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6432191

SILANE-BASED, COATING COMPOSITIONS, COATED ARTICLES OBTAINED THEREFROM AND METHODS OF USING SAME

John B. Schutt
USA

Silane based coating compositions provide durable, corrosion resistant coatings on metal and non-metal surfaces. A typical composition may include one or a mixture of silanes, such as methyltrimethoxysilane and phenyltrimethoxysilane. The coating compositions may be formulated with either acidic or basic catalysts, the latter being especially suitable for coating steel substrates. Coatings for food and beverage containers, automotive finishes, HVAC surfaces, alkali metal silicates, concrete,and the like, are described. Primer coating compositions which include two or more polyfunctional organosilanes but no monofunctional organosilanes provide strongly adherent corrosion resistant primer coatings for metals and are very adherent to polyurethane, epoxy and other resin topcoats.

6432551

DRY ADHESIVE

Edouard A. Brodeur, Jr., Henry Pete Coke
USA
assigned to Panda Products Inc.

This composite uses the bonding of PVC to a variety of materials, from cloth to concrete, by the simple laying of the PVC surface to the other surface without the use of conventional wet, tacky, intermediate layer or layers of conventional adhesives. A simple preapplication of a chemical intermediate to the second surface in latex form and dried to a nontacky state is done. This is followed in any length of time thereafter with the simple contact of both surfaces, one to the other. A mild to aggressive tack bond, or a hard permanent joining of both surfaces is achieved. This bond is formed by the polar attraction of certain acrylics to the plasticizers in the PVC.

6436159

ABRASION RESISTANT COATINGS

Eugen Safta, Frank Bor-Her Chen, Harvey Richard Forrest, Gregory David Muselman
USA
assigned to Lilly Industries Inc.

A coating composition for forming abrasion-resistant, high clarity coatings is described. It has been found that a macrocrystalline or single crystal mineral abrasive can be added at high levels, about 5 to about 80 percent by weight, to art-recognized film-forming resin compositions for producing coatings exhibiting exceptional abrasion resistance and clarity. Such a coating composition is useful for application to surfaces including wood, vinyl, tile, rubber modified cement, marble, metal, plastic, and laminated surfaces.

6436184

HYDRATION MODIFYING AGENT FOR MORTAR OR CONCRETE WITH LIMITED SHRINKAGE

Jean-Dominique Ceccaldi, Laurent Izoret
France
assigned to Vicat

The invention concerns a hydration modifying agent for mortar and concrete comprising a combination of 30 to 80% of calcium sulphate, 3 to 60% of ethylene/propylene oxide copolymer and 0.5 to 6% of an activator for the copolymer. The invention also concerns a Portland dry cement comprising 2 to 10 wt. % of said hydration modifying agent and a method for preparing such a mortar or concrete composition, and a self-spreading concrete topping made from said mortar or concrete composition.

6437019

GLASS IONOMER CEMENT

Richard P. Rusin, Joel D. Oxman, Edward J. Winters
USA
assigned to 3M Innovative Properties Company

The present invention provides a multiple part ionomeric cement system comprising an organic composition that is substantially free of added water, and an aqueous composition comprising water. The organic composition contains at least a hydrophilic component and an acid functional compound that is provided as greater than 1.0% weight of the organic composition. The liquid ingredients of the compositions are miscible, both as separate compositions and when mixed together.

6440205

PAVING BINDERS AND MANUFACTURING METHODS

William R. Bailey, Norm D. Pugh, William C. McBee
USA
assigned to Rock Binders Inc.

Solid, low-cost paving binder prepared by admixing sulfur, paving grade asphalt (AC) asphalt, and a siliceous filler such as fly ash and silica material, and solidifying the product into preferably flaked, pellet or pastille forms. The solid paving binder has non-sick non-flow properties within a wide range of ambient temperatures, and it can be stored solid for subsequent use in paving applications.

6444008

PAINT AND COATING COMPOSITIONS CONTAINING TANTALUM AND/OR NIOBIUM POWDERS

James A. Fife
USA
assigned to Cabot Corporation

A coating formulation is described in which includes a solvent, a binder, and a metal additive comprising tantalum, niobium, alloys thereof, or mixtures thereof. Also described is a cellulose-based substrate which contains a cellulose-based reinforcing agent, a binder, and a metal additive comprising tantalum, niobium, alloys thereof, or mixtures thereof. Also described is a cement-based or plaster-based substrate containing a cement-based or plaster-based material and a metal additive comprising tantalum, niobium, alloys thereof, or mixtures thereof.

6447596

BONDED AGGREGATE COMPOSITION AND BINDERS FOR THE SAME

Jean Tremblay, David Mintz, Neil Mintz
USA
assigned to Stellar Materials Inc.

Bonded aggregate compositions such as concrete, concrete repair products, high temperature refractories, high temperature insulation and fire resistant insulation are made from an aqueous solution of phosphoric acid and a separate, storable dry mixture of suitable aggregate, monocalcium phosphate, and calcium in the form of calcium aluminate cement or calcium oxide. The proportion of wet to dry constituents is variable so as to select the working time and strength of the aggregate composition, typically on the order of ten to fifteen minutes. The mixture of the preferred dry constituents, and the binder to be mixed with the aggregate to yield the preferred dry mixture, are also disclosed. The binder system is particularly advantageous in that the same set of binder constituents can readily be employed with a variety of aggregates, reducing the cost of providing a variety of aggregate compositions due to the ready availability of the raw materials and obviating the need to stock different binders for different aggregate compositions. Cost is additionally reduced through the use of less purified, and therefore less expensive constituents.

6447597

HYDRATED CALCIUM ALUMINATE BASED EXPANSIVE ADMIXTURE

Wellington L. Repette, Noel P. Mailvaganam
Canada
assigned to National Research Council

An additive, a mixture incorporating the additive and a method of formulating a mortar incorporating the additive. The additive is based on calcium sulfoaluminate composed of C_3AH_6 and CAH_{10} where C = calcium oxide, A = aluminum oxide and H = water. The admixture includes gypsum and calcium hydroxide. The calcium aluminum hydrates are obtained by hydration of high alumina cement particles to eliminate any lack of hydration in the core of the particle. The method involves the preparation of such particles and the mix incorporates the particles to produce a homogeneously hydrated cement additive.