



Steatite and schist as contenders for the Global Heritage Stone Resource due to their importance in Brazil's natural stone built heritage

Antônio Gilberto Costa

LABTEC Rochas, Federal University of Minas Gerais, Belo Horizonte, Brazil (ag.costa@uol.com.br)

In Brazil, European natural stones, such as marble and limestone, were used as building material at historically important buildings and monuments, mainly in coastal cities, as well as in contemporary urban centers. However, in the country's central region, these Italian and Portuguese marbles and limestones were scarcely used. Instead, they were substituted for soapstone and several types of schist. As of 1755, the former was employed because of the ease with which it can be worked, essentially in the sculptural art and in the production of ornamental elements. Characterized by the presence of talc, steatite can feature other minerals such as serpentine, chlorite, carbonate, amphiboles, oxides like hematite and magnetite, and sulfites like pyrite, all in broadly variable amounts, which can result in modification of its technological properties (Volumetric Weight, Porosity, Water Absorption, Uniaxial Compression, Abrasion Resistance, Thermal Expansion etc.). In such rocks, talc content will be a decisive factor in their coloration. The higher its talc content is the clearer and softer the stone type will be, which ends up being known as talc stone. In such cases, the rock can display different hues of green, blue and gray. When compared to other rocks, texture patterns containing talc crystals, chlorite and carbonate contribute to low absorption and porosity for steatites. Schists were equally used at historical buildings in the Brazilian inland, especially in constructions in Minas Gerais towns, both in the production of structural elements such as bases, corners, pillars and foundations and in the creation of ornaments. Featuring different compositions, such rocks – which almost always occur interlayered with other ones such as quartzite – display coloration ranging from hues of gray to green to blue. They can be quartz-sericite-albite-chlorite schists featuring great or no amounts of carbonate, magnetite, epidote and tourmaline, sometimes with garnet, such as in some of Caeté's monuments. They can range from silverfish to light green, such as the quartz-sericite schist from Diamantina, some of which contain variable amounts of kyanite, chlorite, or even chloritoid, as well as the presence of whitish bands rich with carbonate and quartz crystals, such as in Caeté and Sabará. They can be serpentine schist and chlorite schist, from quarries around Caraça Ridge and employed in historical buildings in Brumal and Catas Altas do Mato Dentro, to name but a few. They can as well be kyanite-garnet-mica schists, with coloration ranging from green to bluish green, outcropping on Itacolomy Ridge, near Passagem de Mariana, or, simply, sericite schist from Santo Antônio Hill, in the same region. They can also be muscovite-chlorite-quartz schists with magnetite either dispersed or concentrated in thin bands, extracted around Ouro Preto and locally applied, or those used in buildings in São João d'El Rey and Tiradentes which were extracted from old quarries situated in the Candoga region, between Santa Cruz and Tiradentes, or from quarries in the Mangue region.