Tile manufacturing process

EXTRACTION AND PREPARATION

The materials necessary for producing tiles are clay and water, therefore the first step is to select the necessary clays with the smallest possible amount of stone, as this could cause fractures in the piece. The earth was obtained from nearby embankments and was usually used with proportions of one part coloured earth and two parts whiter earth. Before kneading the mixture, the earth was sifted to eliminate the greatest possible amount of impurities, avoiding small explosions (lime) or cracks in the pieces.

KNEADING

At this point, water was necessary, to which they had access through two means: the “la Cerrá” irrigation canal, which passed underneath and supplied water to the right bank of the river, and a source called “la tejera”. First, the water was poured into the kneading pond, a ground-level pond with stone walls, approximately 1 metre deep, 2-3 metres long and 1-1.5m wide. The water was poured into it, followed by the earth in layers until covering the volume of water. Once the materials were brought together in the desired proportions, they were mixed with bare feet until the appropriate consistency was obtained. The prepared clay was removed and piled outside, forming small mountains of clay. Next, portions of clay were picked up by hand and thrown on the ground with force, forming another pile. They did so to remove air from the clay paste. The more times they repeated this process, the more homogeneous the clay became, resulting in a final ceramic product of higher quality.

MOULDING

Although there are three ways to make these pieces, in Laroya the *argadilla and galápago* (tools) model was used. The resulting mixture filled the argadilla, a wooden or iron mould approximately 45cm long, 30cm wide at one end and 20cm at the other, and 1.5cm thick. This mould was a little larger than the final size of the tile, as the clay shrinks as it dries. With a moistened wooden ruler, the surface was reworked to obtain a smooth piece. Subsequently, the argadilla was lifted and the resulting flat piece was dropped on the galápago, a truncated cone-shaped mould usually made of wood, which gave its characteristic shape. Ash from the kiln was used in this process, which mixed with sand, serves as a degreaser and release agent. It was used before placing the argadilla and on the galápago before placing the flat ceramic piece. Its function was to prevent the clay from sticking to the surface of the work tools. Once moulded, its surface was smoothed with wet hands, stroking it to make it finer and less porous.

DRYING

Before placing the tiles in the kiln, they had to be aired in the sun to harden for approximately two weeks, depending on the weather. Therefore, the tile manufacturing period was usually in the summer to avoid rain that could ruin the whole process in this delicate phase. There were several ways to place these pieces: radially, forming circles with the narrower ends inward and the wider ends outward; or leaning one tile against another in a pyramid shape in pairs.

FIRING

Once the pieces were hardened by time and the summer sun, it was time to put them in the kiln, in this case with a square floor and on the side of the mountain. In this way, its structure was made firmer, it had better thermal insulation and entering and exiting the kiln was facilitated. Once the previous batch was removed from the kiln, the specialist stood inside the kiln to place the pieces. To maximise production, the kiln was completely filled, and to achieve homogeneity in the firing and safety in the process, the first row of bricks, or bed, was placed to serve as a seat for the entire batch. Tiles were placed on this, alternating the wide part with the narrow part to cover the maximum area possible and regulate the rise of the fire. When the oven could no longer be filled from this level, they went to the upper entrance and continued filling, until reaching the top, where the roof was covered with flat elements, leaving a central oculus as a smoke outlet. The kiln filling entrances were sealed with earth, rubble and brick.

OBTAINING FUEL

At this point the only thing missing for starting the firing was the fire. Constant combustion and little ash were sought, therefore gorse, dry branches, scrub and other small woody trees were collected from nearby areas for transport in bundles by hand or using mules. Depending on the dimensions of the kiln and the volume of the ceramic pieces, firing lasted from 1 to 8 days, so having sufficient fuel was vital.

FIRING

Once everything was ready, the kiln was lit and fed until fire stopped coming out of the chimney. The kiln was usually lit at night so that the firing period ended during the day. During the first three hours of firing, the wood was added gradually to warm the kiln. When the desired temperature was reached, the type of fuel could be changed, and above all, the frequency with which the kiln was fed, as the objective was to maintain a constant temperature. To feed the oven, a long fork was used to withstand the heat it released. The end of the firing was based on some indications appearing through the oculus of the roof or determined by the experienced eye of the person in charge. After this, the entrance of the kiln was sealed and the air intake was closed. It was left to cook so that the pieces could anneal and cool for 3 to 15 days.

SALE AND DISTRIBUTION

Normally, the pieces that were fired closest to the fire were those that people preferred. For their distribution, they were usually loaded on donkeys and transported directly from the factory to farmhouses whose owners had already agreed to purchase them. When loading the animal, the yoke and stones were placed on the saddle, and the tiles were skilfully placed on these to begin their journey safely towards the final destination: the roof.