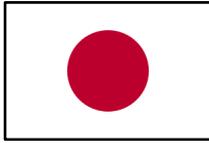


## AHT's indoor heating mats under parquet flooring of Japanese house built in compliance with Japanese constructed standard.



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Japan's building construction techniques are traditionally based and uniquely different than what the western world is familiar.

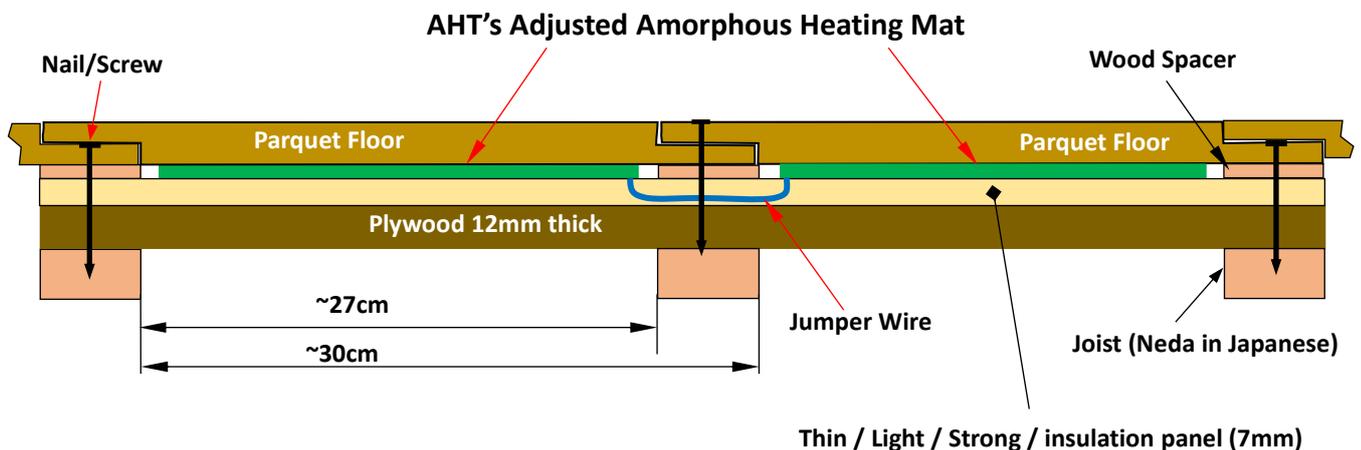
Concrete based buildings as well as skyscrapers are designed and built to withstand and remain in one piece whilst undergoing the most powerful earthquakes on frequent basis.

At the same time, traditionally Japanese carpentry, detached house construction standards since early days implementing different formfactors “shakkanhō” (尺貫法) as expressed in the Japanese language where;

- Length = “Shaku” (0.303 m),
- Area = “Tsubo” (3.306 m<sup>2</sup>) or half “Tsubo” = “Jō” (1.653 m<sup>2</sup>),
- Volume “Shō” (1.804 Lit) or 10 times “Shō” = “To” (18.04 Lit)
- Weight = “Kan” (3.75 kg)

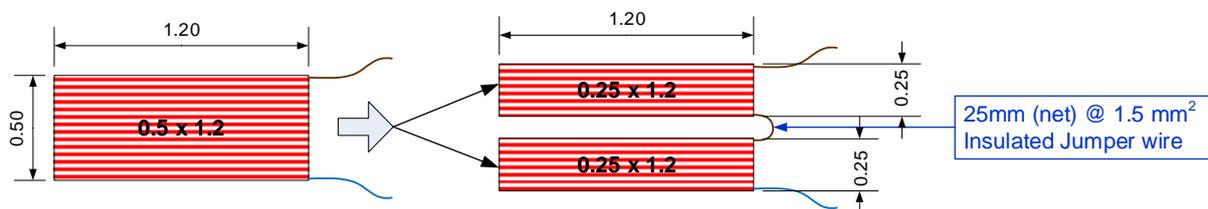
Similarly, land properties and floorspace are expressed in “tatami” (畳) and tatami mats are made of woven rice straws and have the form factor standard 0.9m x 1.8m (length is twice the width) and about 6.0cm thick. Tatami mats are extremely good for flooring insulation and traditionally in use even nowadays. Many modern detached wooden houses have at least one Japanese style room also known as “tatami room” “washitsu” in Japanese (和室). “tatami room” size is traditionally equal to 6 or 8 tatami mats (thus, 9.72 m<sup>2</sup> – 12.96m<sup>2</sup>) and usually does not have any central heating but furnished with low table “kotatsu” in Japanese (炬燵) that may have electric heating element underneath to warm the people who sits around the low table during winter time.

The following project demonstrate a replacement of tatami matted room’s flooring into parquet flooring while integrating AHT’s underfloor heating system while integrating the heating mats into the Japanese traditional flooring construction known as “Compane” as depicted below.



Parquet flooring in Japan requires nails on 30cm pitch (as depicted above) in order to fix flooring movements.

AHT’s standard heating mats size were adjusted at AHT’s factory to meet the Japanese flooring standard by implementing the following concept:



and were installed in a detached house located in the village “Fujimi-Mura” of Nagano prefecture where winter’s weather is cold and snowfall is common.

The following selection of photos exhibit a perfectly done neat installation in compliance with Japanese construction Standard formfactors “shakkanhō” (尺貫法).

Remove the "Tatami" and apply Joists



Install the Plywood Surface to cover Joists



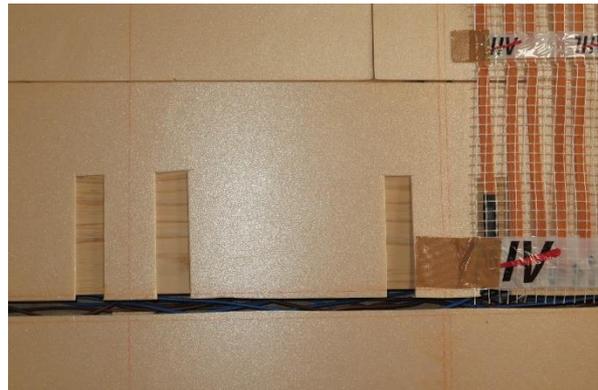
Layout Thermal Insulation panels



Layout the AHT's Adjusted Heating Mats



Mat Terminal space preparation



Electric Cable Routing



Floor Temperature Sensor placement



Parquet Flooring Placement & Screw panels on designated spaces

