable.htm#ab9ca691522f6ddc1a40406849b87c469) (const [Vector2f](http://docs.google.com/classsf_1_1Vector2.htm) &offset) |
|  | Move the object by a given offset. |
|  | |
| void | [rotate](http://docs.google.com/classsf_1_1Transformable.htm#af8a5ffddc0d93f238fee3bf8efe1ebda) (float angle) |
|  | Rotate the object. |
|  | |
| void | [scale](http://docs.google.com/classsf_1_1Transformable.htm#a3de0c6d8957f3cf318092f3f60656391) (float factorX, float factorY) |
|  | Scale the object. |
|  | |
| void | [scale](http://docs.google.com/classsf_1_1Transformable.htm#adecaa6c69b1f27dd5194b067d96bb694) (const [Vector2f](http://docs.google.com/classsf_1_1Vector2.htm) &factor) |
|  | Scale the object. |
|  | |
| const [Transform](http://docs.google.com/classsf_1_1Transform.htm) & | [getTransform](http://docs.google.com/classsf_1_1Transformable.htm#a3b48c3362e3e2c14fef7551252deb7bb) () const |
|  | get the combined transform of the object |
|  | |
| const [Transform](http://docs.google.com/classsf_1_1Transform.htm) & | [getInverseTransform](http://docs.google.com/classsf_1_1Transformable.htm#ab00de62b5d1efb2ee4cf2566dea98175) () const |
|  | get the inverse of the combined transform of the object |
|  | |

| Protected Member Functions | |
| --- | --- |
| void | [update](http://docs.google.com/classsf_1_1Shape.htm#adfb2bd966c8edbc5d6c92ebc375e4ac1) () |
|  | Recompute the internal geometry of the shape. |
|  | |

## Detailed Description

Specialized shape representing a convex polygon.

This class inherits all the functions of [sf::Transformable](http://docs.google.com/classsf_1_1Transformable.htm) (position, rotation, scale, bounds, ...) as well as the functions of [sf::Shape](http://docs.google.com/classsf_1_1Shape.htm) (outline, color, texture, ...).

It is important to keep in mind that a convex shape must always be... convex, otherwise it may not be drawn correctly. Moreover, the points must be defined in order; using a random order would result in an incorrect shape.

Usage example:

[sf::ConvexShape](http://docs.google.com/classsf_1_1ConvexShape.htm) polygon;

polygon.[setPointCount](http://docs.google.com/classsf_1_1ConvexShape.htm#aea7c3f0f08f5cd457fe128a75b7c1e70)(3);

polygon.[setPoint](http://docs.google.com/classsf_1_1ConvexShape.htm#ae5c7f87d0e776952e2ec6f0aa12ded31)(0, [sf::Vector2f](http://docs.google.com/classsf_1_1Vector2.htm)(0, 0));

polygon.[setPoint](http://docs.google.com/classsf_1_1ConvexShape.htm#ae5c7f87d0e776952e2ec6f0aa12ded31)(1, [sf::Vector2f](http://docs.google.com/classsf_1_1Vector2.htm)(0, 10));

polygon.[setPoint](http://docs.google.com/classsf_1_1ConvexShape.htm#ae5c7f87d0e776952e2ec6f0aa12ded31)(2, [sf::Vector2f](http://docs.google.com/classsf_1_1Vector2.htm)(25, 5));

polygon.[setOutlineColor](http://docs.google.com/classsf_1_1Shape.htm#a5978f41ee349ac3c52942996dcb184f7)([sf::Color::Red](http://docs.google.com/classsf_1_1Color.htm#a127dbf55db9c07d0fa8f4bfcbb97594a));

polygon.[setOutlineThickness](http://docs.google.com/classsf_1_1Shape.htm#a5ad336ad74fc1f567fce3b7e44cf87dc)(5);

polygon.[setPosition](http://docs.google.com/classsf_1_1Transformable.htm#a4dbfb1a7c80688b0b4c477d706550208)(10, 20);

...

window.draw(polygon);

See Also[sf::Shape](http://docs.google.com/classsf_1_1Shape.htm), [sf::RectangleShape](http://docs.google.com/classsf_1_1RectangleShape.htm), [sf::CircleShape](http://docs.google.com/classsf_1_1CircleShape.htm)

Definition at line [42](http://docs.google.com/ConvexShape_8hpp_source.htm#l00042) of file [ConvexShape.hpp](http://docs.google.com/ConvexShape_8hpp_source.htm).

## Constructor & Destructor Documentation

| | sf::ConvexShape::ConvexShape | ( | unsigned int | *pointCount* = 0 | ) |  | | --- | --- | --- | --- | --- | --- | | explicit |
| --- | --- | --- | --- | --- | --- | --- | --- |

Default constructor.

Parameters

| pointCount | Number of points of the polygon |
| --- | --- |

## Member Function Documentation

| | const [Color](http://docs.google.com/classsf_1_1Color.htm)& sf::Shape::getFillColor | ( |  | ) | const | | --- | --- | --- | --- | --- | | inherited |
| --- | --- | --- | --- | --- | --- | --- |

Get the fill color of the shape.

ReturnsFill color of the shape See Also[setFillColor](http://docs.google.com/classsf_1_1Shape.htm#a3506f9b5d916fec14d583d16f23c2485)

| | [FloatRect](http://docs.google.com/classsf_1_1Rect.htm) sf::Shape::getGlobalBounds | ( |  | ) | const | | --- | --- | --- | --- | --- | | inherited |
| --- | --- | --- | --- | --- | --- | --- |

Get the global bounding rectangle of the entity.

The returned rectangle is in global coordinates, which means that it takes in account the transformations (translation, rotation, scale, ...) that are applied to the entity. In other words, this function returns the bounds of the sprite in the global 2D world's coordinate system.

ReturnsGlobal bounding rectangle of the entity

| | const [Transform](http://docs.google.com/classsf_1_1Transform.htm)& sf::Transformable::getInverseTransform | ( |  | ) | const | | --- | --- | --- | --- | --- | | inherited |
| --- | --- | --- | --- | --- | --- | --- |

get the inverse of the combined transform of the object

ReturnsInverse of the combined transformations applied to the object See Also[getTransform](http://docs.google.com/classsf_1_1Transformable.htm#a3b48c3362e3e2c14fef7551252deb7bb)

| | [FloatRect](http://docs.google.com/classsf_1_1Rect.htm) sf::Shape::getLocalBounds | ( |  | ) | const | | --- | --- | --- | --- | --- | | inherited |
| --- | --- | --- | --- | --- | --- | --- |

Get the local bounding rectangle of the entity.

The returned rectangle is in local coordinates, which means that it ignores the transformations (translation, rotation, scale, ...) that are applied to the entity. In other words, this function returns the bounds of the entity in the entity's coordinate system.

ReturnsLocal bounding rectangle of the entity

| | const [Vector2f](http://docs.google.com/classsf_1_1Vector2.htm)& sf::Transformable::getOrigin | ( |  | ) | const | | --- | --- | --- | --- | --- | | inherited |
| --- | --- | --- | --- | --- | --- | --- |

get the local origin of the object

ReturnsCurrent origin See Also[setOrigin](http://docs.google.com/classsf_1_1Transformable.htm#a56c67bd80aae8418d13fb96c034d25ec)

| | const [Color](http://docs.google.com/classsf_1_1Color.htm)& sf::Shape::getOutlineColor | ( |  | ) | const | | --- | --- | --- | --- | --- | | inherited |
| --- | --- | --- | --- | --- | --- | --- |

Get the outline color of the shape.

ReturnsOutline color of the shape See Also[setOutlineColor](http://docs.google.com/classsf_1_1Shape.htm#a5978f41ee349ac3c52942996dcb184f7)

| | float sf::Shape::getOutlineThickness | ( |  | ) | const | | --- | --- | --- | --- | --- | | inherited |
| --- | --- | --- | --- | --- | --- | --- |

Get the outline thickness of the shape.

ReturnsOutline thickness of the shape See Also[setOutlineThickness](http://docs.google.com/classsf_1_1Shape.htm#a5ad336ad74fc1f567fce3b7e44cf87dc)

| | virtual [Vector2f](http://docs.google.com/classsf_1_1Vector2.htm) sf::ConvexShape::getPoint | ( | unsigned int | *index* | ) | const | | --- | --- | --- | --- | --- | --- | | virtual |
| --- | --- | --- | --- | --- | --- | --- | --- |

Get the position of a point.

The result is undefined if *index* is out of the valid range.

Parameters

| index | Index of the point to get, in range [0 .. [getPointCount()](http://docs.google.com/classsf_1_1ConvexShape.htm#af81b86134fe54f2d50d9fab0db065ef1) - 1] |
| --- | --- |

ReturnsPosition of the index-th point of the polygon See Also[setPoint](http://docs.google.com/classsf_1_1ConvexShape.htm#ae5c7f87d0e776952e2ec6f0aa12ded31)

Implements [sf::Shape](http://docs.google.com/classsf_1_1Shape.htm#a397f3b4cdb7ad98cdc6c034816c652d2).

| | virtual unsigned int sf::ConvexShape::getPointCount | ( |  | ) | const | | --- | --- | --- | --- | --- | | virtual |
| --- | --- | --- | --- | --- | --- | --- |

Get the number of points of the polygon.

ReturnsNumber of points of the polygon See Also[setPointCount](http://docs.google.com/classsf_1_1ConvexShape.htm#aea7c3f0f08f5cd457fe128a75b7c1e70)

Implements [sf::Shape](http://docs.google.com/classsf_1_1Shape.htm#ad84e1b675ecd270ad8151aea4e271a78).

| | const [Vector2f](http://docs.google.com/classsf_1_1Vector2.htm)& sf::Transformable::getPosition | ( |  | ) | const | | --- | --- | --- | --- | --- | | inherited |
| --- | --- | --- | --- | --- | --- | --- |

get the position of the object

ReturnsCurrent position See Also[setPosition](http://docs.google.com/classsf_1_1Transformable.htm#a4dbfb1a7c80688b0b4c477d706550208)

| | float sf::Transformable::getRotation | ( |  | ) | const | | --- | --- | --- | --- | --- | | inherited |
| --- | --- | --- | --- | --- | --- | --- |

get the orientation of the object

The rotation is always in the range [0, 360].

ReturnsCurrent rotation, in degrees See Also[setRotation](http://docs.google.com/classsf_1_1Transformable.htm#a32baf2bf1a74699b03bf8c95030a38ed)

| | const [Vector2f](http://docs.google.com/classsf_1_1Vector2.htm)& sf::Transformable::getScale | ( |  | ) | const | | --- | --- | --- | --- | --- | | inherited |
| --- | --- | --- | --- | --- | --- | --- |

get the current scale of the object

ReturnsCurrent scale factors See Also[setScale](http://docs.google.com/classsf_1_1Transformable.htm#aaec50b46b3f41b054763304d1e727471)

| | const [Texture](http://docs.google.com/classsf_1_1Texture.htm)\* sf::Shape::getTexture | ( |  | ) | const | | --- | --- | --- | --- | --- | | inherited |
| --- | --- | --- | --- | --- | --- | --- |

Get the source texture of the shape.

If the shape has no source texture, a NULL pointer is returned. The returned pointer is const, which means that you can't modify the texture when you retrieve it with this function.

ReturnsPointer to the shape's texture See Also[setTexture](http://docs.google.com/classsf_1_1Shape.htm#af8fb22bab1956325be5d62282711e3b6)

| | const [IntRect](http://docs.google.com/classsf_1_1Rect.htm)& sf::Shape::getTextureRect | ( |  | ) | const | | --- | --- | --- | --- | --- | | inherited |
| --- | --- | --- | --- | --- | --- | --- |

Get the sub-rectangle of the texture displayed by the shape.

Returns[Texture](http://docs.google.com/classsf_1_1Texture.htm) rectangle of the shape See Also[setTextureRect](http://docs.google.com/classsf_1_1Shape.htm#a2029cc820d1740d14ac794b82525e157)

| | const [Transform](http://docs.google.com/classsf_1_1Transform.htm)& sf::Transformable::getTransform | ( |  | ) | const | | --- | --- | --- | --- | --- | | inherited |
| --- | --- | --- | --- | --- | --- | --- |

get the combined transform of the object

Returns[Transform](http://docs.google.com/classsf_1_1Transform.htm) combining the position/rotation/scale/origin of the object See Also[getInverseTransform](http://docs.google.com/classsf_1_1Transformable.htm#ab00de62b5d1efb2ee4cf2566dea98175)

| | void sf::Transformable::move | ( | float | *offsetX*, | | --- | --- | --- | --- | |  |  | float | *offsetY* | |  | ) |  |  | | inherited |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

Move the object by a given offset.

This function adds to the current position of the object, unlike setPosition which overwrites it. Thus, it is equivalent to the following code:

[sf::Vector2f](http://docs.google.com/classsf_1_1Vector2.htm) pos = object.getPosition();

object.setPosition(pos.[x](http://docs.google.com/classsf_1_1Vector2.htm#a1e6ad77fa155f3753bfb92699bd28141) + offsetX, pos.[y](http://docs.google.com/classsf_1_1Vector2.htm#a420f2481b015f4eb929c75f2af564299) + offsetY);

Parameters

| offsetX | X offset |
| --- | --- |
| offsetY | Y offset |

See Also[setPosition](http://docs.google.com/classsf_1_1Transformable.htm#a4dbfb1a7c80688b0b4c477d706550208)

| | void sf::Transformable::move | ( | const [Vector2f](http://docs.google.com/classsf_1_1Vector2.htm) & | *offset* | ) |  | | --- | --- | --- | --- | --- | --- | | inherited |
| --- | --- | --- | --- | --- | --- | --- | --- |

Move the object by a given offset.

This function adds to the current position of the object, unlike setPosition which overwrites it. Thus, it is equivalent to the following code:

object.setPosition(object.[getPosition](http://docs.google.com/classsf_1_1Transformable.htm#a6a0552d8cf155b7df25f6ceda8ee45a5)() + offset);

Parameters

| offset | Offset |
| --- | --- |

See Also[setPosition](http://docs.google.com/classsf_1_1Transformable.htm#a4dbfb1a7c80688b0b4c477d706550208)

| | void sf::Transformable::rotate | ( | float | *angle* | ) |  | | --- | --- | --- | --- | --- | --- | | inherited |
| --- | --- | --- | --- | --- | --- | --- | --- |

Rotate the object.

This function adds to the current rotation of the object, unlike setRotation which overwrites it. Thus, it is equivalent to the following code:

object.setRotation(object.[getRotation](http://docs.google.com/classsf_1_1Transformable.htm#ad783a7e9971398ec613d22455252809e)() + angle);

Parameters

| angle | Angle of rotation, in degrees |
| --- | --- |

| | void sf::Transformable::scale | ( | float | *factorX*, | | --- | --- | --- | --- | |  |  | float | *factorY* | |  | ) |  |  | | inherited |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

Scale the object.

This function multiplies the current scale of the object, unlike setScale which overwrites it. Thus, it is equivalent to the following code:

[sf::Vector2f](http://docs.google.com/classsf_1_1Vector2.htm) scale = object.getScale();

object.setScale(scale.[x](http://docs.google.com/classsf_1_1Vector2.htm#a1e6ad77fa155f3753bfb92699bd28141) \* factorX, scale.[y](http://docs.google.com/classsf_1_1Vector2.htm#a420f2481b015f4eb929c75f2af564299) \* factorY);

Parameters

| factorX | Horizontal scale factor |
| --- | --- |
| factorY | Vertical scale factor |

See Also[setScale](http://docs.google.com/classsf_1_1Transformable.htm#aaec50b46b3f41b054763304d1e727471)

| | void sf::Transformable::scale | ( | const [Vector2f](http://docs.google.com/classsf_1_1Vector2.htm) & | *factor* | ) |  | | --- | --- | --- | --- | --- | --- | | inherited |
| --- | --- | --- | --- | --- | --- | --- | --- |

Scale the object.

This function multiplies the current scale of the object, unlike setScale which overwrites it. Thus, it is equivalent to the following code:

[sf::Vector2f](http://docs.google.com/classsf_1_1Vector2.htm) scale = object.getScale();

object.setScale(scale.[x](http://docs.google.com/classsf_1_1Vector2.htm#a1e6ad77fa155f3753bfb92699bd28141) \* factor.x, scale.[y](http://docs.google.com/classsf_1_1Vector2.htm#a420f2481b015f4eb929c75f2af564299) \* factor.y);

Parameters

| factor | Scale factors |
| --- | --- |

See Also[setScale](http://docs.google.com/classsf_1_1Transformable.htm#aaec50b46b3f41b054763304d1e727471)

| | void sf::Shape::setFillColor | ( | const [Color](http://docs.google.com/classsf_1_1Color.htm) & | *color* | ) |  | | --- | --- | --- | --- | --- | --- | | inherited |
| --- | --- | --- | --- | --- | --- | --- | --- |

Set the fill color of the shape.

This color is modulated (multiplied) with the shape's texture if any. It can be used to colorize the shape, or change its global opacity. You can use [sf::Color::Transparent](http://docs.google.com/classsf_1_1Color.htm#a569b45471737f770656f50ae7bbac292) to make the inside of the shape transparent, and have the outline alone. By default, the shape's fill color is opaque white.

Parameters

| color | New color of the shape |
| --- | --- |

See Also[getFillColor](http://docs.google.com/classsf_1_1Shape.htm#ad7f7fe601a8bb24efe9aa77809a35c12), [setOutlineColor](http://docs.google.com/classsf_1_1Shape.htm#a5978f41ee349ac3c52942996dcb184f7)

| | void sf::Transformable::setOrigin | ( | float | *x*, | | --- | --- | --- | --- | |  |  | float | *y* | |  | ) |  |  | | inherited |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

set the local origin of the object

The origin of an object defines the center point for all transformations (position, scale, rotation). The coordinates of this point must be relative to the top-left corner of the object, and ignore all transformations (position, scale, rotation). The default origin of a transformable object is (0, 0).

Parameters

| x | X coordinate of the new origin |
| --- | --- |
| y | Y coordinate of the new origin |

See Also[getOrigin](http://docs.google.com/classsf_1_1Transformable.htm#a6bddc485d22bb64449d9d2d3a99a778f)

| | void sf::Transformable::setOrigin | ( | const [Vector2f](http://docs.google.com/classsf_1_1Vector2.htm) & | *origin* | ) |  | | --- | --- | --- | --- | --- | --- | | inherited |
| --- | --- | --- | --- | --- | --- | --- | --- |

set the local origin of the object

The origin of an object defines the center point for all transformations (position, scale, rotation). The coordinates of this point must be relative to the top-left corner of the object, and ignore all transformations (position, scale, rotation). The default origin of a transformable object is (0, 0).

Parameters

| origin | New origin |
| --- | --- |

See Also[getOrigin](http://docs.google.com/classsf_1_1Transformable.htm#a6bddc485d22bb64449d9d2d3a99a778f)

| | void sf::Shape::setOutlineColor | ( | const [Color](http://docs.google.com/classsf_1_1Color.htm) & | *color* | ) |  | | --- | --- | --- | --- | --- | --- | | inherited |
| --- | --- | --- | --- | --- | --- | --- | --- |

Set the outline color of the shape.

By default, the shape's outline color is opaque white.

Parameters

| color | New outline color of the shape |
| --- | --- |

See Also[getOutlineColor](http://docs.google.com/classsf_1_1Shape.htm#a4fa7d3bf5ee2332f6b9d9bebe9b1e2fd), [setFillColor](http://docs.google.com/classsf_1_1Shape.htm#a3506f9b5d916fec14d583d16f23c2485)

| | void sf::Shape::setOutlineThickness | ( | float | *thickness* | ) |  | | --- | --- | --- | --- | --- | --- | | inherited |
| --- | --- | --- | --- | --- | --- | --- | --- |

Set the thickness of the shape's outline.

Note that negative values are allowed (so that the outline expands towards the center of the shape), and using zero disables the outline. By default, the outline thickness is 0.

Parameters

| thickness | New outline thickness |
| --- | --- |

See Also[getOutlineThickness](http://docs.google.com/classsf_1_1Shape.htm#ac66f917b41eda6159a8ba6571d77f2ad)

| void sf::ConvexShape::setPoint | ( | unsigned int | *index*, |
| --- | --- | --- | --- |
|  |  | const [Vector2f](http://docs.google.com/classsf_1_1Vector2.htm) & | *point* |
|  | ) |  |  |

Set the position of a point.

Don't forget that the polygon must remain convex, and the points need to stay ordered! setPointCount must be called first in order to set the total number of points. The result is undefined if *index* is out of the valid range.

Parameters

| index | Index of the point to change, in range [0 .. [getPointCount()](http://docs.google.com/classsf_1_1ConvexShape.htm#af81b86134fe54f2d50d9fab0db065ef1) - 1] |
| --- | --- |
| point | New position of the point |

See Also[getPoint](http://docs.google.com/classsf_1_1ConvexShape.htm#ae2a18b837cd4454e340599a220c09a34)

| void sf::ConvexShape::setPointCount | ( | unsigned int | *count* | ) |  |
| --- | --- | --- | --- | --- | --- |

Set the number of points of the polygon.

*count* must be greater than 2 to define a valid shape.

Parameters

| count | New number of points of the polygon |
| --- | --- |

See Also[getPointCount](http://docs.google.com/classsf_1_1ConvexShape.htm#af81b86134fe54f2d50d9fab0db065ef1)

| | void sf::Transformable::setPosition | ( | float | *x*, | | --- | --- | --- | --- | |  |  | float | *y* | |  | ) |  |  | | inherited |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

set the position of the object

This function completely overwrites the previous position. See the move function to apply an offset based on the previous position instead. The default position of a transformable object is (0, 0).

Parameters

| x | X coordinate of the new position |
| --- | --- |
| y | Y coordinate of the new position |

See Also[move](http://docs.google.com/classsf_1_1Transformable.htm#a86b461d6a941ad390c2ad8b6a4a20391), [getPosition](http://docs.google.com/classsf_1_1Transformable.htm#a6a0552d8cf155b7df25f6ceda8ee45a5)

| | void sf::Transformable::setPosition | ( | const [Vector2f](http://docs.google.com/classsf_1_1Vector2.htm) & | *position* | ) |  | | --- | --- | --- | --- | --- | --- | | inherited |
| --- | --- | --- | --- | --- | --- | --- | --- |

set the position of the object

This function completely overwrites the previous position. See the move function to apply an offset based on the previous position instead. The default position of a transformable object is (0, 0).

Parameters

| position | New position |
| --- | --- |

See Also[move](http://docs.google.com/classsf_1_1Transformable.htm#a86b461d6a941ad390c2ad8b6a4a20391), [getPosition](http://docs.google.com/classsf_1_1Transformable.htm#a6a0552d8cf155b7df25f6ceda8ee45a5)

| | void sf::Transformable::setRotation | ( | float | *angle* | ) |  | | --- | --- | --- | --- | --- | --- | | inherited |
| --- | --- | --- | --- | --- | --- | --- | --- |

set the orientation of the object

This function completely overwrites the previous rotation. See the rotate function to add an angle based on the previous rotation instead. The default rotation of a transformable object is 0.

Parameters

| angle | New rotation, in degrees |
| --- | --- |

See Also[rotate](http://docs.google.com/classsf_1_1Transformable.htm#af8a5ffddc0d93f238fee3bf8efe1ebda), [getRotation](http://docs.google.com/classsf_1_1Transformable.htm#ad783a7e9971398ec613d22455252809e)

| | void sf::Transformable::setScale | ( | float | *factorX*, | | --- | --- | --- | --- | |  |  | float | *factorY* | |  | ) |  |  | | inherited |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

set the scale factors of the object

This function completely overwrites the previous scale. See the scale function to add a factor based on the previous scale instead. The default scale of a transformable object is (1, 1).

Parameters

| factorX | New horizontal scale factor |
| --- | --- |
| factorY | New vertical scale factor |

See Also[scale](http://docs.google.com/classsf_1_1Transformable.htm#a3de0c6d8957f3cf318092f3f60656391), [getScale](http://docs.google.com/classsf_1_1Transformable.htm#a3ea9639abd7a430ac99afb0aaf1ea562)

| | void sf::Transformable::setScale | ( | const [Vector2f](http://docs.google.com/classsf_1_1Vector2.htm) & | *factors* | ) |  | | --- | --- | --- | --- | --- | --- | | inherited |
| --- | --- | --- | --- | --- | --- | --- | --- |

set the scale factors of the object

This function completely overwrites the previous scale. See the scale function to add a factor based on the previous scale instead. The default scale of a transformable object is (1, 1).

Parameters

| factors | New scale factors |
| --- | --- |

See Also[scale](http://docs.google.com/classsf_1_1Transformable.htm#a3de0c6d8957f3cf318092f3f60656391), [getScale](http://docs.google.com/classsf_1_1Transformable.htm#a3ea9639abd7a430ac99afb0aaf1ea562)

| | void sf::Shape::setTexture | ( | const [Texture](http://docs.google.com/classsf_1_1Texture.htm) \* | *texture*, | | --- | --- | --- | --- | |  |  | bool | *resetRect* = false | |  | ) |  |  | | inherited |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

Change the source texture of the shape.

The *texture* argument refers to a texture that must exist as long as the shape uses it. Indeed, the shape doesn't store its own copy of the texture, but rather keeps a pointer to the one that you passed to this function. If the source texture is destroyed and the shape tries to use it, the behaviour is undefined. *texture* can be NULL to disable texturing. If *resetRect* is true, the TextureRect property of the shape is automatically adjusted to the size of the new texture. If it is false, the texture rect is left unchanged.

Parameters

| texture | New texture |
| --- | --- |
| resetRect | Should the texture rect be reset to the size of the new texture? |

See Also[getTexture](http://docs.google.com/classsf_1_1Shape.htm#a1bf27ac425fcce36efd0eed67531a403), [setTextureRect](http://docs.google.com/classsf_1_1Shape.htm#a2029cc820d1740d14ac794b82525e157)

| | void sf::Shape::setTextureRect | ( | const [IntRect](http://docs.google.com/classsf_1_1Rect.htm) & | *rect* | ) |  | | --- | --- | --- | --- | --- | --- | | inherited |
| --- | --- | --- | --- | --- | --- | --- | --- |

Set the sub-rectangle of the texture that the shape will display.

The texture rect is useful when you don't want to display the whole texture, but rather a part of it. By default, the texture rect covers the entire texture.

Parameters

| rect | Rectangle defining the region of the texture to display |
| --- | --- |

See Also[getTextureRect](http://docs.google.com/classsf_1_1Shape.htm#af7c4c80a435b85a622812711cf510439), [setTexture](http://docs.google.com/classsf_1_1Shape.htm#af8fb22bab1956325be5d62282711e3b6)

| | void sf::Shape::update | ( |  | ) |  | | --- | --- | --- | --- | --- | | protectedinherited |
| --- | --- | --- | --- | --- | --- | --- |

Recompute the internal geometry of the shape.

This function must be called by the derived class everytime the shape's points change (ie. the result of either getPointCount or getPoint is different).

The documentation for this class was generated from the following file:

* [ConvexShape.hpp](http://docs.google.com/ConvexShape_8hpp_source.htm)

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