

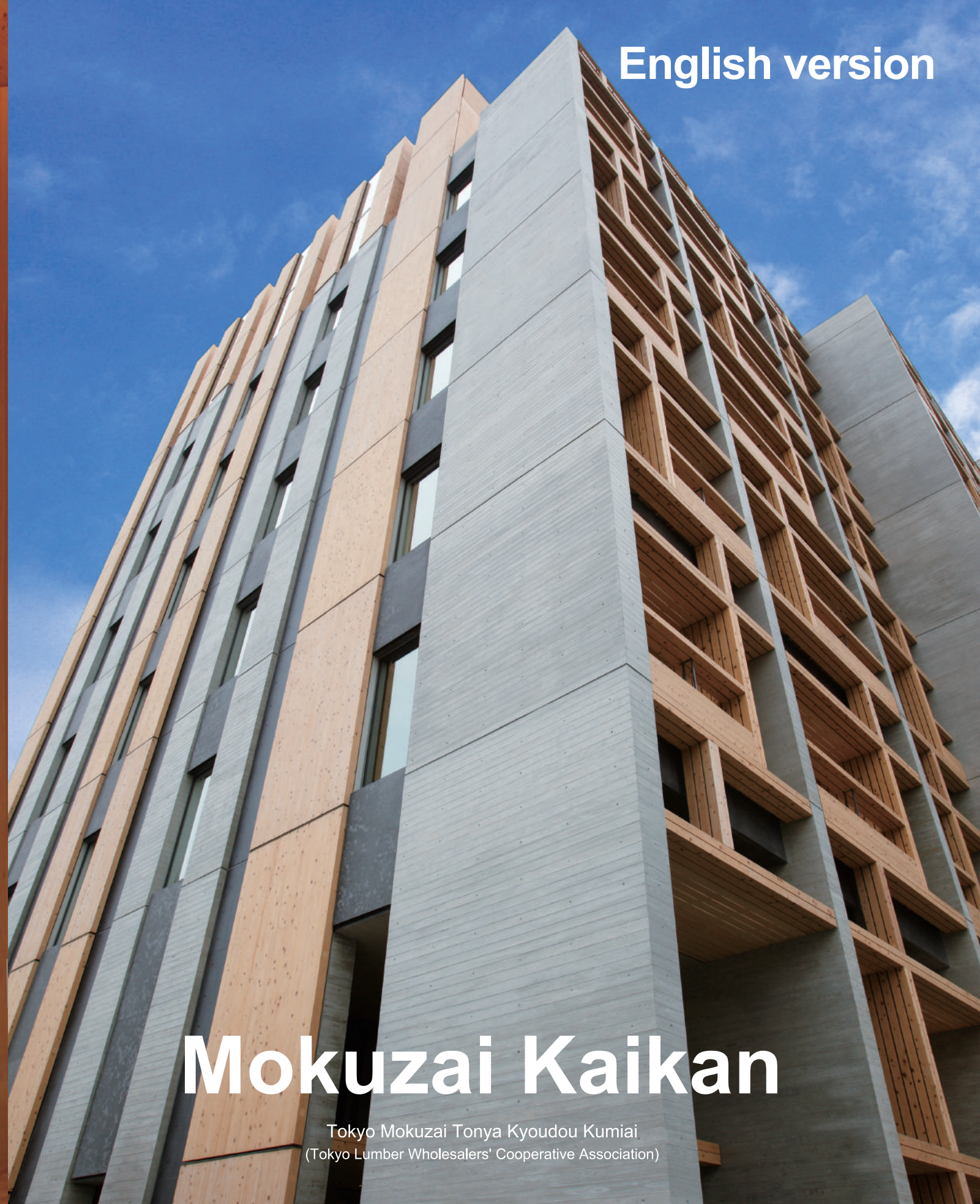


**Tokyo Mokuzai
Tonya Kyoudou Kumiai
(Tokyo Lumber Wholesalers'
Cooperative Association)**

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<https://www.mokuzai-tonya.jp/>
1st version issued July 17, 2009
Revised version issued July 20, 2014

Please visit our website to view more detailed photographs.
(<https://www.mokuzai-tonya.jp/>)

English version



Mokuzai Kaikan

Tokyo Mokuzai Tonya Kyoudou Kumiai
(Tokyo Lumber Wholesalers' Cooperative Association)





Regarding the Construction of the “Mokuzaikai Kaikan”

We constructed the “Mokuzaikai Kaikan” as the home ground for expanding lumber demand. This is the start of Tokyo Mokuzaikai Tonya Kyoudou Kumiai’s (Tokyo Lumber Wholesalers' Cooperative Association) challenge for the next 100 years.

The construction of this hall used over 1,000m³ of Japanese domestically grown cypress and other lumber, which was used in the interior and exterior finishing as well as in the structure. Lumber that can be acquired by any lumber dealer was used with a combination of traditional constructions methods and the latest technology. The designer, Nikken Sekkei Co., and the contractor, Taisei Corporation, utilized their knowledge and technology in combination with the experience and wisdom of lumber dealers to complete the project. It took much effort and a variety of experiments to again use lumber in an urban building, something that has not been the practice for a long time. I am confident the strength, beauty, and gentleness of the wood have been faithfully expressed in the “Mokuzaikai Kaikan” where many people will be able to gather and work comfortably and thus powerfully promote new demand for lumber.

Another major role that will be played by the “Mokuzaikai Kaikan” is its contribution to the global environment. Timber absorbs and fixes carbon dioxide from the atmosphere as it grows. The 1,000m³ of lumber used in the construction will continue fixing that carbon as long as the “Mokuzaikai Kaikan” exists. This hall was built with the strong desire that “We want to raise forests, so we use trees.”

I wish to express our gratitude for everyone who worked on the construction of the “Mokuzaikai Kaikan” and for the association members who supported this challenge and in response further strengthen our resolve to expand the demand for lumber.



Tokyo Mokuzaikai Tonya Kyoudou Kumiai
Chief Director: **Yoshiaki Kichijo**

Property name : **Mokuzaikai Kaikan**

Address : 1-18-8 Shinkiba, Koto-ku, Tokyo, Japan

Front road : North side 30.00m (Ward road)

Use district/zoning district : Semi-industrial area, fire prevention district, Shinkiba/Tatsumi 3-chome District District Planning Area

Site area : 1,652.90m²

Building area : 1,011.26m²

Total area : 7,582.09m²

Rentable floor area : 2,549.09m²

Building-to-land ratio : 61.20% ≦ 70.00%

Floor-area ratio : 399.60% ≦ 399.60% (*The overall design has allowed the floor-area restrictions to be relaxed.)

Application : Office, meeting room

Stories/height : Above ground 7 stories, below ground 1 story, maximum height: 35.73m

Construction : Steel-framed reinforced concrete, partial steel frame, partial wooden construction

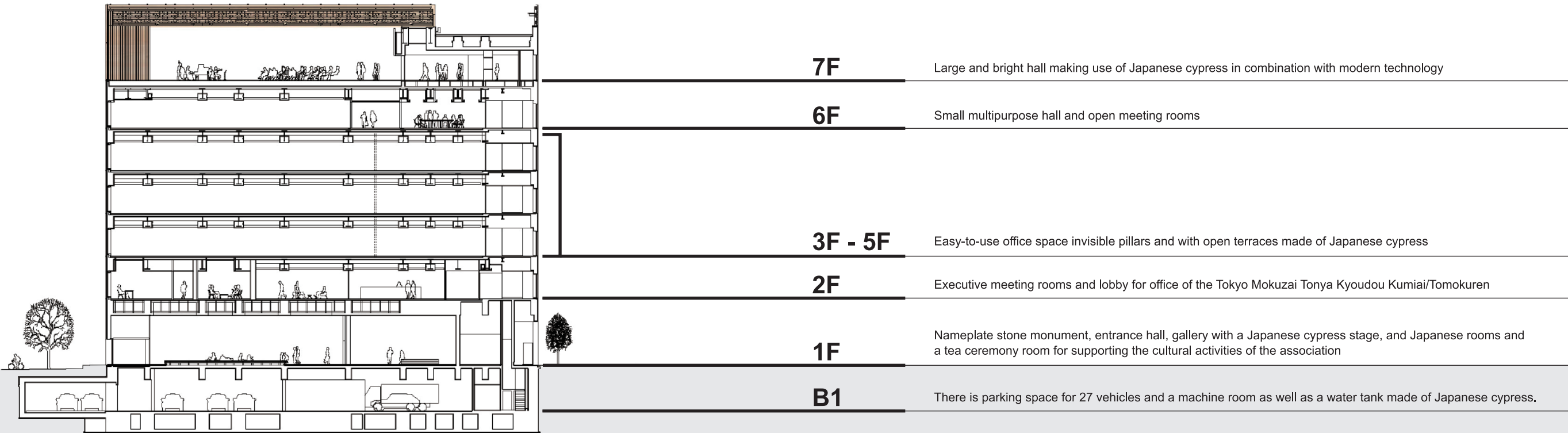
External finish : (Exterior wall) Exposed concrete FUC coating, wooden wall (eaves) wooden ceiling (external structure) granite, PC board

Parking : Total 27 vehicles (15 vehicles, mechanical parking: 9 vehicles, handicapped parking spaces: 1, Freight loading spaces: 2)

Construction completed : July 5, 2009

Overview

Floor Guide



Purpose

The centerpiece of our commemoration of the 100th anniversary of the Tokyo Mokuzai Tonya Kyoudou Kumiai (Tokyo Lumber Wholesalers' Cooperative Association) is this project to construct the “Mokuzai Kaikan” in Shinkiba, the center of lumber distribution. With today’s decreasing demand for lumber, this project aimed to use as much lumber in urban construction as possible to create an attractive and refreshing space and to build a building that contributes to the global environment.

The main theme for the building was “using lumber,” so how lumber is used needed to be rethought from a variety of perspectives including processing technology, distribution, safety, fire prevention, structure, and ecology. The entire “Mokuzai Kaikan” became the core of know-how for using lumber in modern buildings and was planned to promote the free use of lumber in buildings from now on.

Further, the Japanese culture, which has developed together with the use of wood, was reconsidered to propose a new relationship between wood and buildings.

Please visit our website for more detailed information.
(<https://www.mokuzai-tonya.jp/>)

Lumber used in the “Mokuzai Kaikan”

- Japanese cypress** : 7F: Hall beams, wall pillars, wall panels; All floors: terrace ceiling, wooden walls and floors, exterior panels
- 6F: Counter
- 1F: Gallery wooden walls, stage floor, etc. (Total 1,025m³)
- Japanese cedar** : All floors: Office wood ducts, louver ceilings
- 1F: Japanese room, tea ceremony room constructions materials, concrete mold framework wooden panels
- 6F: Stage back interia
- 7F: Foyer object
- Japanese ash** : All locations: Automatic doors, wooden construction tools, counters, stairs EV handrail (laminated wood)
- Oak** : All floors: Hall EV hall flooring
- Live oak** : 7F: Hall plug for wooden beams
- Beech** : 7F: Hall flooring
- Maple** : 6F: Small hall flooring, All locations: handles of steel construction tools
- Walnut** : 2F: Meeting room wooden walls
- Cherry** : 2F: Executive meeting room wooden walls (wild cherry), desks (Monarch Birch)

Welcome to the “Mokuzai Kaikan”

Leaving the Shinkiba Train Station and looking out across the plaza in front of the station you can see the face of the “Mokuzai Kaikan” behind a row of cherry trees. Passing through the west side of the plaza and coming to the intersection brings the entire “Mokuzai Kaikan” into view. Japanese cypress lumber covers the concrete and steel frame to create a consoling and friendly appearance.

Creating an effort to use wood on the building’s exterior

Due to the established concern that “wood burns,” wood has not been used on the exterior of buildings for a long time. What is important here is not whether the material is flammable, but whether the building is safe if there is a fire. The structural framework of the “Mokuzai Kaikan” is made of steel-framed reinforced concrete, which has a high fire resistance, so the structure is safe even if the exterior wall burns in the event of a fire. Further, even if the exterior wall catches fire, fire stop material made of non-flammable lumber that has been subjected to non-combustible treatment is used between the floors to keep the fire from spreading upwards, so the structure prevents the spread of fire. These measures were verified through an assessment conducted by a fire prevention effort to show it is possible to build a safe building using wood on the exterior wall.



The Japanese cypress lumber and steel and the concrete bearing the imprints of the Japanese cedar woodgrain create a pleasing contrast.



The concrete and steel structural framework is covered with Japanese cypress lumber that creates a consoling and friendly appearance.



The nameplate placed in the entrance was moved there from the old “Mokuzai Kaikan” built in Fukagawa in 1975. The calligraphy is by Takeo Miki, prime minister at the time.



Entrance doors made of Japanese ash

1 F Entrance Hall



1F Entrance Hall

Relaxing Space

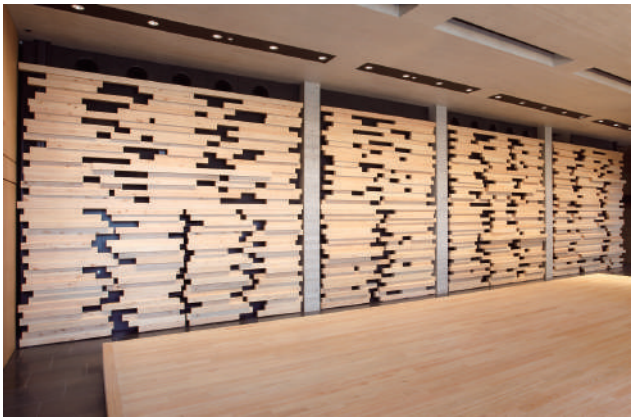
Passing through the stately Japanese ash entrance doors brings you into the entrance hall where the Japanese cypress object comes into view. Sitting on this you can enjoy the relaxing atmosphere created by the high concrete walls and ceiling bearing the imprint from the Japanese cedar wood used for the concrete forms. The next room is a multipurpose gallery with a Japanese cypress stage.



1 F Japanese Cypress Stage and Gallery



Looking west from the Japanese cypress stage past the refreshing terrace with walls and ceiling made of Japanese cypress you can see the people crossing through the square.



The east wall is a unique wall made by randomly combining pieces of Japanese cypress lumber.

7 F Japanese Cypress Hall

Be sure to experience the strength, gentleness, and beauty of wood

Arriving at the 7th floor, you are gently greeted by a Japanese cedar object in the black-toned chic foyer and Japanese ash door. Go ahead and open the door.



7F Hall Entrance

The hall is filled with the fragrant scent of Japanese cypress and the bright sunlight that fills the hall. The large beams create a commanding sense of presence and a refreshing space you can enjoy.

Large beams of laminated Japanese cypress

Traditionally, in Japanese buildings the lumber served as both the structure and the decoration.

The large beams that support the roof of the Japanese cypress hall are 12cm beams of laminated Japanese cypress. Computer controlled NC was used to mill traditional “okkake-daisen joints” into the beams, which are held in place using live oak pins. Wood joined with wood. Wood embedded in wood. Pieces of wood joining their mutual strengthen to create a powerful structure. The giant beams formed into a single piece and held together by reinforcing bolts passed a variety of actual size strength tests to verify their safety. The light that shines in through the skylights between the wooden beams throws a soft light on the hall and the beams.lumber covers the concrete and steel frame to create a consoling and friendly appearance.



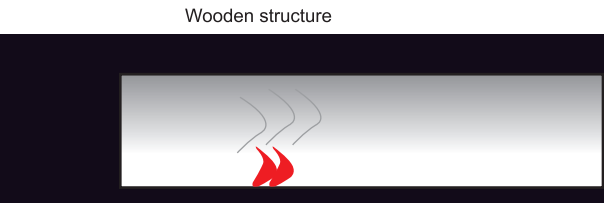
Relax on the Japanese cypress terrace

When you open the glass doors on the west side of the Japanese Cypress Hall, it leads to a spacious terrace where you can relax for a time. On a clear day you can see Mt. Fuji beyond the downtown skyscrapers.



Making an effort to use wood in the building’s structure

Using flammable wood as is in a building's structure is not allowed by law. Calculations were made and verified for a variety of cases to test if, in the event a fire actually occurs in the Japanese Cypress Hall, the flames will reach the hall ceiling or if the heat and smoke will cause the beams to catch fire. An assessment by a fire prevention expert showed it is possible to realize a safe wooden structure.



It was verified that the flame and smoke during a fire will not spread to the wooden structure.



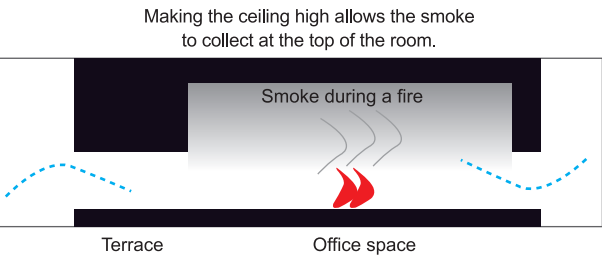
6 F Conference Room



6F Conference Room

Making an effort to use wood in the interior finishing

There are generally restrictions on the interior finishing of buildings above a certain size and use of non-flammable materials is required. In regards to this, the 2000 revision of the Building Standards Act relaxed this restriction to make the use of wood possible if the people can evacuate safely in the event of a fire. (Evacuation Safety Verification Act)
The "Mokuzai Kaikan" utilized this system to design the ceiling higher than normal so that the smoke from a fire would collect at the top of the room for long enough to allow the people to evacuate. The safety was verified using the specified calculation method and confirmation verifications were conducted, which made it possible to use exposed wood in the interior finishing throughout the building to realize a space with excellent habitability.



Movable partitions covered with sheets of Japanese cedar can divide the hall into 3 brightly lit meeting rooms.



6 F Small Hall



The room before the conference room is the multipurpose small hall that can also be used for social gatherings. Passing through the entrance a counter designed with a new expression possessed by wood comes into view. At the back of the hall is an object meant to create the image of a stand of Japanese cedars, and together with the podium placed in front of it creates a soft atmosphere.



The front of the counter is made from Japanese cypress lumber that has been carved into a wave shape. Carving into the grain causes lively concentric circular patterns to appear, and carving down the straight grain creates a dynamic sense of motion within the overall relaxed look.



Social area with a lively atmosphere



The space between the small hall and the meeting rooms has a showcase for displaying a “Collection of Wooden Crafts from Around the World.” The showcase is made from Japanese cypress boards that have been layered together.

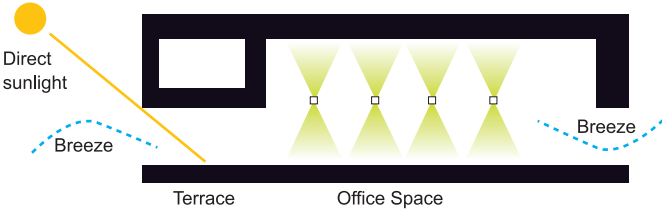
3 F - 5 F Office with a terrace that features light, wind, and wood (5F)



5F Office Floor

Workspace created from wood

The building office floor uses the terrace that runs all the way down the west side and the elevator hall as large verandas. The ceiling is made of Japanese cypress and the floor is made of oak. The space is separated from the office by glass to create an office space that is open and makes you feel you are working amidst wood. Rather than being an inorganic closed off space, you can go onto a sunshiny terrace where the windows can be easily opened to provide good ventilation. The pillars are not visible making this is a good, spacious office space that can be used as desired.



5F Elevator Hall

2 F Tokyo Mokuzai Tonya Kyoudou Kumiai office/Tomokuren office
(Tokyo Lumber Wholesalers' Cooperative Association)/(Federation of Wood-Industry Association Tokyo)



This space supports the activities of the association and provides a place for association members to interact.



A terrace with an open feeling is within view.

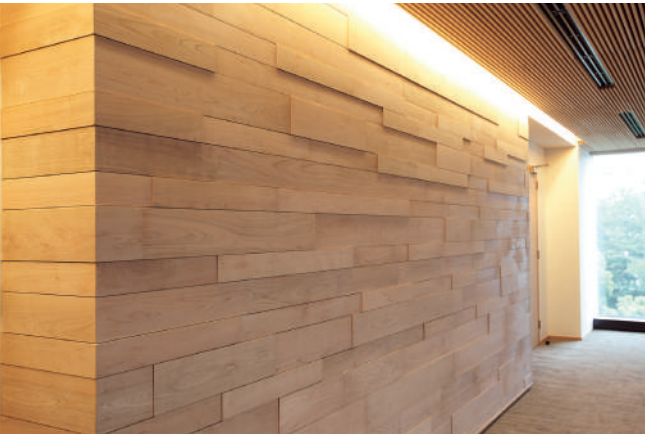


A spacious lobby is located in the center.

2 F Executive Conference Room/Chief Director's Office



The meeting room features a beautiful table made from exposed cherry (Monarch Birch) that matches the wall siding made of wild cherry positioned to create an uneven surface.



Chief Director's Office

2 F Terrace, 1F Elevator Hall



Terrace of sunlight, wind, and wood
The open terrace has benches to create a space where people can interact and relax.



The elevator hall connected to the entrance hall features a stylish staircase room and 3 elevators with glass walls and wooden floors and handrails. You can smoothly move to the desired floor.

1 F Japanese Room, Tea Ceremony Room



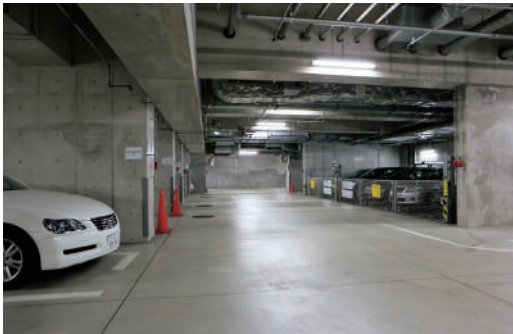
Relaxing Japanese room
This is the base for the association’s cultural activities, such as tea ceremonies, flower arranging, and poem writing.



A true tea ceremony room with a washing area.



Basement: Parking area and water tank



This is a parking lot for reserved parking and the association’s vehicles.



A water tank made of Japanese cypress is located in the machine room at the back of the parking lot.



The wooden hall reflects the morning sun, catches the evening sunset, and gently engages the wind and rain. When entering the hall the long straight boards in the ceiling give you hope. The flooring steadily whispers beneath your feet. This building, which allows you to experience the coexistence with nature, brings out its charms that change daily.

The “Mokuzai Kaikan” was born as a symbol for exploring and demonstrating the use of lumber in an urban building and is toured by many construction related people. It is our hope that such buildings as this, which continues the “wood culture” that has been continuously followed by the Japanese and utilizes the beauty, gentleness, and strength of wood, will be built in the city.

(Written for the construction 5th anniversary)

July 5, 2014 Yoshiaki Kichijo