MEXICAN BRICK KILN MK3
DESIGNED IN BOLIVIA

Professors Marcos Lujan and Daniel Guzmán of the Exact Sciences and Engineering Department at the *Universidad Católica Boliviana* (Cochabamba, Bolivia) published in 2015 the study on *Design, Construction and Evaluation of a kiln MK3 for firing artisanal bricks*. The study presents in detail the production process and the characteristics of the improved brick's kiln.

The study adopts the MK2 technology designed by engineer Robert O. Marquez (Mexico), changing the original model in order to improve its performance, to take advantage of natural gas as fuel, and better tailor it to the needs and production practices of bricks in Bolivia. The study and practical construction of the new MK3 kiln were conducted with the support of the Swiss Foundation for Technical Cooperation Development Swisscontact and the Association of brick producers La Union.

In particular, the MK3 type of kiln, built in adobe includes 3 modules interconnected to improve energy efficiency and facilitate the operation of the system. By the incorporation of 3 units this design is referred as MK3. The study shows that the kiln MK3 is a good alternative to replace current inefficient and polluting furnaces in the country, improving the quality of burned bricks and ensuring greater dissemination of its environmental advantages between artisanal producers.

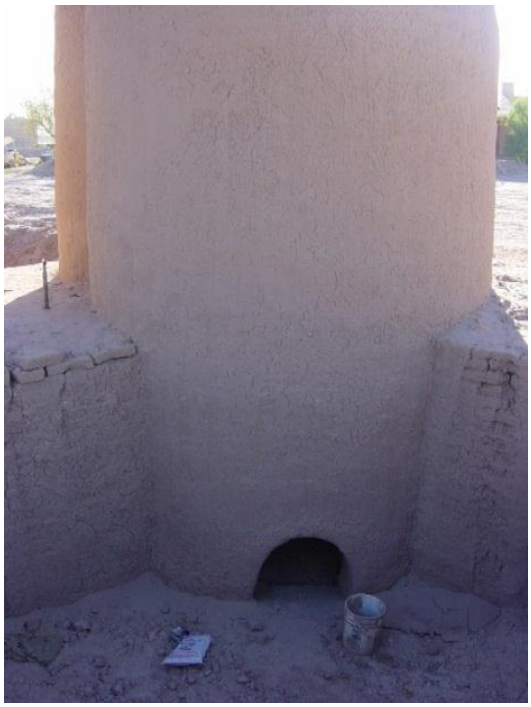
Thanks to technological improvements made, the study shows that the MK3 kiln can significantly improve an activity of great economic impact as the production of bricks in the Cochabamba region and throughout the country. It is estimated that there are about 2,527 kilns in Bolivia and the annual production of handmade bricks represents a market value of about US $ 830 million per year.

The Program *Energy Efficiency of artisanal brick and plaster units to mitigate climate change* (EELA) of the Ladrillera Network published on its website extensive information on MK2 kiln presented by engineer Roberto O.Marquez. The Ladrillera Network and EELA program operate in Latin American countries with the technical and financial support of the Swiss Agency for development and cooperation COSUDE and the Swiss Foundation for technical development cooperation (Swisscontact). The Ladrillera Network aims to contribute to mitigating climate change by reducing emissions of greenhouse gases in Latin America and improving the quality of life of the population. By registering on the Ladrillera Network website you can access information and technology exchanges in all countries of the world.

The MK kiln for brick production was created in 1997 in Mexico by the engineer Robert O. Marquez, who has drawn inspiration from ancient traditions in developing a modern technology in order to reduce the high levels of pollution in the air and soil derived mainly from inadequate combustion and the use of industrial waste that characterize the traditional types of kilns. This innovation is currently promoted in Mexico by the Ministry of Science and Technology and a number of Universities and associations.

The MK-type kiln for the production of bricks has a simple design, sustainable, affordable and easy to maintain. This ecological kiln has a capacity of 120 000 bricks and burning is done in 10 hours, unlike conventional kilns that take 24 to 36 hours. Studies conducted in 2011 by engineer Robert Marquez prove that this model of ecological kiln allows to reduce up to 90% in the generation of pollutants, reaching higher temperatures in less time and using 50% less fuel.

Since its creation, there have been numerous workshops and practical experiences in implementing this innovative technology. At present, the MK type kiln is implemented in Mexico and different Latin American Countries, creating employment and increasing environmental and economic development of territories.



To know more

Study on MK3 kiln

Diseño del horno MK2 en Red Ladrilleras

Manual sobre el Horno MK2 en Red Ladrilleras

Nuevas tecnologías en Red Ladrilleras website

Video en youtube

Suisscontact website

COSUDE website

Artículo en El sol de Salamanca

Artículo en El Sol de León

Artículo en El ladrillo wordpress.com