

= Dutch brick =

Dutch brick is a type of brick made in the Netherlands , or similar brick , and an architectural style of building with brick developed by the Dutch . The brick , made from clay dug from river banks or dredged from river beds and fired over a long period of time , was known for its durability and appearance .

Traditional Dutch brick architecture is characterized by rounded or stepped gables . The brick was imported as ballast into Great Britain and the colonies in the east of America . Trinity College , Dublin , Ireland , founded in 1591 , was originally built of red Dutch brick . Dutch brickmakers emigrated to New Netherland in America , where they built kilns for firing bricks locally . Bricks were being burned in New Amsterdam (New York) by 1628 , but the imported bricks were of better quality . At first the bricks were used only for chimneys , but they were later used to face the lower story of the house , and then the entire house . Most of the surviving " Dutch Colonial " houses in New York do not in fact follow Dutch architectural practices , but there are several examples in Albany County which do .

Bricks were also exported by the Dutch for major buildings in their colonies in the east and around the world . The Castle of Good Hope in Cape Town , South Africa , was built in 1666 , and its entrance was made of the small yellow bricks called ijselstene (IJssel stones) . Christ Church in Malacca , Malaysia , the oldest Dutch church building outside the Netherlands , was made of Dutch bricks that had been brought as ballast in ships from the Netherlands , coated with Chinese plaster .

= = Background and manufacture = =

The word " brick " may be of Dutch origin . A 1901 dictionary of architecture defines " brick " as " a regularly shaped piece of clay hardened in the sun or by the heat of a kiln and intended for building ; commonly one of very many pieces of uniform size . " The " Dutch Brick " is described as " a hard , light @-@ coloured brick originally made in Holland [sic] and used in England for pavements ; hence a similar brick made in England . "

Until well into the twentieth century the manufacture of brick in the Netherlands (and elsewhere) used manual labor mostly , and the low @-@ paid workers involved in the industry were as marginal socially as the manufacturing industry geographically ? the raw materials were gathered on river banks , and the firing of the bricks took place well away from towns and farms to lessen any nuisance caused by fire and smoke . Workers , as was noted in municipal reports , often already belonged to the lower levels of society and were frequently simply let go at the end of the season , adding to the municipal burdens : " As the number of brick kilns increases , so does poverty , " according to the 1873 report of the Ubbergen municipality , near Nijmegen , on the Waal river .

The clay for the bricks was dug from river banks (of the Waal , Rhine , and IJssel rivers) and other open @-@ air locations , and was left outside (in a mound called the kleibult) through the winter so that any organic material could decay ; the weather (rain , frost , drought) helped make the clay more manageable . At the end of this period the clay was mixed with sand and other materials , a process done by foot , by workers stomping on the clay . It was then molded into the proper shape by an artisan , the tichelaar (" brickmaker ") . Children handed the brickmaker the raw material and removed the shaped bricks . Child labor was common in the industry : until well into the nineteenth century children eight years old and younger worked 16 hours per day , and children four years old stacked and carried bricks for hours at a stretch . Molds were moistened with water and strewn with sand to enable the shaped brick to be more easily removed . The " raw " or " green " stones were laid out in long rows to dry and when they were dry enough they were stood up on their side so the bottom could dry ; this work was often done by women and children . Often it was the women who did the much heavier labor of moving the dried bricks to the ovens , hauling wheelbarrows with loads of up to 80 kilograms , and stacking and preparing the ovens and tending to the fire (which burned peat or coal) . Ovens came in two types ? a single @-@ use construction of the kind used in the production of charcoal , and a more permanent type , basically consisting of two walls one meter

and a half thick . Ovens could hold up to a million bricks . Masonry bricks were fired between 900 ° C (1 @, @ 650 ° F) and 1 @, @ 125 ° C (2 @, @ 057 ° F) , klinkers between 1 @, @ 150 ° C (2 @, @ 100 ° F) and 1 @, @ 250 ° C (2 @, @ 280 ° F) . Typically , bricks were baked at low heat for two weeks to remove all remaining moisture from the clay , and then for four weeks at a higher temperature , followed by two weeks of cooling down .

Since the klinker was partially vitrified by being fired at a higher temperature it was harder than the standard . Klinkers were imported into England for use as paving .

Small , yellow Dutch bricks used to be imported into the United States , and as of 1840 there were still old buildings in New York faced in these bricks . They were considered superior in appearance and in durability . An 1888 report noted that " in New York and other Atlantic cities we find houses built of brick brought from Holland [sic] fully two hundred years ago , without a flaw or sign of decay , and apparently as firm and sound as when first laid in the wall . "

= = Europe = =

Houses found today in Zeeland are closer in appearance to the fine Dutch brick houses of New York than are houses from other parts of the Netherlands . Brick farm houses built separately from barns are found in Zeeland , but none have survived in other locations . Unlike the common practice in New York , the farm houses in Zeeland do not have separate outside doors for each room . The Dutch also used bricks to pave the roads , or chaussees , in the Netherlands .

By the 1640s the Dutch were considered to be the leaders in Europe both in making bricks and in bricklaying . The Summer Garden in Saint Petersburg , Russia , exhibits the work of Dutch brickmakers and bricklayers . Saint Michael 's Castle , built in Saint Petersburg between 1797 and 1801 for the Emperor Paul I , is " an enormous quadrangular pile , of red Dutch brisk , rising from a massy basement of hewn granite . " Sans Souci , the palace built for Frederick the Great in Potsdam , was built with a facade of rich red Dutch brick .

In recent years the Dutch brick industry has attracted unwelcome attention from the European Union (EU) competition authorities . In the early 1990s the industry had excess capacity due to technological advances , competition from other materials and an economic slowdown . Producers with combined market share of 90 % agreed to reduce capacity , shutting down the older and inefficient plants . The producers compensated those who closed plants . However , the agreement also included fixing production quotas and fining members who produced more than their quota . The members of what was in effect a cartel were forced to drop the quota agreement by the EU .

= = Great Britain and Ireland = =

Imported Dutch brick was often used in buildings in England in the 17th and 18th centuries . In Dartmouth , a house built in 1664 for mariner Robert Plumleigh had traditional timber @-@ framed architecture but included elaborate star @-@ shaped chimney stacks made from imported Dutch brick . Houses in Topsham , Devon , also used Dutch brick for chimneys , window heads and dressing . One house from the late 17th century in Dutch Court in Topsham is built entirely of Dutch brick . The ports of Exeter and Topsham both shipped wool to the Netherlands , and the returning ships brought bricks as ballast from Amsterdam or Rotterdam .

Trinity College , Dublin , Ireland , founded in 1591 , was originally built of red Dutch brick . Jigginstown House in Naas , County Kildare , Ireland , was built by John Allen for Thomas Wentworth , 1st Earl of Strafford (1593 ? 1641) using Dutch brick " of the most superior manufacture " . The Red House in Youghal , Ireland , was built of red Dutch brick in 1710 by the Dutch architect Leuventhal for the Uniacke family .

= = United States = =

In general , bricks were not imported to the American colonies . Probably none were imported to Virginia and Maryland , but in New England there was one possible example in New Haven , and

there are records documenting the shipment of 10 @,@ 000 bricks to Massachusetts Bay in 1628 and several thousand bricks being shipped to New Sweden . It is possible that the terms " Dutch brick " and " English brick " referred to the size of the locally @-@ made bricks , with the Dutch bricks being the smaller . However , in New Netherland there are records of brick being imported from the Netherlands as ballast in 1633 , and of continued shipments until the American Revolution (1765 ? 1783) . Bricks were being burned in New Amsterdam (New York) by 1628 , but the imported bricks were of better quality . At first , the bricks were used only for chimneys , but they were later used to face the lower story of the house , and then the entire house .

Dutch brickmakers emigrated to New Netherland , where they built kilns for firing bricks locally . In New Amsterdam , brick was used for the director general 's house , the counting house , the city tavern and other important buildings . Houses were gable @-@ ended , often with stepped designs , and the bricks ranged in color from yellow or red to blue or black . An account of New York published in 1685 said , " The town is broad , built with Dutch brick , consisting of above five hundred houses , the meanest not valued under an hundred pounds . " A New Englander who visited New York in 1704 , forty years after the Dutch had yielded the town to the British , admired the appearance of the glazed brickwork of the houses of " diverse coullers and laid in Checkers " . In 1845 there was still a one @-@ story Dutch brick house built in Flatbush , Brooklyn . The date and the owner 's initials were formed by blue and red glazed bricks .

A view of part of Albany , New York , as it was in 1814 shows a mixture of Dutch , English and Federal styles , although Dutch brick was reportedly used for one of the English @-@ style houses . One house in the Dutch style was said to date from the American Revolution . If so , it would have been one of the last genuine Dutch @-@ style houses to be built in the United States , reflecting the conservative Dutch culture of Albany at that time .

Most of the surviving " Dutch Colonial " houses in New York do not in fact follow Dutch architectural practices , but there are seven in Albany County that do . The houses have a wood frame with brick walls as a decorative shell . They each have two parapet gables edged with " mouse toothing " ornamental brickwork . All the Dutch brick buildings used iron wall anchors spread across several bricks to tie the brick shell to the wooden frame of the house . Sometimes the anchor gives the date of construction . The brickwork of the houses incorporated various designs including spear shapes and a form like a fleur @-@ de @-@ lis .

= = Other Dutch colonies = =

Dutch bricks and brickwork were also imported and utilized in other colonies throughout the Dutch Empire in Asia , Africa , and the Caribbean . Fort Zeelandia was built on a small island off Tainan in Formosa (Taiwan) between 1624 and 1634 after the Dutch acquired Formosa from China as a trading colony . It was built using bricks from Batavia (Jakarta) , where the Dutch East India Company had its headquarters . After a siege in 1662 , the Dutch surrendered the fort to Koxinga , a Ming dynasty general . The fort was destroyed by an explosion in 1873 when a shell from a British warship blew up the ammunition storehouse . The masonry was later used for other purposes . All that remains is part of the southern wall .

The Castle of Good Hope in Cape Town , South Africa , was built in 1666 . The gateway was built in 1682 , with a pediment and two pilasters of grey @-@ blue stone , and an entrance made of the small yellow bricks called ijseltene (IJssel stones) .

Christ Church , Malacca , Malaysia , is the oldest Dutch church building outside the Netherlands . It was built by the local Dutch burghers after the town had been taken from the Portuguese , and was completed in 1753 . The church covers 82 by 41 feet (25 by 12 m) , with a ceiling 40 feet (12 m) high . The foundations were local laterite blocks . The walls , which are massive , were made of Dutch bricks that had been brought as ballast in ships from the Netherlands , and they were coated with Chinese plaster .

On the island of Sint Eustatius in the Netherlands Antilles , the houses were built from local volcanic stone , from imported wood , or from red or yellow Dutch brick imported from the Netherlands . The traditional masonry houses were both large and solid . The country house of Johannes de Graaff ,

who commanded Sint Eustatius from 1776 to 1781 , features a 33 @.@ 6 @-@ by @-@ 9 @.@ 7 @-@ foot (10 @.@ 2 by 3 @.@ 0 m) duck pond made of brick .

= = Gallery = =