

Snow Country Architecture

Tokamachi is one of the snowiest places in Japan. In an average winter, it reaches heights of 2 meters, and more than 50 centimeters of snow may fall overnight. The winters are also long, with snow lingering on the ground from November to April. The challenges of living with so much snow have shaped the architecture of snow country, giving rise to many unusual features.

The most obvious difference is in Tokamachi's roofs. Many homes have steep roofs with eaves that project farther than normal. This causes snow to slide off and pile up well away from the walls. Snow accumulation (both on the roof and against the walls) is quite dangerous, as the weight can cause buildings to collapse. In some cases, gable roofs have a thin, sharp projection down the central ridge. This innovation breaks the cohesion between the snow on each side, encouraging it to slide off. In other cases, roofs have a single slope rather than two, which directs all the snow to one side. Nowadays, the roof may even have heating elements that ensure snow never accumulates, removing any need for manual clearing.

Many of the homes in snow country are raised-floor houses (*takayukashiki jutaku*), which feature an entrance on the second floor. This provides an access point to and from the living area even when snow is piled several meters high. In such houses, the first floor often has a built-in garage to keep vehicles out of the elements.

Traditional structures like farmhouses were built of wood by necessity, but many of the modern buildings in Tokamachi still use wooden planks, particularly for siding. While some may choose wood for aesthetic reasons, it also performs well in snow country. Commonly available Japanese cedar, for example, is water resistant, provides good thermal insulation, and resists shrinking or swelling with shifts in temperature, making it an eco-friendly and cost-effective option.

Other adaptations may be less obvious but no less necessary to surviving the snowy winters. For example, traffic lights in Japan usually have the red, yellow, and green lights arranged horizontally, but in Tokamachi, they run vertically. This creates less horizontal surface area on which snow can build up and obscure the lights from view. As another example, in areas where buildings are clustered together and there is not much room to pile up cleared snow, there are often hatches installed alongside the road. Called *ryusetsuko* (snow-removal gutters), the hatches conceal a stream of running water that melts and whisks away deposited snow.

The architecture of Tokamachi benefits from many adaptations for winter survival, drawing on the inherited knowledge of generations past and incorporating modern innovations to thrive in snow country.