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Traditional application of slates in Uruguay

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Commercial slates in Uruguay are represented by dolomitic and pelitic slates, which are known in the local market with the generic name of “piedra laja”. The dolomitic slates, or more precisely the “slaty dolomitic semipelites” and “slaty dolomitic metacarbonate rocks” (following the nomenclature of the British Geological Survey for metamorphic rocks, Robertson 1999), dominates the production since 1960. The mining started in a quarry called “Libro Gigante”, which means “giant book” in Spanish, as the slaty cleavage of these rocks is almost vertical, which resembles a book when looked from far away. These slates integrate the Lavalleja Group, a unit that comprises the schist belt of the Neoproterozoic Dom Feliciano Belt that crops out in south-eastern Uruguay. According to Morales Demarco et al (2013), there are two active slate mining districts in this region: the northern, called “Arroyo Minas Viejas Mining District”, from where light grey, light and dark green and green-red slate varieties are mined, and the southern called “Arroyo Mataojo Mining District” and where only dark grey slates are extracted. Few kilometres eastern from these districts, and still in Lavalleja Group, a quarry of slaty dolomitic pelite is found with sporadic production. Far to the east, the slaty muscovitic pelites of Rocha Group are mined from one quarry in “Puntas del Chafalote”. The traditional applications of these slates in the country are as façade cladding and floor slabs, both indoor and outdoor. The potential use of the dolomitic slates as roofing slates has been investigated and discarded by Morales Demarco et al (2013), as the slabs resulting from splitting are too thick (0.5 to 2 cm) and thus too heavy for this application. The parameter that controls the fissility of slates is the mass value (Bentz and Martini, 1968; DIN EN 12326-2, 2000) and is very important to determine their potential applications. It takes into account the number of mica layers per mm and the average width of these mica layers, being the former determinant for roofing slates, as according to Wagner (2007) slates with a number of mica layers per mm lower than 40 are not suitable as roofing and façade slates. All dolomitic slates have mass values below 40 (Morales Demarco et al, 2013), but this parameter has not been evaluated for the pelitic slates of Uruguay, and thus it remains unknown the potential of these rocks as roofing slates.

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