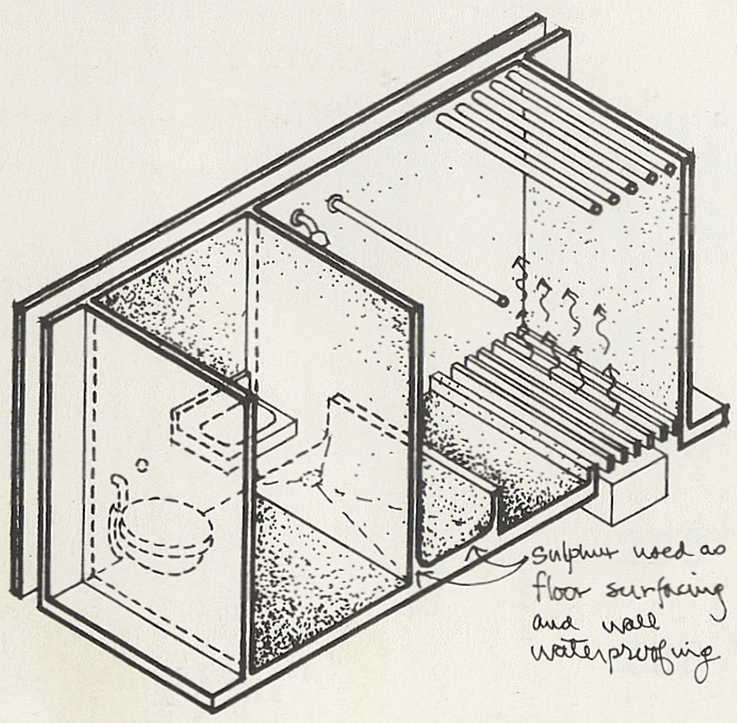
SULPHUR REINFORCING AND TOPPING

IN THE PROYECTO EXPERIMENTAL, the connecting surfaces of blocks which make up shear walls, bearing walls and columns are coated with molten sulphur and fiberglass for tensile reinforcement. Sulphur mixed with sand is placed 2.5 cm thick on the bamboo/foam planks to create a walking surface, to create simple joints between the planks and between planks and beams, and to give continuity to the structure. Sulphur is also used as the water-proofing agent in wet areas such as shower and toilet, sink backsplashes, etc.



THE GENERAL PATTERN IS:

Context:

Low cost dry block construction and/or panel construction.

Solution:

Sulphur may be used as a reinforcing agent or bonding agent, wherever tensile strength is required in block walls, shear walls,

planks and beams. It may be used by itself or with chopped fibers, applied hot, or as part of a sulphur-sand grout.

Problem:

Jointing and reinforcing is a major part of the cost of a block wall, particularly in a high earthquake zone. In 1969 in Peru, the cost of a mortarless block wall with sulphur jointing is 20% less than the cost of a block wall with mortar and reinforced concrete corners.

Test results show that the sulphur jointing has considerable tensile strength and that a sulphur jointed wall performs at least as well as the standard block wall in low rise construction. Data are presented in John M. Dale and Allen C. Ludwig, "Sulphur Aggregate Concrete", Civil Engineering, December 1967, pp. 66-68; in Allen C. Ludwig, Utilization of Sulphur and Sulphur Ores as Construction Materials in Guatemala, Southwest Research Institute, San Antonio, Texas, March 1969; and in John M. Dale, "Sulphur-Fibre Coatings", The Sulphur Institute Journal, Fall 1965.

Sulphur adds color and texture in those areas where it is used. It may be tinted to produce colors other than yellow.