LEGO® Eiffel towers

by Iva Pavlic

Among the most instantly recognizable structures in the world, the Eiffel Tower, following its release in the Creator Expert theme from 2007., has been launched as an Architecture Landmark as well in 2014. Five years later, it's back underneath the Architecture Skylines roof, as a part of Paris.

About Eiffel Tower

Eiffel Tower has been built on Champs de Mars in Paris - constructed in 1889 as an entrance to the World Expo that took place there. It got its name after Gustav Eiffel whose company designed and built it. The basic idea of a tower with four main supporting "legs" was invented by Maurice Koechlin and Emile Nouguier, and Stephen Sauvestre added the truss arches underneath the first platform atop the skeleton in order to make it more monumental, and also added other decorative elements.
The Tower's construction is rather simple: four main support legs that form a square in its base are connected at the height of 300m, with three platforms in the middlew. It consists of 18038 iron parts that took two years, two months and five days to mount and secure.

The tower was supposed to be demolished 20 years after its construction. One of the main requirements of the tower was its easy disassembly. Gustave Eiffel decided to keep the tower, arguing its value in communication and scientific usage, such as meteorology, physics and astronomy. Its role in communication infrastructure today is rather huge: it hold 120 antennas and a television emitter that raised the total height to 324 m.

10181 Eiffel tower

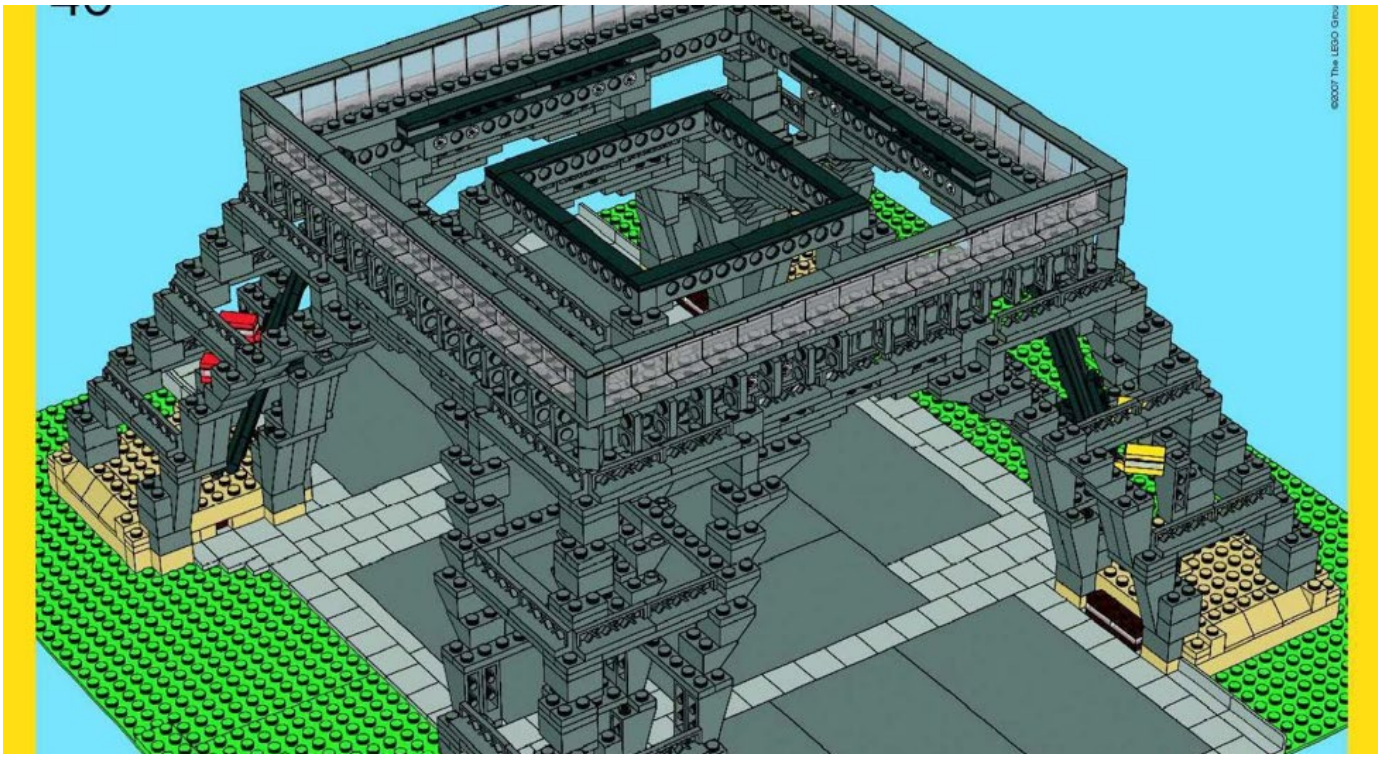
In the 10181 set, the Eiffel Tower was built in the 1:300 scale resulting in its total height of as much as 108 cm. This set was released in 2007 and consists of 3428 parts.

Its construction begins with the square beneath the tower using tiles, and then proceeds to the first half of the foundation. The foundation is constructed so that the each leg connects inverted slopes and bricks, connected with fences from the outside and plates from the inside. Four main supporting struts are interconnected with two discrete, simple arches built from plates with fences at the top. Atop the arches, there is a brick with sideways Technic holes with a cascade of 56 1x2 plates turned sideways which represents the first platform. At that very spot, in the real Tower, the names of 72 notable French scientists, engineers and mathematicians have been inscribed, e.g. Fourier, Foucault, Dumas, Daguerre and others. Eiffel decided to dedicate that part to scientists only because of a large resistance from the contemporary artists to building the tower, and plenty of criticism aiming at its looks.

The platform is surrounded with 60 trans clear 1x2x2 panels, and built from nine connected 8x8 plates with central mesh. Four supporting struts for the next platform protrude from each of the corner plater. The second platform, again, has its brick-built construction with sideways Technic holes, and this time, 32 1x2 plates turned sideways. This platform has a regular 1x4x1 fence around its perimeter. It's built using four aforementioned 8x8 plates, but without any holes in their centers. Four vertical 2x2x6 columns rise from its corners, and two 1x1x6 additional columns per each corner. This kind of construction goes on five-fold, after which the two thinner columns connect into one of the following five stories. The top, just underneath the third platform, has been built from 1x1 brick colulmns held together with fences, and from the second to third platform, there is a column in the middle with the elevators, built from 58827 mesh columns. The third platform protrudes outward from the tower shaft. This transition has been lovely modeled by using two vertical hinges at an angle, holding the platform. Just like on the real thing, at the top there is a broadcasting antenna and the French flag.

The model has been designed in a modular fashion - it's simply disassembled into three parts, separating at the platforms.

Bricks set into staircases and plates may look a bit rough at first sight and certainly do not portray the elegance of the smaller models, but have a strong, heavy look just like the the real thing,



Page 40 from the instruction booklet for 10181: first platform of the Tower with vertical plates and fences around the entire perimeter

yet meshy enough to emulate truss support structs. The dark grey of the fences contribute to that image.

21019 Eiffel tower

The 21019 set was released in 2014 as a part of Architecture Landmarks theme and consists of 321 parts. It is 31 cm tall.

The construction begins just like in the previous set, with the square underneath the tower, but proceeds, interestingly, with the first platform, which is actually a 8x8 plate with mesh, as used for the platforms in the 10181. The platform edges havbe been nicely done with sideways tiles featuring grilles. The second platform comes atop the first one, resting on the central column, but also on the corner support struts, built from tiles

The same detail in the real Tower: columns with names of various scientists around the platform with the fences

and clips with handles. Only once the both platforms have been constructed and put together, the four main support legs proceeds. The third platform is only given a hint of: on the 1x1 slopes, there is a tile with octagonal frame, with a 2x2 hemisphere atop it, and an antenna on the top. Again, the shape of the topmost platform which protrudes from the tower body and has a hemispherical shape, has been modeled realistically.

A very simple supporting structure, while perhaps not representing the feel of the truss construction, imitates the parabollic shape of the arches well using various non-right angles - therefore making the entire set look very true and elegant. An additional nice detail are arches underneath the first platform, using curved soft axles.

21044 Paris

The 21044 set got release in early 2019 as a part of Architecture Skylines theme and brings along 649 parts. Apart from the Eiffel Tower, other landmarks of Paris are present: Arc de Triomphe, Champs-Elysées, Tour Montparnasse, Grand Palais and Louvre.

The Eiffel Tower is only 22 cm tall in this set, makin it the smallest of the three sets. The construction itself is rather similar to the 21019. One could almost say that the successful building concept did not need to be changed: the supporting structure is again built from plates and tiles with grilles, connected together with clips to platforms (albeit a bit smaller here). The sideways grille tiles make up for additional detail. It's again interesting to observe how the arches underneath the first platform have been constructed: by using transparent circular elements for a pilot cockpit, with a truss print. The French flag appears here again, seen for the last time in the set from 2007.

The other Skyline models are typically between 3 and 8 cm deep, while the Paris Skyline being 11 cm deep to support the Eiffel Tower's wide base.

Contrary to the 10181 set, that put the trussy tower construction in its primary focus, and thus emphasizing the engineering aspect of the Eiffel Tower, the later sets have rather refocused on its looks and parabollic arches construction, which is to be expected due to the much smaller scales. We see such an Eiffel Tower in the postcards, as a form of parabollic shape.

All three LEGO® towers use grey parts. The real Eiffel Tower gets repainted every 7 years with 60 tons of paint to prevent it from rusting. To remain in harmony with the sky of Paris, it gets painted a bit lighter at the top and progressivelyt darker at the bottom. However, it is not really grey - the original paint has been brownish-red, and from 1968 onward, it gets painted in a shade of bronze color, now known as the "Eiffel Tower brown".

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