

Akashi Kaikyo Bridge



The **Akashi Kaikyo Bridge** ([Japanese](#): 明石海峡大橋, [Hepburn](#): *Akashi Kaikyō Ōhashi*) is a [suspension bridge](#) which links the city of [Kobe](#) on the Japanese island of [Honshu](#) to [Iwaya](#) on [Awaji Island](#). It is part of the [Kobe-Awaji-Naruto Expressway](#), and crosses the busy and turbulent [Akashi Strait](#) (*Akashi Kaikyō* in Japanese). It was completed in 1998,^[1] and at the time, was the [longest central span of any suspension bridge](#) in the world,^[3] at 1,991 metres (6,532 ft.). Currently, it is the second-longest, behind the [1915 Çanakkale Bridge](#) that was opened in March 2022.

History

- The Akashi Kaikyo Bridge is a suspension bridge that spans the Akashi Strait between Kobe and Awaji Island in Japan. It is the longest suspension bridge in the world, with a main span of 1,991 meters (6,532 feet).
- The bridge was designed by a team of Japanese engineers led by Shinzo Abe. Construction began in 1988 and was completed in 1998.
- The bridge was opened to the public on April 5, 1998. It cost ¥6.1 billion (US\$550 million) to build.

Construction

- The Akashi Kaikyo Bridge is made of steel and concrete. The concrete piers are hollow shafts that were built layer by layer. The steel deck was constructed in sections and then lifted into place.

- The bridge has 672 cables, each of which is made of 37,000 strands of wire. The cables are anchored to the pylons and the deck.
- The bridge was built using a variety of techniques, including traditional construction methods and innovative new technologies. For example, a special type of concrete was used to resist the corrosive effects of the seawater.

Design

- The Akashi Kaikyo Bridge is a graceful and elegant structure. The pylons are slender and tapered, and the cables are thin and delicate. The bridge blends in with the natural landscape, and it does not dominate the surrounding area.
- The design of the bridge was inspired by the surrounding mountains and the waves of the sea. The pylons are shaped like mountain peaks, and the cables resemble waves.
- The Akashi Kaikyo Bridge is a marvel of engineering and design. It is a symbol of modern Japan and a testament to the ingenuity of its builders.

Here are some additional details about the Akashi Kaikyo Bridge:

- The bridge is designed to withstand earthquakes up to 8.5 on the Richter scale and winds up to 286 kilometers per hour (178 miles per hour).
- The bridge has a two-hinged stiffening girder system, which allows the entire structure to flex and sway in response to wind and earthquake forces.
- The bridge has pendulums designed to damp forces. These pendulums are located at the top of the pylons and they help to absorb energy from the wind and waves.
- The bridge expands up to 2 meters (6.6 feet) a day because of heating. This expansion is accommodated by the use of expansion joints in the bridge deck.