

SECTORAL CONSORTIUM OF THE CERAMIC TILE INDUSTRY IN THE STATE OF SÃO PAULO/BRAZIL – CONSITEC – A SUCCESSFUL PROJECT

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1. INTRODUCTION

The ConSITec Programme for the Ceramic Tile Industry was financed by FAPESP (*Fundação de Amparo a Pesquisa do Estado de São Paulo*), and entailed the participation of 20 companies from the State of São Paulo dedicated to the manufacturing of ceramic tiles, and the *Centro Cerâmico do Brasil – CCB*, as proposer and performing institution. The main research lines were:

- Improvement of the technical quality of ceramic tiles,
- Identification and assessment of raw materials from the State of São Paulo for the production of porcelain tiles,
- Development of decorative technologies for unglazed porcelain tiles,
- Production of special glazes,
- Characterization of rheology and development of new screen printing inks,
- Identification of causes and solutions for colour changes in ceramic glazes
- Analysis of ceramic tile application technology.

The programme was fully performed, focusing on the development of the ceramic tile industry in the State of São Paulo - Brazil, mainly centring on innovation and training to increase the value of the products and the competitiveness in this market. The activities of the Project began in 2003 and ended late in 2008.

During the development of the projects, the function of the CCB was to articulate and coordinate all activities performed. Another important contribution was the dissemination of the knowledge generated by the project and the corresponding professional competence, the implementation of regular training programmes for professionals from the contributing companies and the dissemination of results.

Besides the financial contribution, the function of the ceramic companies was to provide information regarding their products and processes, supplying the materials and the industrial infrastructures for the execution of the activities.

Research and higher education organizations of the State of São Paulo (IPEN, USP, UFSCar) supported the research activities through their experts, which ensured a scientific security for the development of technical innovation projects. They also supplied the lab infrastructures necessary for the development and implementation of the projects.

2. RESULTS

The growth of the São Paulo industry during the execution period of the ConSITec research programme is unquestionable, either because of the productivity or the quality and tradition of their products. The data confirming the productivity

of this industry within the local Brazilian context are shown in table 1. At present, the São Paulo companies are characterized by the following features::

- Companies with highly productive industrial facilities
- State-of-the-art technical equipment;
- Local raw materials, which reduce transportation costs.
- Development and improvement of the manufacturing process through *dry grinding*, which uses an unprecedented processing technology in the history of ceramics worldwide.
- Focus on few product categories, facilitating the improvement of specific processes.

Region	Production	Sales	
		Local market	Exports
Brazil	637.1	534.7	102.1
Sao Paulo	431.0	377.0	54.4
Santa Gertrudes	366.6	318.1	44.6
Share (%) SP/Brasil	67.6	70.5	53.2
Share (%) Santa Gertrudes/Brasil	57.5	59.5	43.7

Table 1. Production and sales, 2007 in São Paulo and Brazil.
(Millions of m²). (Source: ASPACER).

It is no coincidence that the ConSitec Programme was developed together with the São Paulo ceramic tile industry. The Project constituted a necessary and essential support for the consolidation of a business will that provided technical support and, based on the results obtained, assured the credibility of the local product in the consumer market.

The research programme generated more than 30 technical publications. The main results of the Programme were: improvement of the technical quality of the products, reduction of the loss ratio, consolidation of scientific and technological knowledge, increase in the production of porcelain tiles in the State of São Paulo, improvement of the position and competitiveness of the São Paulo ceramic industry in domestic and foreign markets and, support in favour of the consolidation of the Centre for Technology Innovation in Ceramics – CITEC/CCB, located in the city of Santa Gertrudes – SP, the largest ceramic production centre in Brazil.

The results obtained from the research programme contributed decisively to the technical development of products and processes and to the enhancement of the competitiveness of the São Paulo ceramic tile industry.

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