

Patents ALERT

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Cement & Concrete Composites

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6468344**COMPOSITIONS AND METHODS FOR
CURING CONCRETE**

Roland Tak Yong Liang, Robert Keith Sun
Australia
assigned to MBT Holding AG

An internal curing composition for concrete includes a glycol and a wax. The glycol is preferably polyethylene glycol and the wax is preferably paraffin wax. When added to concrete, the composition facilitates the curing of concrete to a low porosity, high compressive strength product.

6471851**CATHODIC PROTECTION SYSTEM**

Jack E. Bennett
USA

Humectants are applied to cathodic protection systems which utilize thermally-sprayed zinc or zinc alloy anodes applied to the surface of reinforced concrete structures. The humectants are deliquescent or hygroscopic organic or inorganic salts, hydrophilic polymers or colloids, or organic liquid desiccants. The humectants are positioned at or near the interface between the anodes and the concrete and increase the moisture content at the interface. This increases the ability of the anode to deliver cathodic protection current to steel embedded in the concrete. The humectants may be applied to the concrete surface prior to application of the anode, or may be applied subsequent to installation of the anode.

6472346**PHOTOCATALYTIC NUISANCE ORGANISM
INHIBITOR AGENTS**

Clovis A. Linkous
USA
assigned to University of Central Florida

Inexpensive, and easy to use self cleaning mixtures that use photoactive agents such as titanium dioxide (TiO_2) and tungsten oxide (WO_3) along with mixing the agents with co-catalysts such as carbon (C), Fe (iron), Cu (copper), Ni (nickel) and CO_2P . In addition, the co-catalyst loading can include up to approximately 5%

carbon to maximize the inhibiting algae growth. The mixtures can be used to inhibit various growth organisms such as but not limited to algae, fungus, bacteria and mold. The agents can be combined together, and/or each agent can be combined with various coatings, such as but not limited to a cement or a polymer binder. The coatings can be applied to surfaces that are exposed to water such as but not limited to an aquarium, liners on the inner walls of swimming pools, drinking water tanks, and the like. Additionally, the coatings can be used as surfacing agent in contact with water within solar water heaters, piping adjacent to pool pumps, and the like. Additionally, the photoactive agent can be used as a non-toxic algae-retardant marine paint. Furthermore, the coatings can be applied to surfaces such as bathroom fixtures, toilets, bathtubs, sinks, and used on tiles in kitchens, bathrooms, and the like.

6475275**CEMENT COMPOSITION**

Edward Nebesnak, Robert Ostertog
USA
assigned to Isolatek International

A cement composition contains 35–85% by weight of a cement, 3–15% by weight of a clay, 1–50% by weight of an aggregate and/or a fibrous material, and 0.2–5% by weight of a high efficiency retarder. A benefit of the present invention is that equipment used to apply cement compositions need not be cleaned every night when used on a construction site.

6478868**EARLY-ENHANCED STRENGTH CEMENT
COMPOSITIONS AND METHODS**

Baireddy R. Reddy, Ronald J. Crook, Bryan K. Waugh, Russell M. Fitzgerald, Dennis W. Gray, Brent E. Traxel
USA
assigned to Halliburton Energy Services Inc.

The present invention provides improved early-enhanced strength cement compositions and methods. The cement compositions can be utilized in surface construction projects as well as in the construction of oil, gas and water wells. The improved cement compositions of this invention are basically comprised of a hydraulic cement, water present in an amount sufficient to form a slurry and hydrophobic silica powder.

6482258

**FLY ASH COMPOSITION FOR USE
IN CONCRETE MIX**

Robert William Styron

USA

C04B 713

assigned to Mineral Resource Technologies, LLC

A fly ash composition is provided which includes a blend of Class C fly ash, potassium carbonate, and lithium carbonate, which, in combination, reduce alkali silica reactivity when the fly ash composition is used in concrete applications. The fly ash composition includes from about 65 to 99 wt.% Class C fly ash, from about 0.1 wt.% to about 4 wt.% potassium carbonate, and from about 0.1 wt.% to about 4 wt.% lithium carbonate.