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Serial Report

"RED HILL 1967™" Press-in Technology Dissemination Hub -Part 1-

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Foreword

GIKEN LTD. has inaugurated "RED HILL 1967" as the hub for disseminating the information about the superiority of press-in piling technology in Akaoka-cho, Konan City, Kochi, Japan. The facility is open to the public and tour reservations started being accepted from May 10 2023.

RED HILL 1967 comprises four distinct areas as shown in Fig.1; (1) "Sozokan (The Museum of Piling Machines)", which features piling equipment from around the world and successive press-in piling machines, (2) "Research Building", housing a research facility, a theater hall and an exhibition space dedicated to press-in piling technology, (3) the world's first "demonstration exhibition hall" that showcases actual structures created through the "Implant™ Method", utilizing the cutting-edge pile press-in/extraction machine "SILENT PILER™", and (4) "Kochi Factory 3", the GIKEN's largest factory in Japan.

Fig. 1 Facility's Full View

Facility Outline
Location : 246-3, Daito, Akaoka-cho, Konan-city, Kochi, Japan, 781-5310
Site Area: 36,000m^2
Capital: 1,637 million yen (excluding Kochi Factory 3)
Hours: 9:00 a.m. - 4:00 p.m. (Last admission at 15:00)
Closed: Weekends & National Holidays (As per the company holidays)
Admission: Free (Advance booking is necessary)

Message from the founder of GIKEN (Mr. Akio Kitamura, Executive Chairman of GIKEN LTD.)

"Seeing is believing" is a phrase that means if you see something yourself, you will believe it to exist or be true. It is difficult to explain a “machine structure” or “construction method” with unique processes that one has never seen before in words to a person in a precedent-based industry. It is also challenging for the listener to understand the true meaning of what is being explained. In addition, there are language barriers overseas, and it is a challenge to explain through an interpreter. However, once you see it, you can accelerate your understanding by using the knowledge, experience, and imagination in your brain. RED HILL 1967 is an “actual” exhibition and demonstration facility to realize a method based on this principle.

The Press-in Method is an innovative method with an exceptional advantage of the Press-in Principle, based on the “Five Construction Principles,” and scientifically supported. However, the truth of the method is still not known to the public. As a common occurrence, it is said that where there are advantages, there are disadvantages. Except, Press-in Principle has no drawbacks. Although, it had its weaknesses. The CRUSH PILER™ and GYRO PILER™ overcame the weak point, which was the installation of piles into hard ground. Meaning, the Press-in Principle overcame its weak point and entered the realm of perfection. The “RED HILL 1967” is a facility where visitors can immediately understand such domain. That is, a place that embodies “seeing is believing,” a base to distribute the true facts of the Press-in method, and meets the following conditions.

Introduction of the facility: Sozokan (The Museum of Piling Machines), Approx. 2,400m^2

This warehouse facility represents an expansion of the pre-existing "Museum of Piling Machines" formerly located at GIKEN’s Kochi Head Office. Here, an impressive array of 50 actual machines is showcased, including the inaugural SILENT PILER, a certified mechanical heritage. This collection, which we are proud of, encompasses GIKEN’s continuous lineage of inventions and advancements, as well as pile drivers utilizing diverse principles from around the globe.

Visitors will gain insight into the historical progression of press-in piling machines and the differences in construction principles through informative panels and videos.

The facility building is a completely new structure that breaks with conventional building standards, using steel sheet piles as the main structural members and confined ground seismic dampers* for the foundation (See Fig. 2, Fig. 3 and Fig. 4).

Fig. 2 Overview of The Museum of Piling Machines

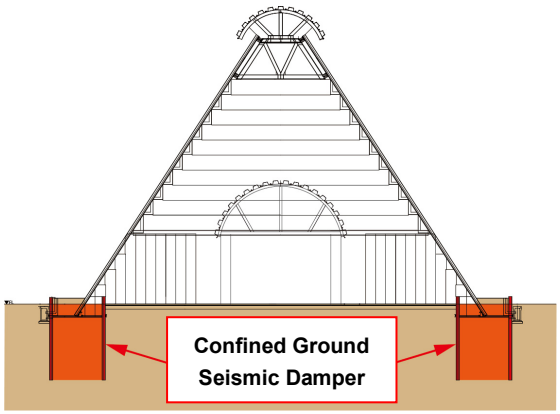

Fig.3 Confined Ground Seismic Damper*

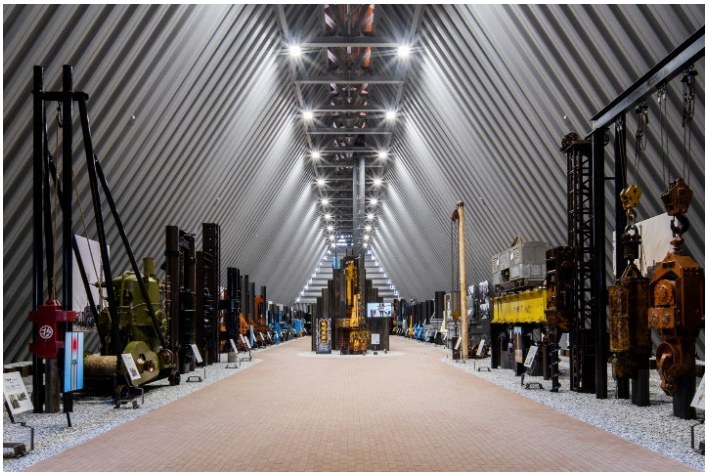

Fig. 4 Facility Interior

*Confined Ground Seismic Damper
A technology that suppresses lateral spreading due to soft ground or liquefaction and absorbs seismic motion while suppressing subsidence of the building by enclosing and tightening the ground that forms the foundation of the building through continuous steel sheet pile walls.

Introduction of the facility: Research Building, Approx. 900m^2

In addition to establishing laboratories for various demonstration tests, GIKEN has also created a theater and an exhibition space. This space offers visitors an accessible platform to grasp the evolution of press-in principles and technology, spanning the past, present, and future.

This structure stands as the inaugural architectural structure that leverages a continuous wall formed by pressing-in steel sheet piles, seamlessly integrating the functions of pile foundations, columns, and walls, shown in Fig. 5 and Fig. 6. The encompassing nature of this wall imparts a confined ground seismic damper structure. Notably, the elevator shaft, which is the path of the elevator, employs a large steel tubular pile measuring 2 meters in diameter as the world's first trial (Fig. 7).

While sharing the same steel sheet piles as the Sozokan, this curved building is distinct in its design approach.

Fig. 5 Overview of the Research Building

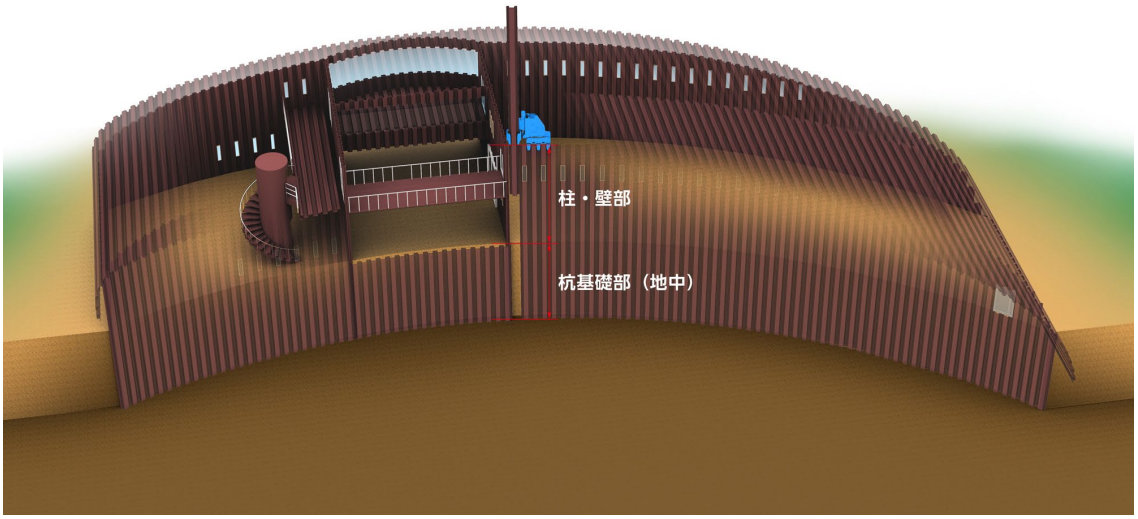

Fig. 6 perspective View of the Research Building

Fig. 7 Elevator Shaft used a Steel Tubular Pile

Fig. 8 Theater Room

In the theater room, a concept video of the press-in piling technology will be shown to visitors as the starting point here in this theater room. The theater room will also be used for seminars and lectures (Fig. 8).

The essentials, history and future prospects of the press-in piling technology are displayed using panels and videos at the Exhibition Space (Fig. 9), across from the Theater Room.

Fig. 9 Exhibition Space

Part 2 to be continued in the next issue of the Newsletter (March 2024).