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Durability performance of concrete incorporating coarse aggregates from marble industry waste

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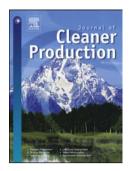
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ACCEPTED MANUSCRIPT

1	DURABILITY PERFORMANCE OF CONCRETE INCORPORATING
2	COARSE AGGREGATES FROM MARBLE INDUSTRY WASTE
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12	
13	ABSTRACT
14	The quarrying of marble, a well-known ornamental stone, has a substantial positive impact
15	on Portugal's economy, but it also generates large environmental impacts. The amount of
16	waste produced during quarrying can be as much as 80% of all stone/soil extracted. That
17	waste is then dumped near the quarry, where it accumulates indiscriminately because a vi-
18	able alternative for its disposal has not yet been found. In this context, solutions must be
19	found that can transform this waste into a by-product and restore some of its economic value.
20	The main goal of this study was to evaluate the influence of the replacement of primary
21	aggregates (PA) with marble aggregates. No additions or admixtures were used, as those
22	could change the fresh or hardened properties of the resulting concrete and disguise the
23	influence of the replacement under study. This evaluation required the production of three

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