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Abstract: This study aims to understand the relationship between local materials and building techniques by characterizing a Madeira Island's basalt currently used as an aggregate in a regional mortar's coating technique named *brita lavada*. Laboratory tests have been carried out to characterize the basalt, extracted from a stone quarry, regarding porosity, density and mechanical strength. Results attained showed high density, compressive and flexural strength, as well as lower water absorption in comparison to other stones. Therefore, the trials justify the regional use of this basalt as an aggregate material; its characteristics justify the durability of the brita lavada coating technique, showing a good example of adequacy of an eco-efficient application of a local material.

Keywords: Madeira island, stone, basalt, characterization, eco-efficiency

1. Introduction

Basalt stones are used extensively as construction material in regions where they are abundant. These stones are mainly applied as aggregates to Portland cement in the