

O-23	Keywords	Y1	material or part	Z4	electricity	S3	ZEB/BEMS
						D	Construction

NIKKEN SEKKEI LTD.

Embracing the Environment with Wood

Features

Japan has a rich culture of wood that goes back to antiquity. As modern-age urbanization progressed, the use of wood as construction material in business districts became increasingly difficult. This building is an attempt to open up new possibilities for use of wood in urban architecture, leading by example. (Mokuzai Kaikan translates as “wood center.”)



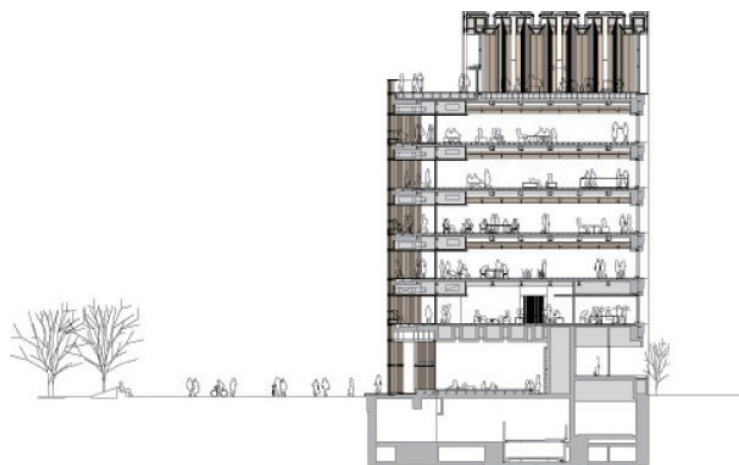
Basic Concept or Summary

The architecture of the Mokuzai Kaikan embraces the sultry Japanese climate by taking advantage of local conditions.

The offices are set in an open, rectangular plan that is surrounded by a second layer of supporting structural, mechanical, and circulatory systems. Deep wooden terraces are placed on the eastern facade to buffer the thermal gain of the harsh evening sun. The noticeably thorough woodwork of the terraces and the facade suggests a contemporary iteration of the “engawa” (the traditional wooden veranda). It functions as a deep shade and a water barrier, providing natural ventilation and a pleasant semi-exterior space that is made readily accessible by the sliding glass doors. In embracing rather than denying the climate, this double-layered building enriches the relationship between its occupants and the natural environment.



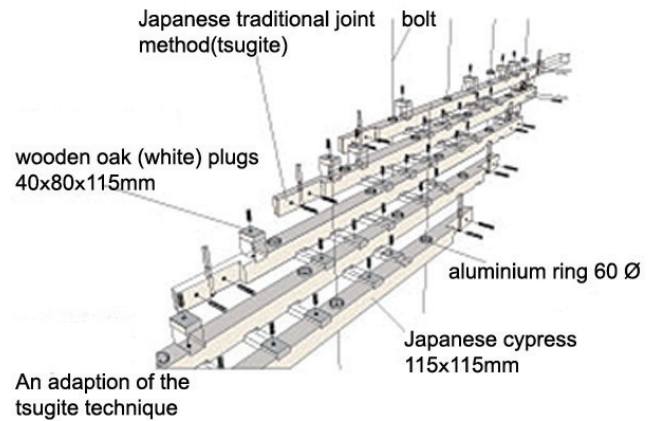
Hall on top floor. Wooden beams span approximately 30m.



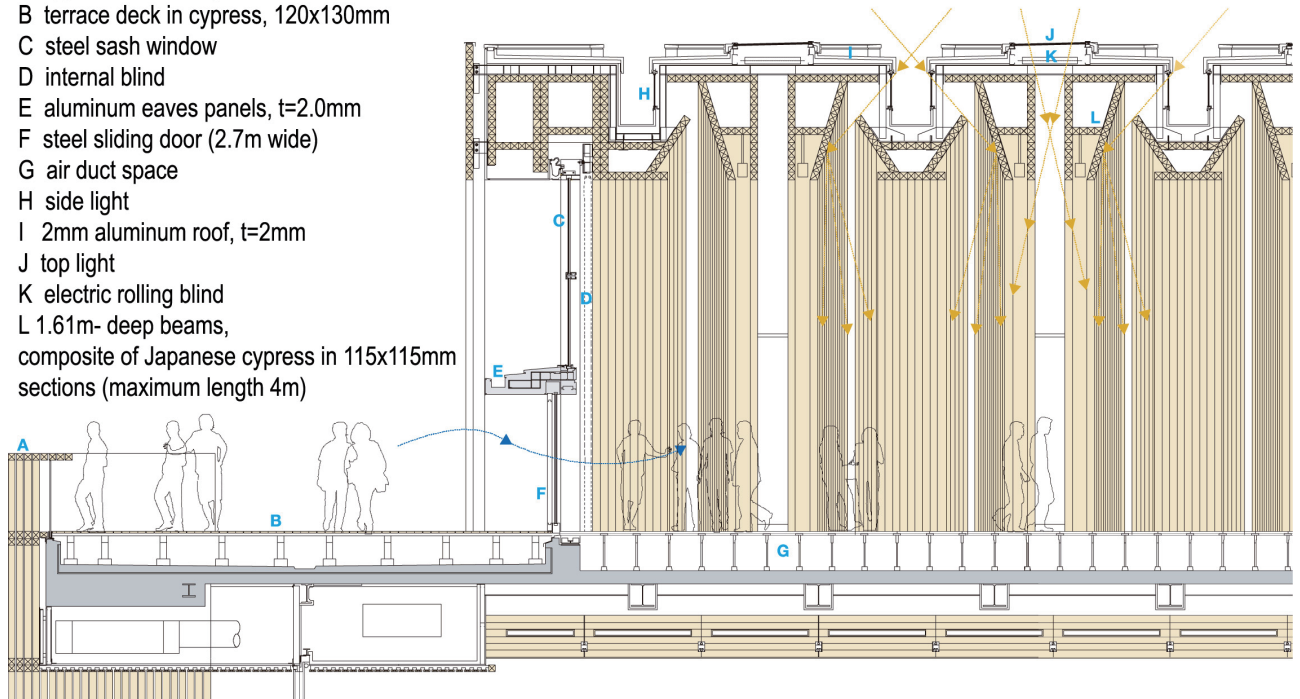
Transverse section

Architecture does not only occupy a site—it also has a place in society. The use of wood had been rather restricted in urban areas until recent legal and technological changes enabled fire resistant exposed wood to be used in commercial building construction.

Moreover, making good use of the standard, 120x120mm Japanese cypress wood in the market not only helped to economize on costs, but also cut over 600t of embodied energy. Thus, beyond bringing the pleasant scent of cypress wood into the offices, such efforts could help open up a new market for domestically available wood and contribute to the further reduction of carbon footprints.



- A cypress elevation panels, 115x115mm
- B terrace deck in cypress, 120x130mm
- C steel sash window
- D internal blind
- E aluminum eaves panels, t=2.0mm
- F steel sliding door (2.7m wide)
- G air duct space
- H side light
- I 2mm aluminum roof, t=2mm
- J top light
- K electric rolling blind
- L 1.61m- deep beams, composite of Japanese cypress in 115x115mm sections (maximum length 4m)



Installation in Practice or Schedule

Domestic

Mokuzai Kaikan

Environment and Building Service System Design Award 2011
 AIJ Annual Architectural Design Commendation 2011
 JIA Award 2011
 Mipim Asia Awards 2009 - Special Jury Awards



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