

# tikzbrickfigurines

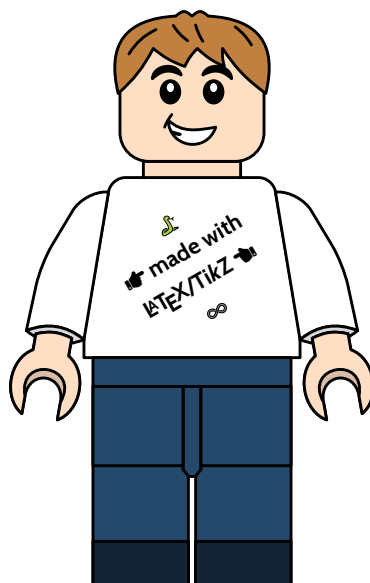
## Drawing brick-figurines with TikZ.

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<https://github.com/cpierquet/latex-packages/tikzbrickfigurines>



## 1 Introduction

The package allows to draw *brick-figurines* with TikZ.

The user can modify their colour, shape and elements.

The package is included in both T<sub>E</sub>XLive and MiK<sub>T</sub>E<sub>X</sub> and available from CTAN (<https://ctan.org/pkg/tikzbrickfigurines>).

The development version of this package is located on github at <https://github.com/cpierquet/latex-packages/tikzbrickfigurines>. If you have any problems, ideas or other feedback, please make constructive use of its bug tracker.

The style of this documentation is inspired by samcarter's doc for their great TikZbricks package (<https://ctan.org/pkg/tikzbricks>).

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- Inspired by LEGO™, but all graphics are made from scratch.
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## 2 History

0.1.0: Initial version



## 3 Loading, developments

### 3.1 Loading, useful packages

To use tikzbrickfigurines, simply use `\usepackage{tikzbrickfigurines}`.

```
\usepackage{tikzbrickfigurines}
```

Loaded packages are `tikz`, `simplekv`, `xstring`, `ifthen`, `listofitems`, `graphicx` and `calc`.

Loaded libraries are `shapes.geometric`, `bbox`, `decorations`, `decorations.pathmorphing`, `calc`.

### 3.2 Developments

For the moment, the package uses internal macros for creating/manipulating pieces and elements, but eventually, the future plan is:

- to manipulate these elements with a `pic` code;
- to improve the code for the logo.

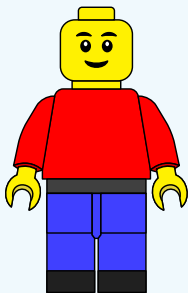
## 4 Global usage

### 4.1 Version 1

An individual TikZbrickfigurines can be drawn with:

```
\tikzbrickfigurine%  
[keys]%  
<tikz options>%  
{height}
```

```
%default output  
\tikzbrickfigurine{1.5in}
```

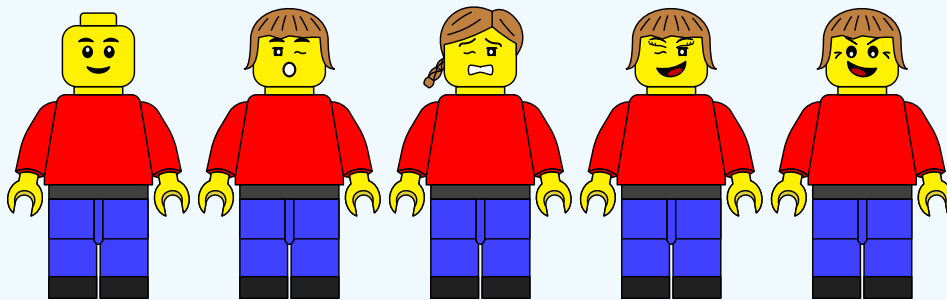


### 4.2 Version 2

An individual TikZbrickfigurines can be drawn with:

```
\minitikzbrickfigurine%
[keys]%
<tikz options>%
{height}%
{list of styles, within M/E/Eb/H}
```

```
\minitikzbrickfigurine[1.5in]{1/1/1/0}%default style
\minitikzbrickfigurine[1.5in]{4/7/1/2}%with choosen styles
\minitikzbrickfigurine[1.5in]{3/*/9/*}%with choosen and random styles
\minitikzbrickfigurine[1.5in]{*}%with full random styles
\minitikzbrickfigurine[1.5in]{*}%with other full random styles
```



## 4.3 Individual part

An individual TikZbrickfigurines piece can be drawn with:

```
\tikzbrickfigurinepiece%
[keys]%
<tikz options>%
{piece / style}%
{height}
```

```
\tikzbrickfigurinepiece[head=true]{hair=3}{1in}%
\tikzbrickfigurinepiece[head=true]{eyes=7}{1in}%
\tikzbrickfigurinepiece[head=true]{mouth=2}{1in}%
\tikzbrickfigurinepiece{head=2/3/*/5}{1in}%
```



## 5 Keys and styles

### 5.1 Keys

Available **keys** are:

- **color lines**: eventual color for borders
- **color skin**: global color for skin (override individual colors if given)
- **color sweat**: global color for body and arms (override individual colors if given)
- **color pant**: global color for pant (override individual colors if given)

[tikzbrickfigurines]












- `color belt`: color for the belt (`darkgray`)
- `color bottom belt`: color for the belt (`blue!75`)
- `color body`: simple color for the body (`red`)
- `color arm`: simple color for the arms (`red`)
- `color arm shadow`: simple color for the arms shadow (`red!85!black`)
- `color hand`: simple color for the hand (`yellow`)
- `color hand shadow`: simple color for the hand shadow (`yellow!85!black`)
- `color neck`: simple color for the neck (`yellow`)
- `color head`: simple color for the head (`yellow`)
- `color hair`: color for the hair (`brown`)
- `color top pant`: simple color for top pant (`blue!75`)
- `color middle pant`: simple color for mid pant (`blue!75`)
- `color foot`: simple color for shoes (`darkgray!50!black`)
- `display logo`: boolean for logo (`false`)
- `custom logo`: boolean for custom logo (`false`)
- `logo`: code for the optional logo
- `scale logo`: custom scale for `display logo` (`0.667`)
- `empty`: boolean for empty figurine (`false`)
- `hairstyle`: style of hair, from 0 to 10 (`0`)
- `eyestyle`: style of eyes, from 1 to 10 (`1`)
- `eyebrowstyle`: style of eyebrows, from 1 to 10 (`1`)
- `mouthstyle`: style of mouth, from 1 to 10 (`1`)
- `seed`: random seed for some hair code (`365479`)
- `bbox` boolean for using `bbox` library (`false`)
- `vcenter` boolean for centering vertically, with `tikz baseline` (`false`)
- `head`: boolean for showing head with individual element (`false`)

## 5.2 Elements











### 5.2.1 Body / legs / head / arms / hands / heads

```
\tikzbrickfigurinepiece[keys]<tikz options>{piece}{height}
```

piece	body	legs	head	left arm	right arm	left arm wo hand	right arm wo hand	left hand	right hand
									











### 5.2.2 Mouth

```
\tikzbrickfigurinepiece[keys]<tizk options>{mouth=...}{height}
```

mouth=	1	2	3	4	5	6	7	8	9	10
										











### 5.2.3 Eyes

```
\tikzbrickfigurinepiece[keys,head=true]<tizk options>{eyes=...}{height}
```

eyes=	1	2	3	4	5	6	7	8	9	10
										












### 5.2.4 Eyebrows

```
\tikzbrickfigurinepiece[keys,head=true]<tizk options>{eyebrows=...}{height}
```

eyebrows=	1	2	3	4	5	6	7	8	9	10
										

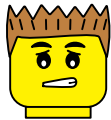
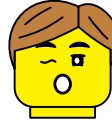
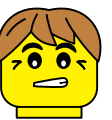
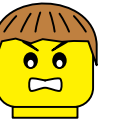
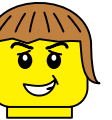
### 5.2.5 Hair

```
\tikzbrickfigurinepiece[keys,head=true]<tizk options>{hair=...}{height}
```

hair=	0	1	2	3	4	5	6	7	8	9	10
											

### 5.2.6 Head(s)

```
\tikzbrickfigurinepiece[keys]<tizk options>{head=...}{height}
```

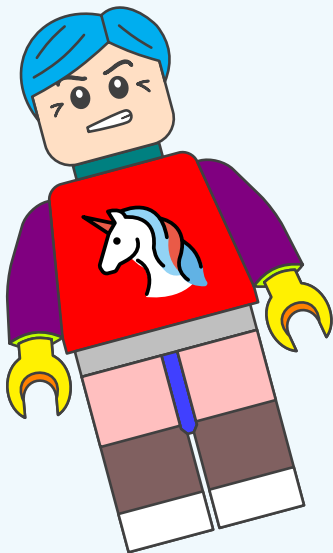
head=	*	4/8/1/6	2/*/*/9	3/3/3/3	10/10/10/2
					

## 6 Samples

### 6.1 Influence of options

```
\definecolor{brickskin}{HTML}{FFDFC4}

\tikzbrickfigurine%
[
  color lines=darkgray,
  color belt=lightgray,
  color bottom belt=blue!75,
  color body=red,
  color arm=violet,
  color arm shadow=lime,
  color hand=yellow,
  color hand shadow=orange,
  color neck=teal,
  color head=brickskin,
  color hair=cyan,
  color top pant=pink,
  color middle pant=pink!50!black,
  color foot=white,
  display logo,scale logo=0.8,
  logo={\openmoji{unicorn}},
  hairstyle=6,%
  eyestyle=5,%
  eyebrowstyle=10,%
  mouthstyle=2
]%
<rotate=15>
{2.75in}%
```



## 6.2 Random usage

```
\newcommand\randomcolor[1]{%
  \pgfmathsetmacro{\R}{random(0,10000)/10000}%
  \pgfmathsetmacro{\G}{random(0,10000)/10000}%
  \pgfmathsetmacro{\B}{random(0,10000)/10000}%
  \definecolor{#1}{rgb}{\R,\G,\B}%
}

\pgfmathdeclarerandomlist{listsksintones}%
  {{brickskin}{yellow}{pink}{brown}{brown!50!white}}
\pgfmathdeclarerandomlist{listhairtones}%
  {{lightgray!15}{yellow}{orange}{brown}{gray}{black}}
\pgfmathdeclarerandomlist{listlogos}%
  {{unicorn}{alien}{snake}{adhesive bandage}{desert island}{videocassette}{alien monster}}

%five 'random' clothes + face + skin + hair + logo brickfigurines
\foreach \i in {1,...,5}{%
  \randomcolor{randomsweatcolor}%
  \randomcolor{randompantcolor}%
  \randomcolor{randomshoecolor}%
  \pgfmathrandomitem{\skinrandom}{listsksintones}%
  \pgfmathrandomitem{\hairrandom}{listhairtones}%
  \pgfmathrandomitem{\logorandom}{listlogos}%
  \minitikzbrickfigurine%
  [%
    color skin=\skinrandom,%
    color hair=\hairrandom,%
    color sweat=randomsweatcolor,%
    color pant=randompantcolor,%
    color foot=randomshoecolor,%
    display logo,scale logo=0.8,%
    logo={\openmoji{\logorandom}},%
    vcenter
  ]%
  <rotate=\fpeval{randint(-20,20)}>%
  {1.75in}{*}
}
```

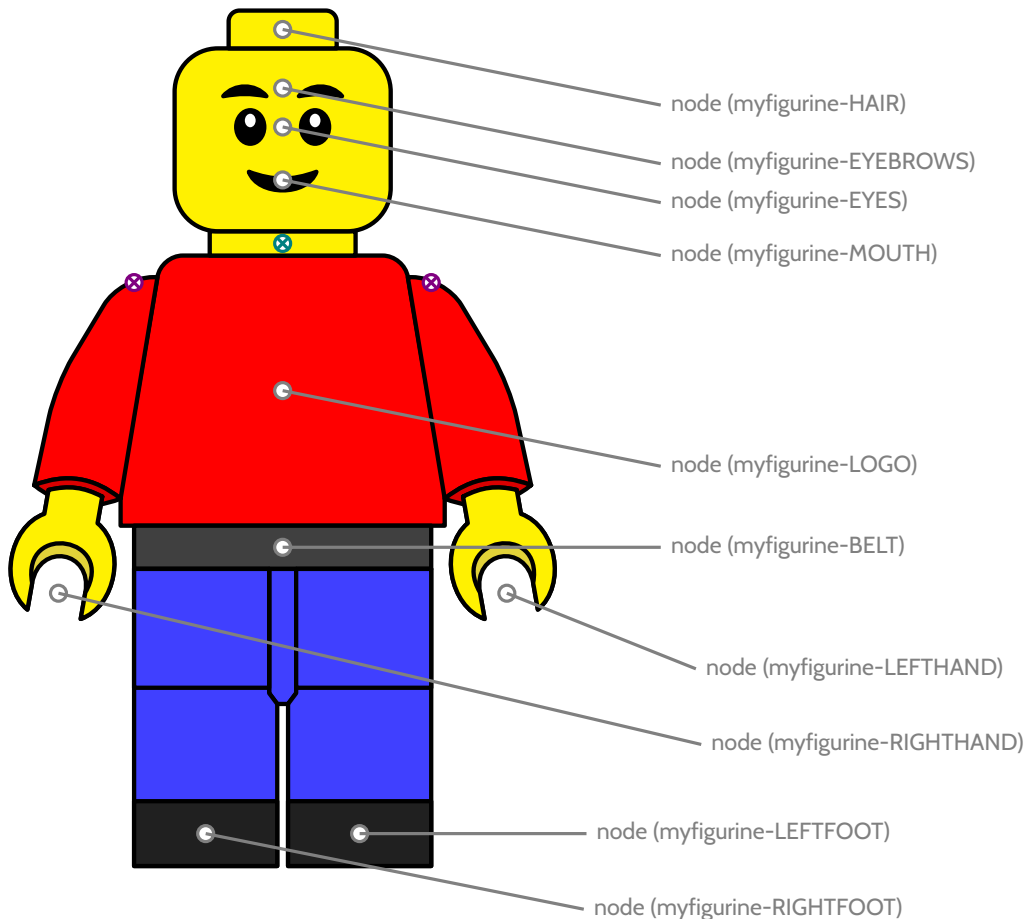




## 6.3 Overlay usage

Several nodes are created within internal code, and with TikZ options, overlays elements can be added.

```
\tikzbrickfigurine%  
[figure name=myfigurine]%  
<remember picture>  
{4.5in}%
```



Other available nodes are:

- (`<mynode>-RIGHTSHOULDER`), (`<mynode>-LEFTSHOULDER`);
- (`<mynode>-NECK`).