

Castle Craftsmanship: Stone Walls

Large stone walls became a common feature of Japanese castles following the introduction of firearms from Europe in 1543. Before that, most castles were fortified only with earthen embankments and moats. Guns changed the way battles and sieges were fought during the Sengoku, or Warring States period (1467–1568), and generals such as Oda Nobunaga (1534–1582) and Toyotomi Hideyoshi (1537–1598) responded by ordering castles upgraded or built with stone walls along their perimeters. The changes continued in the Edo period (1603–1867) under the Tokugawa shoguns, as castle builders across Japan developed new techniques for stone wall construction.

Himeji's builders used an evolving series of masonry techniques during the castle's major construction periods in the late sixteenth and early seventeenth centuries. The most basic method was simply to place unfinished stones on top of each other. A more sophisticated approach, called *uchikomi-hagi*, involved roughly shaping the stones and hammering them into place. The most refined walls were made by *kirikomi-hagi*, in which masons cut the stones cleanly and precisely to create a smooth, jointed wall with few gaps.

The three basic kinds of stone wall are made using different shaping and piling techniques. You can tell them apart by the smoothness of their surfaces.

***Nozura-zumi* (Piled Stone Wall)**

These walls date to the time of Toyotomi Hideyoshi (1537–1598). The stones are mostly sedimentary and igneous rock, and their sizes vary greatly. Due to lack of materials, builders sometimes improvised by repurposing carved stone items such as grinding stones and coffins. *Nozura-zumi* walls have a gentle, linear slope.

***Uchikomi-hagi* (Wedged Stone Wall)**

These walls were built by Ikeda Terumasa (1565–1613), the lord who expanded and renovated the castle at the start of the seventeenth century. The walls slope gently upward in a fan-like shape. The shaping and placement of the stones remain somewhat rough, but the walls are reinforced at the corners by more precisely cut stones stacked in an alternating formation like brickwork, a technique called *sangi-zumi*.

***Kirikomi-hagi* (Trimmed Stone Wall)**

This type of stone wall is found in part of the Musashino Goten residence built by Honda Tadamasa (1575–1631). They are the newest stone walls at Himeji Castle. Builders used chisels to cut the stones into precisely shaped blocks, then stacked them

without gaps.

Look and Feel

Try your hand at masonry

Stack the blocks of wood to form the *sangi-zumi* corner of a Himeji Castle wall.