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<b>Abstract</b>	:	<p>Accumulation of spent garnet the world over poses a threat to the environment as it can cause water pollution when it enters waterways during flooding or runoff. This study summarizes potential solidification of spent garnet in concrete and the use of magnesia cement to stabilize the heavy metals in the concrete. The concrete will then be able to be used for construction purposes. The research was conducted in two phases. The first phase was preparing different percentages of spent garnet mortar at 0%, 10%, 20% and 30% and cured for 28 days. The compressive strength and density of the spent garnet mortar in 100x50 mm samples was compared against those of sand mortar. 10% application obtained the highest strength of 15.97N/mm<sup>2</sup>. The second phase was preparing another set of mortar mix with 10% spent garnet and 5%, 10%, 15% of magnesia cement. The mortars were cured in distilled water and the results shown that 28 Days strength for 90:10, OPC: MgO ratio was able to achieve 21.4 N/mm<sup>2</sup>. This ratio also shown recommendable low leaching of heavy metals.</p>