

Construction Engineer

START BOOK 2026



EAST JAPAN CONSTRUCTION SURETY CO.,LTD.

Introduction



In Japan, the construction industry not only develops, maintains, and manages social infrastructure, but also acts as a community guardian on the front lines of the increasingly frequent disasters, playing a vital role in supporting citizens' lives and the socio-economic system.

However, the workforce is shrinking, and labor shortages remain a persistent problem. To continue fulfilling its vital role, it has become an urgent matter for the industry to secure and train on-site engineers and other technical staff.

To tackle these challenges, the construction industry is taking various measures to secure talent—promoting the hiring and retention of young people and women, encouraging work style reforms, and building more attractive workplaces. Foreigners are also regarded as important contributors, and efforts to actively employ them are being promoted.

This booklet is the English edition of the “START BOOK,” which was published with the aim of supporting the growth of young engineers in Japan. It offers clear, easy-to-understand explanations with diagrams and illustrations, covering not only the basic knowledge and job responsibilities construction engineers should master, but also the capabilities and qualifications required at each stage of their development.

We hope that this booklet will help foreign engineers working in the Japanese construction industry to achieve greater and lasting success in Japan.

February 2026

EAST JAPAN CONSTRUCTION SURETY CO., LTD.

*The content of this booklet is based on laws and regulations as of August 1, 2025.

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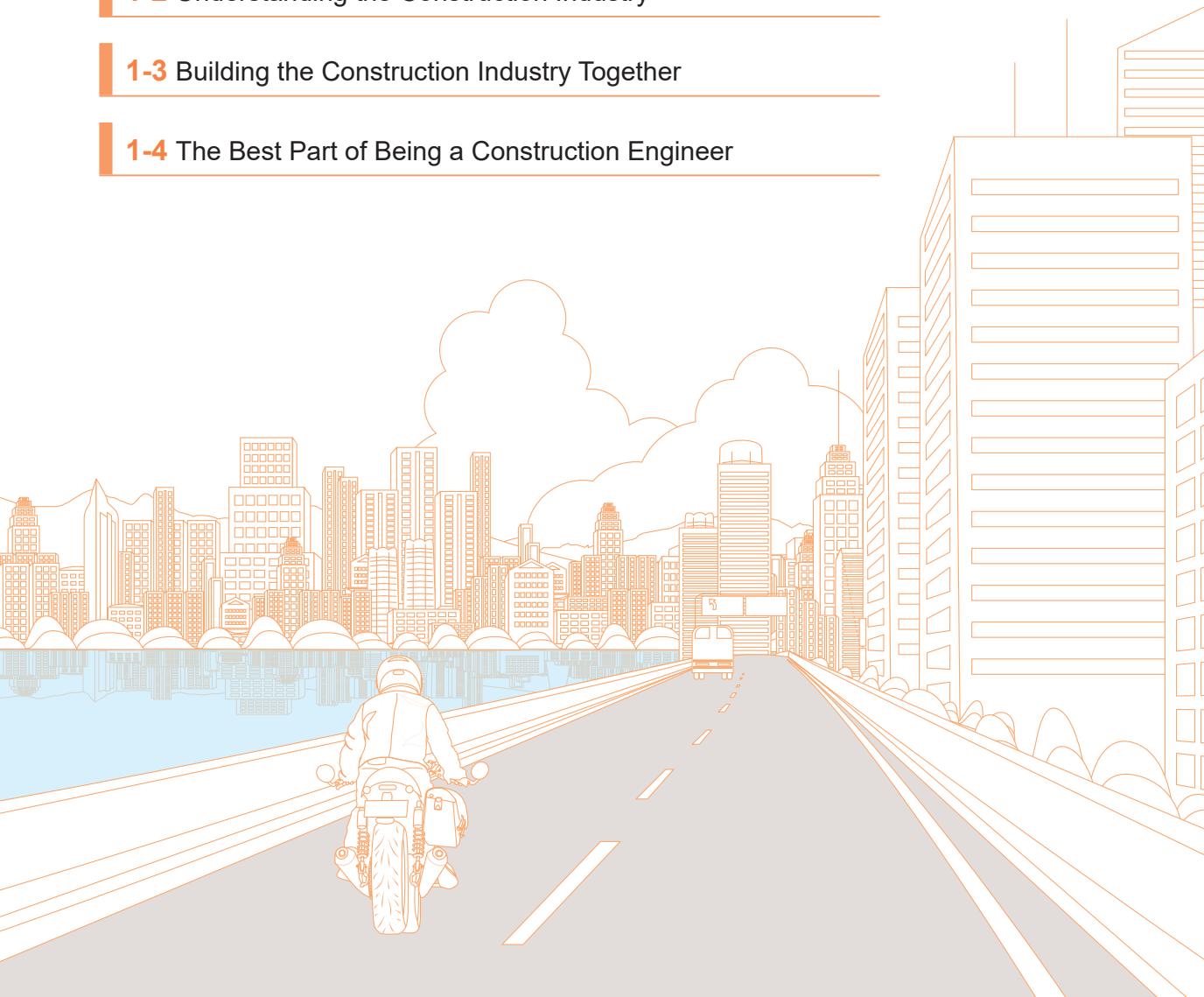
Characteristics and Appeal of the Construction Industry

1-1 Supporting Local Communities

1-2 Understanding the Construction Industry

1-3 Building the Construction Industry Together

1-4 The Best Part of Being a Construction Engineer

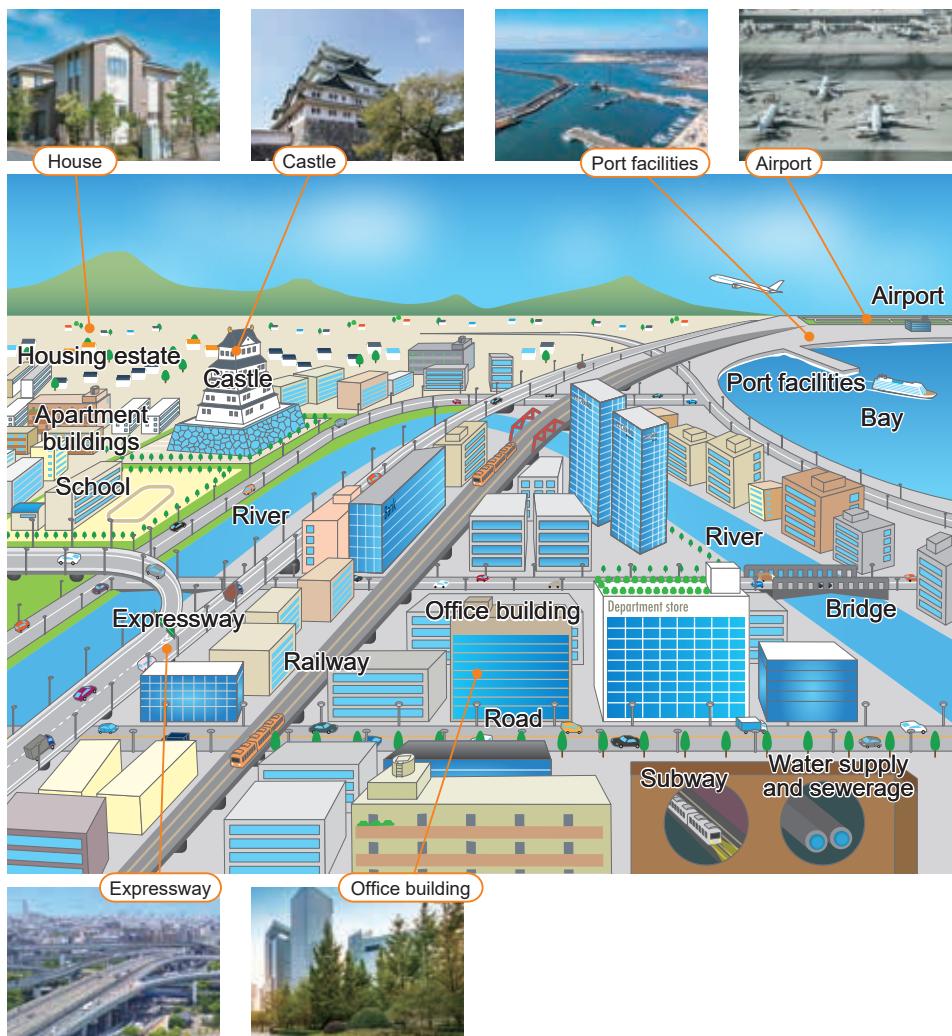


Chapter 1: Characteristics and Appeal of the Construction Industry



1-1 Supporting Local Communities

1. The Role of the Construction Industry



Various kinds of structures surround us. There are houses people live in. There are roads and bridges. Towns are filled with commercial facilities, including the office buildings of your company. In some places, there are also shrines and temples that attract many visitors. Inside houses, water, electricity, and gas are all in place, allowing us to live comfortably.

The construction industry builds these structures and facilities that are essential to our lives.

Let's look closely at the role of the construction industry.

○ **Creating a prosperous life**

The construction industry creates a wide range of essentials for everyday life—from infrastructures such as roads, bridges, water and power systems, gas and telecom facilities, schools and hospitals to homes and office buildings. For many people, information and communication infrastructure—like the Internet and mobile networks—might be especially indispensable. Construction and maintenance of these infrastructures is a core responsibility of the construction industry.

The industry also enhances comfort and convenience by, for example, constructing bypasses to ease traffic congestion and developing high-speed railways.

○ **Protecting a safe and secure life**

Creating a safe and secure living environment and shielding people from disasters are also key responsibilities of the construction industry. Many of you must have been shaken by images of torrential rain, tsunamis, and frequent major earthquakes on social media or the news. They are seen not only in Japan but around the world. To prepare for such disasters, the construction industry reinforces river and coastal embankments and make buildings and facilities more earthquake resistant.

When a disaster strikes, construction industry workers immediately head to the affected area and begin emergency restoration work.

In short, the construction industry you're involved in supports people's lives by laying the groundwork for prosperity and safeguarding a safe, secure way of living, helping everyone live happily.

2. As “Guardians of the Local Community”

In the event of a disaster, the construction industry works to minimize damage, responding to requests from national and prefectural governments. The task includes dispatching crews and heavy machinery and closing roads at affected sites to implement emergency measures.

If a typhoon damages homes, the entire construction industry steps in, covering roofs with blue tarps and restoring electricity, gas, and water services.

As these examples show, construction engineers who are familiar with the local terrain work closely with the government to protect communities from immediate hazards.



Chapter 2

The Work of Construction Engineers

2-1 Construction Management

2-2 Types of Construction Engineers

2-3 The Work of Civil Engineers (From Start to Completion)

2-4 The Work of Building Engineers (From Start to Completion)





Chapter 2: The Work of Construction Engineers



2-1 Construction Management

1. Roles of construction engineers

The construction industry has the following characteristics:

- Its engineer-to-order production makes it difficult to verify quality in advance.
- Because production takes place outdoors on site, the process is easily affected by the weather.
- Due to the division of tasks, many partner companies must be managed.

Therefore, construction engineers must have strong management skills to complete a project that meets the quality specified in design documents within the construction schedule.

At the same time, they must weigh construction costs to ensure the company remains profitable.

Moreover, it is essential to ensure safety to prevent on-site accidents. It is also necessary to give due consideration to the environment. Accordingly, construction engineers are expected to possess the following five construction management skills.

