

Treatment and Reuse of Nonmetallic PCBs Waste

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Abstract : The strength development, durability and leachability aspects of mortar added with nonmetallic printed circuit board (NMPCBs) were investigated. This study aims to propose methods for treatment and reuse of NMPCBs waste. The leachability of raw NMPCBs was tested for toxicity by performing the Crushed Block Leachability (CBL) test. The effectiveness of the treatment was evaluated by performing compressive, flexural strength, durability and whole block leachability (WBL) tests on the mortar. The results indicated that the concentration of metals leach from the raw NMPCBs are within the standard limits and higher than the concentration of metals from WBL test. The compressive and flexural strength of the NMPCBs mortar was generally lower than the standard mortar. From durability tests, weight and compressive strength both of mortars was decrease after soaking in acid solution. As a conclusion, the treated NMPCBs can be reused in profitable and environmentally friendly ways and has broad application prospects.

Keywords : nonmetallic, printed circuit board, treatment, reuse

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