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Process and System for Recycling Metallic Slags

Abstract

The present invention provides a process and a system for recycling waste metallic slags into coated grits which are used as pre-casting materials for concrete cement. In a first aspect of the invention, a system for recycling waste metallic slags comprises a coating apparatus for substantially enveloping a plurality of waste metallic slags with a viscous solution for forming a mass therefrom. Furthermore, the system comprises a mixer for stirring the mass during hardening thereof when the viscous solution therein is being dehydrated. As a result, when the mass is stirred during hardening thereof, a plurality of coated grits are formed therefrom. Each of the plurality of coated grits having a layer of non-fluid permeable coating formed substantially thereover. The non-fluid permeable coating is formed from the initially dehydrating viscous solution and for substantially preventing leaching of fluid therethrough. In a second aspect of the invention, a process for recycling waste metallic slags comprising the steps of enveloping a plurality of waste metallic slags with a viscous solution for subsequently forming a mass therefrom and stirring the mass during hardening thereof when the viscous solution therein is being dehydrated. As a result, when the mass is stirred during hardening thereof, a plurality of coated grits are formed therefrom. Each of the plurality of coated grits having a layer of non-fluid permeable coating formed substantially thereover. The non-fluid permeable coating is formed from the initially dehydrating viscous solution and for substantially preventing leaching of fluid therethrough.

Figure 1