

Search history

Search PN=(WO2015/057601) (Results 1)

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Search [SP]: background of the invention [0001] gypsum products can be generally manufactured using a slurry formed from at least water and stucco. the stucco, which is calcium sulfate hemihydrate (caso4.h2o), reacts with water to form gypsum, which is calcium sulfate dihydrate (caso4.2h2o). gypsum wallboard can be a composite board comprising a core, face sheet, and back sheet. the density of gypsum wallboard can be reduced by adding aqueous foam to the stucco slurry in an amount effective to provide the desired gypsum core density. the volume of the wallboard is occupied by gypsum, packing voids of the gypsum crystals, voids left by evaporation of water (i.e., water voids), and voids generated by foam (i.e., foam voids). as the board contains less gypsum per unit volume, there is less crystallized water available to extend fire endurance of the wallboard. gypsum wallboards are commonly used in drywall construction of interior walls and ceilings, and should be able to withstand both fire and excessive temperatures. as a result, gypsum wallboards are manufactured using specifications that maximize fire endurance/resistance.[0002] fire endurance/resistance of gypsum wallboard is measured by the period for which a board can withstand a standard fire test. the fire resistance of a wallboard is classified according to the ability for a wallboard to avoid an increase in temperature, flame passage, and structural collapse. in order to have various parties, including constructors, occupants, and regulating bodies, evaluate the fire endurance on a common basis, fire test assemblies are categorized into several standard arrangements. some common assemblies include test designs defined by underwriters laboratories, inc. (ul(r)), a testing and certification agency, which has tests that are referred to as u305, u419, and u423.[0003] a standard fire test is customarily conducted in accordance with the requirements of astm e119. in such tests, a fire resistance classification can be established based on the time at which a wall assembly shows excessive temperature rise, or passage of flame, or structural collapse. failure of the test occurs when the average temperature as measured by several thermocouples on the unexposed surface increases more than 250 degrees fahrenheit above ambient temperature, or any individual thermocouple rises more than 325 degrees fahrenheit above ambient temperature. the duration of fire endurance of a system is not only dependent upon the gypsum board used in the system, but also depends upon many other factors, including wall assembly thickness, stud type and spacing, board size, insulation type, and others.[0004] although existing techniques are useful in extending wallboard fire endurance and resistance, further improvement is always desirable. brief summary of the invention [0005] in one aspect, the present invention provides a fire resistant gypsum board comprising a set gypsum composition disposed between two cover sheets, the set gypsum composition comprising an interlocking matrix of set gypsum formed from a slurry comprising at least stucco and water. the slurry has a water-to-stucco ratio from about 0.7 to about 2.0. the fire resistant gypsum board has a density from about 24 lbs/ft3 to about 40 lbs/ft3, and when at a thickness of about percent inch, a nail pull resistance of at least about 70 lbs of force as determined according to astm c473-09 (e.g., astm c473-09, method b), and a fire endurance index (fei) greater than about 52 minutes.[0006] in another aspect, the present invention provides a fire resistant gypsum board comprising a set gypsum composition disposed between two cover sheets, the set gypsum composition comprising an interlocking matrix of set gypsum formed from a slurry comprising at least stucco and water, and having a water-to-stucco ratio from about 1.2 to about 2.0. the fire resistant gypsum board has a density from about 24 lbs/ft3 to about 40 lbs/ft3, and when at a thickness of about percent inch, a nail pull resistance of at least about 70 lbs of force as determined according to astm c473-09 (e.g., astm c473-09, method b), and a fire endurance index (fei) greater than about 54 minutes.[0007] in yet another aspect, the present invention provides a method for making a fire resistant gypsum board comprising forming a slurry of at least stucco and water. the slurry has a water-to-stucco ratio from about 0.7 to about 2.0. the gypsum stucco slurry is deposited on a sheet to create a board preform. the board preform is cut into predetermined dimensions after the slurry has hardened sufficiently for cutting. the board is dried. the fire resistant gypsum board has a density from about 24 lbs/ft3 to about 40 lbs/ft3, and when at a thickness of about ?inch, a nail pull resistance of at least about 70 lbs of force as determined according to astm c473-09 (e.g., astm c473-09, method b), and a fire endurance index (fei) greater than about 52 minutes.[0008] these and other advantages of the present invention, as well as additional inventive features, will be apparent from the description that follows. brief description of the drawings [0009] fig. 1 is a diagram displaying cross sections of low density gypsum boards in accordance with embodiments of the invention.[0010] fig. 2 is a diagram displaying the structure of the small scale test device used to determine the fire endurance index (fei) of a wallboard sample in accordance with embodiments of the invention.[0011] fig. 3 is a line graph displaying the temperature profile (y-axis) over time (x-axis) of a furnace used during the small scale fire test illustrated in fig. 2, in accordance with embodiments of the invention.[0012] fig. 4 is a line graph displaying a correlation between fire endurance of u419 test (y-axis) and fire endurance of small-scale test of fig. 2 (x-axis) in accordance with embodiments of the invention.[0013] fig. 5 is a line graph displaying the unexposed surface temperature (y-axis) over time (x-axis) for wallboards of example 1 during a small-scale fire test in accordance with embodiments of the invention.[0014] fig. 6 is a line graph displaying the unexposed surface temperature (y-axis) over time (x-axis) for wallboards of example 2 during a small-scale fire test in accordance with embodiments of the invention.[0015] fig. 7 is a line graph displaying the unexposed surface temperature (y-axis) over time (x-axis) for wallboards of example 3 during a small-scale fire test in accordance with embodiments of the invention. detailed description of the invention [0016] embodiments of the present invention are premised, at least in part, on the surprising and unexpected discovery that a wallboard comprising a greater number of water voids and a reduced number of foam voids has greater fire endurance. it was discovered that the size of the voids located in the gypsum matrix has significant implications on fire endurance of the wallboard. specifically, it was found that microscopic, uniformly distributed water voids are generally preferable to large, interconnected foam voids. to prepare a board comprising an increased number of water voids, the water-to-stucco ratio can be increased. in general, the gypsum wallboard comprises a core comprising an interlocking matrix of set gypsum formed from a slurry having a water-to-stucco ratio from about 0.7 to about 2.0.[0017] in general, when a gypsum wallboard is under thermal stress, thermal energy is initially directed to the evaporation of the calcium sulfate-bound water molecules. it is those two molecules of water that render gypsum highly resistant against heat. upon reaching 215 degrees fahrenheit, water molecules are driven off, which leads to the formation of calcium sulfate hemihydrates (caso4.h2o). when the temperature reaches 250 degrees fahrenheit, the remaining water is lost as gypsum is converted into calcium sulfate anhydrite. both reactions are endothermic, meaning gypsum will absorb heat as it is "calcined" from dihydrate to anhydrite.[0018] in a wallboard test assembly, heat is transferred from the furnace to the surface of exposed board. as the surface temperature of the exposed wallboard increases, the temperature gradient across the board increases. as heat transfer continues, the surface temperature of the unexposed wallboard increases as crystallized water in the wallboard is driven off.[0019] the fire endurance of a gypsum article is believed to be directly related to the amount of gypsum contained within the article. it is believed that as the amount of gypsum decreases, the fire endurance of the gypsum article decreases because there is less crystallized water to evaporate. a previous approach to fire endurance focused on the formation of a thicker and/or denser gypsum core (i.e., core comprising more gypsum relative). with increased gypsum, the core comprises an increased amount of chemically bound water within the core, which can act as a heat sink, reduce shrinkage, and increase structural stability and strength.[0020] the current trend in the wallboard industry is to develop light weight, low density wallboard. a low basis weight can be achieved by mixing stucco slurry with a predetermined amount of foam based upon the target basis weight of the wallboard. as the board contains less gypsum per unit volume, there is less crystallized water available for fire endurance of the wallboard. in addition, during exposure to a fire, the percent shrinkage can increase as the board density decreases. both factors make it increasingly difficult to pass a fire test. high thermal expansion additives are often add (Results 64)

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3:

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Title: Gypsum **wallboard** and method of making same

Abstract: Source: US5879825A A method of preparation and use of high-strength gypsum **wallboard**, as well as a core composition suitable for use therein, are disclosed. The core composition includes a slurry of calcium sulfate hemihydrate (**stucco**), **water**, and a strengthening agent. The strengthening agent includes an acrylic polymer composition having a glass transition temperature of about 15 DEG C. or greater, and preferably has good divalent ion stability. The method provides **wallboard** having increased core strength, paper-to-core bonding, and strength-to-weight **ratio**.

Classifications:

International (IPC 8-9): C04B24/26 C04B28/14 D06N7/02 (Advanced/Invention); C04B111/40 (Advanced/Non-invention); C04B24/00 C04B28/00 D06N7/00 (Core/Invention)
International (IPC 1-7): B32B13/00 C04B111/40 C04B24/26 C04B28/14 D06N7/02
CPC: C04B28/14 C04B2111/0062 C04B2201/50
European: C04B28/14 M04B111/00T6B M04B201/50
US: 106/778 106/802 428/703

表 I			
成 分	例示的な範囲	サンプル処方	サンプル処方
化粧しっくい (CaSO ₄ ・1/2H ₂ O)	48～55wt%	870g	696g
促進剤	0.04～0.25wt%	1.0g	1.8g
デンプン	0.12～0.32wt%	4.0g	4.0g
遅延剤	0～0.2wt%	0g	0g
紙パルプ	0.06～0.18wt%	2.00g	1.6g
パルプ水	36～44wt%	670g	524g
発泡体溶液 (石けん水)	4～12wt%	156.3g	136.7g

Family:

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Priority:

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Assignee(s): NATIONAL GYPSUM COMPANY ; NATIONAL GYPSUM CO A CORP OF DELAWARE ; NEW NGC INC D B A NATIONAL GYPSUM CO ; NATIONAL GYPSUM PROPERTIES LLC ; NEW NGC INC ; BANK OF AMERICA NA ; BANK OF AMERICA NA COLLATERAL AGENT AS ; BURKE W ROY ; KINGSTON LARRY W

Inventor(s): (std): BURKE W ROY ; KINGSTON L W ; KINGSTON LARRY W ; L W KINGSTON ; LARRY W KINGSTON ; W ROY BURKE

Inventor(s): BURKE W

Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD; OSLER HOSKIN AND HARCOURT LLP; SANFORD TCOLB AND CO

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Title: POLYOLEFIN ADHESIVE COMPOSITIONS AND ARTICLES MADE THEREFROM

Abstract: Source: US2004127614A Embodiments of the present invention relate to article comprising a polymer comprising one or more C3 to C40 olefins, optionally one or more diolefins, and less than 5 mole percent of ethylene having a Dot T-Peel of 1 Newton or more, a branching index (g') of 0.95 or less measured at the Mz of the polymer; and an Mw of 100,000 or less. This invention further relates to a process to produce an olefin polymer comprising: 1) selecting a first catalyst component capable of producing a polymer having an Mw of 100,000 or less and a crystallinity of 20 percent or less; 2) selecting a second catalyst component capable of producing polymer having an Mw of 100,000 or less and a crystallinity of 40 percent or more; 3) contacting the catalyst components in the presence of one or more activators with one or more C3 to C40 olefins, in a reaction zone.

Classifications:

International (IPC 8-9): B32B27/32 C08F10/00 C08F10/02 C08F10/04 C08F10/06 C08F10/14 C08F110/06 C08F110/14 C08F2/00 C08F2/38 C08F210/00 C08F210/04 C08F210/06 C08F210/14 C08F210/16 C08F210/18 C08F255/00 C08F255/02 C08F297/08 C08F4/44 C08F4/6392 C08F4/64 C08F4/642 C08F4/643 C08F4/646 C08F4/6592 C08F8/00 C08F8/46 C08G63/91 C08J3/00 C08K5/00 C08K5/01 C08K5/17 C08L101/00 C08L23/00 C08L23/04 C08L23/06 C08L23/10 C08L23/12 C08L23/14 C08L23/16 C08L23/18 C08L23/20 C08L23/26 C08L25/06 C08L27/06 C08L27/08 C08L45/00 C08L51/00 C08L67/06 C08L73/02 C08L77/00 C08L83/00 C08L91/00 C08L91/06 C08L91/08 C08L93/04 C09D123/14 C09J11/00 C09J11/06 C09J11/08 C09J123/00 C09J123/02 C09J123/04 C09J123/10 C09J123/12 C09J123/14 C09J123/16 C09J123/20 C09J123/24 C09J123/26 C09J133/00 C09J145/00 C09J147/00 C09J151/06 C09J157/02 C09J191/06 C09J193/04 C09J201/00 C09J5/00 C09J7/02 C09J7/04 D01F6/30

D01F6/46 (Advanced/Invention);

C08F10/00 C08F10/06 C08F110/06 C08F210/04 C08F210/06

C08F297/08 C08F4/64 C08F4/642 C08F4/646 C08F4/659

C08F4/6592 C08L51/06 C08L57/02 (Advanced/Non-invention);

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C08L91/00 C09D123/00 C09J123/00 C09J151/00

D01F6/46 (Core/Invention);

C08F110/00 C08F210/00 (Core/Non-invention)

International (IPC 1-7): C08F10/06 C08F2/00 C08F2/38 C08F210/04 C08F210/06 C08F297/08 C08F4/44 C08F4/64 C08F4/642 C08F4/643 C08G63/91 C08J3/00 C08K5/01 C08L23/10 C08L51/00 C09J123/10 C09J123/12

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C08F297/08

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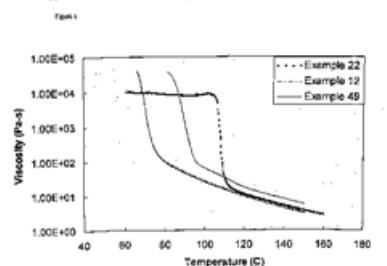
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Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ

TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Title: COMPOSITE PRE-FORMED BUILDING PANELS

Abstract: Source: US2006191232A A composite building panel including a central body, substantially parallelepipedic in shape, comprised of an expanded polymer matrix, having opposite faces, a first surface and an opposing second surface; and one or more reinforcing members longitudinally extending across the central body between said opposite faces, having a first side portion embedded in the expanded polymer matrix, and a second side portion extending away from the first surface of the central body and one or more expansion holes located in the reinforcing member between the first side portion of the reinforcing member and the first surface of the central body. The central body includes a polymer matrix that expands through the expansion holes; and a space defined by the first surface of the central body and the second side portion of the reinforcing members is adapted for accommodating utilities through the space.

Classifications:

International (ipc 8-9): C04B20/00 C04B28/02 B28B13/00 B28B23/04 B28B3/00 B28C5/08 B32B15/01 B32B15/20 B32B3/00 B32B3/12 B32B3/26 B32B5/14 B32B5/16 B32B7/12 C04B11/00 C04B12/00 C04B14/00 C04B14/02 C04B14/08 C04B14/12 C04B14/18 C04B14/22 C04B14/38 C04B14/42 C04B14/48 C04B16/00 C04B16/06 C04B16/08 C04B18/04 C04B18/06 C04B18/08 C04B18/14 C04B22/04 C04B24/00 C04B24/12 C04B24/16 C04B24/24 C04B24/26 C04B24/28 C04B24/36 C04B28/00 C04B28/04 C04B28/06 C04B28/08 C04B38/00 C04B38/08 C04B40/00 C04B7/00 C04B9/00 C08B24/26 C08J9/00 C08J9/16 C08J9/22 C08K3/00 E01C3/00 E04B1/00 E04B1/18 E04B2/86 E04B5/19 E04B5/48 E04C1/00 E04C2/04 E04C2/22 E04C2/26 E04C2/28 E04C2/34 E04C2/38 E04C2/52 E04C5/08 E04F13/074 E04F13/18 E04F15/02 E04G21/14 (Advanced/Invention); C04B11/40 C04B14/02 C04B14/08 C04B14/10 C04B14/12 C04B14/16 C04B14/18 C04B14/20 C04B14/22 C04B14/38 C04B14/42 C04B16/06 C04B18/04 C04B18/08 C04B18/10 C04B18/14 C04B18/16 C04B24/26 (Advanced/Non-invention); B28B13/00 B28B23/02 B28C5/00 B32B15/01 B32B15/20 B32B3/00 B32B3/12 B32B3/26 B32B5/14 B32B5/16 B32B7/12 C04B11/00 C04B12/00 C04B14/00 C04B14/02 C04B14/38 C04B16/00 C04B18/04 C04B22/00 C04B24/00 C04B28/00 C04B38/08 C04B7/00 C04B9/00 C08J9/00 C08K3/00 E01C3/00 E04B5/17 E04C1/00 E04C2/10 E04C2/26 E04C2/34 E04C2/52 E04C5/00 (Core/Invention); C04B14/02 C04B14/38 C04B18/04 C04B24/00 (Core/Non-invention); C04B E04B E04C (Subclass/Invention)

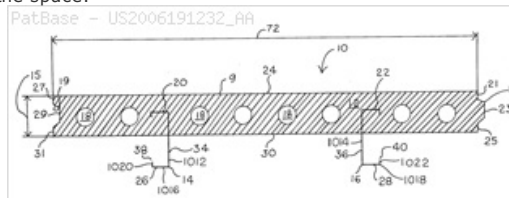
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Family:

Publication number	Publication date	Application number	Application date
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Priority:

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Designated states:

AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Title: METHOD OF IMPROVING DISPERSANT EFFICACY IN MAKING GYPSUM PRODUCTS

Abstract: Source: US2006278132A The invention generally provides gypsum-containing slurries including **stucco**, trimetaphosphate salt, and naphthalenesulfonate dispersant, wherein the trimetaphosphate salt is present in an amount of at least about 0.12 percent by weight based on the weight of **stucco**. Other slurry **additives** can include accelerators, binders, starch, and paper fiber, glass fiber, and other known ingredients. The invention also comprises the gypsum-containing products made with such slurries, for example, gypsum **wallboard**, and a method of making gypsum **wallboard**.

Classifications:

International (IPC 8-9): B01F17/12 B01F17/14 C04B24/20 B22B1/04 B23B13/00 B23B3/04 B23B37/00 B28B19/00 B28B3/12 B32B B32B1/00 B32B1/04 B32B13/00 B32B13/02 B32B13/04 B32B13/08 B32B13/14 B32B15/00 B32B17/02 B32B21/00 B32B27/02 B32B29/00 B32B3/00 B32B3/26 B32B3/30 B32B37/00 B32B37/02 B32B37/15 B32B37/24 B32B38/10 B32B38/16 B32B5/02 B32B5/24 B32B7/02 B52B13/00 C04B C04B11/00 C04B11/28 C04B11/40 C04B14/28 C04B14/38 C04B14/42 C04B14/46 C04B16/00 C04B16/02 C04B16/08 C04B18/24 C04B20/06 C04B22/06 C04B22/14 C04B22/16 C04B24/00 C04B24/10 C04B24/16 C04B24/22 C04B24/38 C04B24/40 C04B26/28 C04B28/00 C04B28/12 C04B28/14 C04B28/34 C04B28/100 C04B38/02 C04B38/08 C04B38/10 C04B40/00 C04B7/34 C04B9/00 E04B1/94 E04C2/00 E04C2/04 E04C2/26 E04C2/28 E04F13/02 E04F13/14 (Advanced/Invention); B23B13/00 B23B37/00 C04B103/42 C04B11/00 C04B11/40 C04B14/28 C04B22/14 C04B24/16 C04B24/38 C04B28/14 C04B38/10 (Advanced/Non-invention); B23B13/00 B23B37/00 B28B3/00 B32B1/00 B32B13/00 B32B3/00 B32B3/26 B32B37/00 B32B38/10 C04B11/00 C04B14/02 C04B14/38 C04B16/00 C04B20/06 C04B22/00 C04B24/00 C04B28/00 C04B28/14 C04B9/00 (Core/Invention); B23B B32B (Subclass/Invention)

International (IPC 1-7): B23B13/00 B23B37/00 B32B13/00 B32B13/02 B32B13/04 B32B13/08 B32B27/02 B32B29/00 B32B3/26 C04B 11/00 C04B 28/00 C04B 28/14 C04B11/00 C04B16/08 C04B28/14 C04B9/00 E04C2/04 E04F13/02

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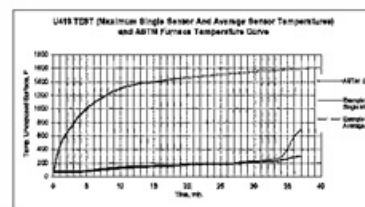
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FIGURE 1



Family:

Publication number	Publication date	Application number	Application date
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US2016304397 AA	20161020	US20160198122	20160630
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Priority:

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PatBase PDF Export - Page: 15 26/09/2017

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CA20062607896	20060608	JP20080515936	20060608	CL20080002928	20081001
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JP20140115911	20071009	JP20160092979	20160506	WO2007US18978	20070829
WO2007US21573	20071009	WO2008US78089	20080929	WO2008US79903	20081015
WO2006US22371	20060608	WO2006US22014	20060607	WO2012US26595	20120224
US20160198122	20160630	US20170411722	20170120		

Probable Assignee: UNITED STATES GYPSUM CO

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Title: ACOUSTICAL GYPSUM BOARD FOR CEILING PANEL

Abstract: Source: US2007102237A **Low density** acoustical gypsum boards having a perforated cover sheet that have good sound absorption properties and are generally clear of falling gypsum dust. The invention optionally provides a cover sheet having a pattern producing a textured visual effect particularly when viewed from a distance. The acoustical gypsum boards can be produced on modified existing gypsum board lines.

Classifications:

International (IPC 8-9): C04B14/18 C04B16/02 C04B18/24 C04B24/38 C04B28/14 E04B E04B1/82 E04B1/84 E04B1/86 E04B9/00 E04B9/04 E04C2/04 E04F13/08 (Advanced/Invention); C04B11/52 (Advanced/Non-invention); C04B14/02 C04B16/00 C04B18/04 C04B24/00 C04B28/00 E04B1/82 E04B1/84 E04B9/00 E04C2/04 (Core/Invention)

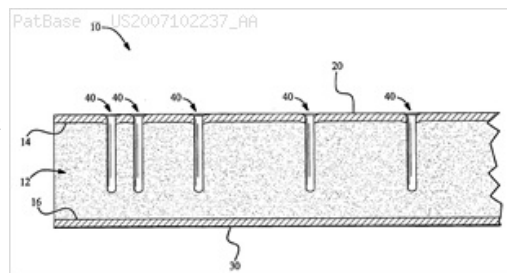
International (IPC 1-7): E04B1/82

CPC: E04B1/8409 E04B2001/8433 E04B2001/848 E04B9/045

E04B9/0464 E04F13/0867 E04F13/148

European: E04B9/04G E04B9/04J E04F13/08F

US: 181/286 181/286S 181/290 181/294 181/294S



Family:

Publication number	Publication date	Application number	Application date
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CN101535579 B	20110907	CN200680041010	20061004
EP1943393 A2	20080716	EP20060816137	20061004
EP1943393 A4	20140101	EP20060816137	20061004
IN01110MN2008 A	20080711	IN2008MN01110	20080604
JP2009516094 T2	20090416	JP20080538889T	20061004
KR20080093095 A	20081020	KR20087013389	20061004
NO20082465 A	20080721	NO20080002465	20080602
TW200732540 A	20070901	TW20060140580	20061102
US2007102237 AA	20070510	US20050267125	20051104
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WO07055835 A3	20090507	WO2006US38653	20061004
ZA200803870 A	20101124	ZA20080003870	20080425

Priority:

US20050267125 20051104 WO2006US38653 20061004

Probable Assignee: USG INTERIORS INC

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Assignee(s): BAIG MIRZA A

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Inventor(s): BAIG MIRZA

Agent(s): MOFFAT AND CO; WALLINGER MICHAEL ET AL; DRINKER BIDDLE AND REATH LLP ATTN PATENT DOCKET DEPT

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: METHOD OF MAKING A **LOW**-DUST BUILDING PANEL

Abstract: Source: US2008308968A A dust-reducing building panel is made by selecting a dedusting agent that is a solid at room temperature but that melts to form composite particles by at least one of agglomerating and surface adsorption of fines under conditions selected from the group consisting of cutting, abrading or sanding. The dedusting agent is used to make a slurry including **water** and a hydraulic material selected from the group consisting of calcium sulfate hemihydrate and cement. After the slurry is made, it is deposited onto a facing material and formed into a panel. The building panel is then allowed to set. Some embodiments of the building utilize a dedusting agent that includes natural or synthetic waxes.

Classifications:

International (IPC 8-9): B27N3/04 B28B1/30 B28B1/50 B28B3/00 B29C39/00 C04B16/00 C04B16/04 C04B18/00 C04B24/24 C04B24/32 C04B28/02 C04B28/14 E04C2/02 E04C2/04 E04C2/26 E06B7/00 (Advanced/Invention); C04B16/04 E04C2/04 E06B7/00 (Advanced/Non-invention); B27N3/04 B28B3/00 B29C39/00 C04B16/00 C04B28/02 E04C2/02 E04C2/04 E06B7/00 (Core/Invention); E06B (Subclass/Invention)

International (IPC 1-7): C04B 28/02 C04B18/00 E04C2/26 E06B7/00

CPC: B28B19/0092 C04B28/02 C04B28/14 C04B2103/0075 C04B2111/0062

European: B28B19/00K C04B28/02 C04B28/14 M04B103/00W8 M04B111/00T6B

US: 264/239 264/239S 264/257 264/257P 264/299 264/299S

Family:

Publication number	Publication date	Application number	Application date
AR066482 AA	20090826	AR2008P101941	20080507
AU2008266710 AA	20081224	AU20080266710	20080430
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JP2010530347 T2	20100909	JP20100512229T	20080430
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US2008308968 AA	20081218	US20070818186	20070613
WO08156922 A1	20081224	WO2008US61940	20080430
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Priority:

US20070818186 20070613 WO2008US61940 20080430

Probable Assignee: UNITED STATES GYPSUM CO

Assignee(s): (std): IMMORDINO JR SALVATONE C ; IMMORDINO JR SALVATORE C ; UNITED STATES GYPSUM CO

Assignee(s): UNITED STATES GYPSUM COMPANY

Inventor(s): (std): IMMORDINO JR SALVATONE C ; IMMORDINO JR SALVATORE C ; IMMORDINO SALVATONE C JR ; IMMORDINO SALVATORE C ; IMMORDINO SALVATORE C JR ; IMMORDINO SALVAROTE C JR

Inventor(s): IMMORDINO SALVATONE C ; JR SALVAROTE C IMMORDINO ; JR SALVATORE C IMMORDINO ; SALVATONE C IMMORDINO JR ; SALVATORE C ; IMMORDINO JR ; IMMORDINO JR SALVAROTE C

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: HEAT **RESISTANT** AND **FIRE** RETARDANT MATERIALS AND METHODS FOR PREPARING SAME

Abstract: Source: US2011155019A A silica cement blend having an insulating, **fire** retarding and high temperature characteristic capable of withstanding temperatures ranging from ambient to greater than 40000 F without degradation of the concrete structure. In addition to its high temperature capabilities the blend can be produced as ultra light weight to heavy weight concrete. The silica based mixture when added to cementitious materials such as Portland cement, Class C Fly Ash, silica fume and other cementitious materials. Presented also are methods for reducing **fire** damage by coating interior/exterior walls, ceiling, and roofs of a building with a **water** based latex coating containing a **fire** retardant material and **low** heat conductivity silicas. Methods for painting internal/external walls, ceilings, and roof are also presented. This coating retains thermal blocking properties comprised of processed, expanded and/or finely milled, pyrogenic silicas and micro spheres in combination of but not limited to, one, two or more component **water** based polymer/copolymer latex binders and a **water** born fluoropolymer emulsion. The combined properties of these elements create a coating similar to paint with a high level of thermatic resistance which slows the composition break-down from **fire**, extreme temperatures, and restricts the thermal conductivity which helps to preserve the integrity of the substructure or underlying materials. The properties of this coating reduce or slow the potential of catastrophic **fire** by retarding flashover and protecting the under structure; which in turn assist **fire** fighters and rescue personnel by helping to retard the potential of a catastrophic **fire**.

Classifications:

International (IPC 8-9): C04B14/00 C04B14/04 C04B26/02 C04B28/04 C04B38/08 C04B40/00 C08K3/00 C09D5/00

C09D5/02 C09D5/18 C09D7/12 E04B1/78 (Advanced/Invention);

C04B26/00 C04B28/00 C04B38/08 C04B40/00 C09D5/00 C09D5/02 C09D5/18 C09D7/12 (Core/Invention)

CPC: Y02W30/92 Y02W30/94 C04B28/04 C04B26/02 C04B40/0046 C04B2111/28 C04B2111/285 C04B2111/29 C08K3/36

C08K7/22 C09D5/004 C09D5/028 C09D5/18 C09D7/1216 C09D7/1283 C09D7/1291

European: C04B26/02 C04B28/04 C04B40/00D4P C09D5/00C C09D5/02K8 C09D5/18 C09D7/12D2 C09D7/12N3

C09D7/12S M04B111/28 M04B111/28B M04B111/29 M08K3/36 M08K7/22

US: 106/672 106/672S 106/675 106/676 106/677 106/716 106/733 106/737 106/816 252/62 524/431

Family:

Publication number	Publication date	Application number	Application date
US2011155019 AA	20110630	US20090002184	20090630
US2012256116 AA	20121011	US20120464772	20120504
US8172938 BB	20120508	US20090002184	20090630
US8492471 BB	20130723	US20120464772	20120504
WO10002934 A2	20100107	WO2009US49319	20090630
WO10002934 A3	20100923	WO2009US49319	20090630

Priority:

US20080133761P 20080701

US20090002184 20090630

WO2009US49319 20090630

US20110002184 20110321

US20120464772 20120504

Probable Assignee: SPECIALTY CONCRETE DESIGN INC

Assignee(s): (std): ALBRIGHT JOHN ; ALRIGHT JOHN ; SPECIALTY CONCRETE DESIGN INC ; TAYLOR DAVID WAYNE

Assignee(s): KNOBBE MARTENS OLSON AND BEAR LLP

Inventor(s): (std): ALBRIGHT JOHN ; ALRIGHT JOHN ; TAYLOR DAVID WAYNE

Agent(s): KNOBBE MARTENS OLSON AND BEAR LLP; MALLON JOSEPH J

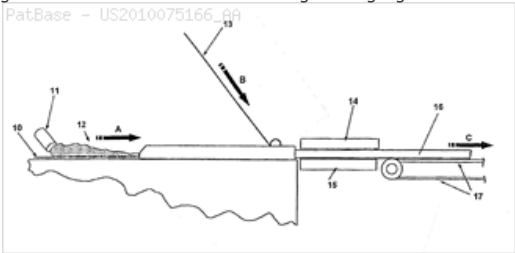
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Title: COMPOSITIONS FOR THE MANUFACTURE OF GYPSUM BOARDS, METHODS OF MANUFACTURE THEREOF, AND GYPSUM BOARDS FORMED THEREFROM

Abstract: Source: US2010075166A A composition for the manufacture of a gypsum board comprising hydrated pregelatinized starch, sulfonated styrene butadiene latex and **stucco** with 0.4 to 3 weight percent of starch based on the **stucco** weight is disclosed. The composition provides enhanced strength in the absence of other strengthening agents.

Classifications:

International (IPC 8-9): B32B13/00 B32B27/32 C04B11/00 C04B16/02 C04B28/14 C04B7/02 C08K3/00 C08L3/00 (Advanced/Invention); B32B13/00 B32B27/32 C04B16/00 C04B7/00 C08K3/00 C08L3/00 (Core/Invention)
CPC: B28B17/023 C04B40/0039 C04B2111/0062 C08K3/0033 C08K7/20 C08L3/02 Y10T428/31971 Y10T428/31931 C04B28/14 B28B19/0092 B32B13/08 B32B13/14 C04B24/383 C04B2111/00612 C04B2111/10 Y02W30/92 Y02W30/94 B32B5/022 B32B5/024 B32B5/26 B32B29/02 B32B2260/021 B32B2260/028 B32B2260/046 B32B2262/0253 B32B2262/0261 B32B2262/0276 B32B2262/04 B32B2262/062 B32B2262/08 B32B2262/101 B32B2262/105 B32B2307/3065 B32B2307/50 B32B2307/58 B32B2419/00
European: B28B19/00K B32B13/08 B32B13/14 C04B24/38B C04B28/14 C04B40/00D4 M04B111/00T6 M04B111/00T6B M04B111/10 M08K3/00P5 M08K7/20 M08L3/02
US: 106/730 106/730S 156/275.5 156/275.500S 156/45 156/45S 428/521 428/521P 428/532 428/532P 524/8 524/8S



Family:

Publication number	Publication date	Application number	Application date
CA2701451 AA	20101112	CA20102701451	20100426
CA2736481 AA	20100401	CA20092736481	20090908
US2010075166 AA	20100325	US20090464241	20090512
US2010075167 AA	20100325	US20080236991	20080924
WO10036505 A2	20100401	WO2009US56170	20090908
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Priority:

US20080236991 20080924 US20090464241 20090512 WO2009US56170 20090908

Probable Assignee: GEORGIA PACIFIC GYPSUM LLC

Assignee(s): (std): ESGUERRA FABIO E ; FRANCIS HUBERT C ; GEORGIA PACIFIC ; GEORGIA PACIFIC GYPSUM LLC ; GILLEY STUART B ; JONES CARLA G

Inventor(s): (std): ESGUERRA FABIO E ; FRANCIS HUBERT C ; GILLEY STUART B ; GILLEY STUART BRANDON ; JONES CARLA G ; JONES CARLA GREAVES

Agent(s): BLAKE CASSELS AND GRAYDON LLP; GEORGIA-PACIFIC LLC; GEORGIA PACIFIC LLC; CHARLTON JOEL T ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: LIGHTWEIGHT, REDUCED **DENSITY** **FIRE** RATED GYPSUM PANELS

Abstract: Source: US2012219785 A A reduced weight, reduced **density** gypsum panel that includes high expansion vermiculite with **fire** resistance capabilities that are at least comparable to (if not better than) commercial **fire** rated gypsum panels with a much greater gypsum content, weight and **density**.

Classifications:

International (IPC 8-9): B28B1/14 B28B1/30 B28B1/50 B28B11/12

B28B11/14 B28B11/24 B32B13/00 B32B13/02 B32B17/02

B32B27/32 B32B3/00 B32B3/26 B32B38/00 B32B5/16 B32B5/20

B32B9/00 C04B11/00 C04B11/00 C04B11/28 C04B14/20

C04B14/38 C04B14/42 C04B14/46 C04B20/06 C04B22/10

C04B22/16 C04B24/22 C04B24/38 C04B28/14 C04B38/08

C04B38/10 C04B9/04 E04B1/88 E04B1/94 E04C2/04 E04C2/26

E04F13/075 (Advanced/Invention);

C04B11/00 C04B11/28 (Advanced/Non-invention);

C04B20/00 (Core/Invention)

CPC: B32B38/164 C04B28/145 C04B211/0062 C04B211/28

C04B14/386 C04B14/42 C04B14/46 C04B20/0024 C04B22/16

C04B24/38 C04B38/0054 C04B38/106 C04B2103/408 C04B14/202

Y10T428/249968 Y10T428/249979 Y10T428/26 Y10T428/31971

E04C2/04 B28B11/12 B28B11/243 B32B9/005 B32B5/16 E04B1/942

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C04B28/14

European: C04B20/06 C04B28/14H M04B11/00T6B M04B11/28

US: 106/772 106/788 156/43 428/220 428/312.4 428/312.400P

428/315.7 428/332 428/426 428/426S 428/532 428/532S 428/703

428/703S

PatBase - US2012219785_AA

Patent Application Publication Aug. 30, 2012 Sheet 1 of 54 US 2012/0219785 A1

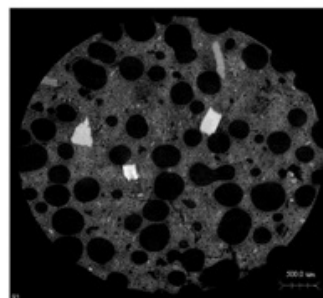


FIG. 1

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AU2012222102 BB	20131219	AU20120222102	20120224
AU2012222102 CA	20160602	AU20120222102	20120224
AU2014201626 AA	20140410	AU20140201626	20140318
AU2014201626 BB	20150416	AU20140201626	20140318
AU2015100420 AD	20150507	AU20150100420	20150401
AU2015201675 AA	20150423	AU20150201675	20150401
AU2016203704 AA	20160623	AU20160203704	20160603
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AU2016203712 AA	20160714	AU20160203712	20160603
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AU2016203721 AA	20160623	AU20160203721	20160603
BR112013021559 A2	20170530	BR20131121559	20120224
CA2828308 AA	20130823	CA20122828308	20120224
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CN103562153 A	20140205	CN201280014719	20120224
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CN105367029 A	20160302	CN201510660589	20120224
CN105731958 A	20160706	CN201610003520	20120224
EP2678289 A1	20140101	EP20120709203	20120224
EP2781492 A2	20140924	EP20140169525	20120224
EP2781492 A3	20150325	EP20140169525	20120224
ID201700945 A	20170210	ID2015P0001078	20120224
IN08086DN2013 A	20160624	IN2013DN08086	20130916
JP2014511333 T2	20140515	JP20130555618T	20120224
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JP2017031047 A2	20170209	JP20160167527	20160830
JP3199586 U	20150903	JP20150002417U	20150518
JP5815757 B2	20151117	JP20130555618T	20120224
JP6000424 B2	20160928	JP20150186332	20150924
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KR20130126712 A	20131120	KR20137024505	20120224
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MX2013009787 A1	20130926	MX20130009787	20120224
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NZ715249 A	20170630	NZ20120715249	20120224
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RU2589784 C 1	20160710	RU20150129667	20120224
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US2012219785 AA	20120830	US20120400010	20120217
US2013068364 AA	20130321	US20120669283	20121105
US2014158273 AA	20140612	US20140181590	20140214
US2017183868 AA	20170629	US20170457466	20170313
US8323785 BB	20121204	US20120400010	20120217
US8702881 BB	20140422	US20120669283	20121105
US9623586 BB	20170418	US20140181590	20140214
WO12116325 A1	20120830	WO2012US26613	20120224

Priority:

AU20120222102	20120224	AU20140201626	20140318	AU20150201675	20150401
AU20150100420	20150401	AU20160203704	20160603	AU20160203707	20160603
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CA20172828308	20170317	CA20122828308	20120224	US20120400010	20120217
US20110446941P	20110225	US20120669283	20121105	WO2012US26613	20120224
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CN201280014719	20120224	JP20130555618T	20120224	JP20150186332	20120224
JP20160167527	20160830	US20170457466	20170313	NZ20120615558	20120224

Probable Assignee: UNITED STATES GYPSUM CO

Assignee(s): (std): LI ALFRED ; LUAN WENQI ; SONG WEIXIN D ; UNITED STATES GYPSUM CO ; VEERAMASUNENI SRINIVAS ; YU QIANG ; USG CORP ; YUNAJTED STEJTS DZHIPSUM KOMPANI

Assignee(s): UNITED STATES GYPSUM COMPANY

Inventor(s): (std): ALFRED LI ; LI ALFRED ; LU QIANG ; LUAN WENQI ; QIANG YU ; SONG WEIXIN D ; SONG WEIXIN DAVID ; SRINIVAS VEERAMASUNENI ; VEERAMASUNENI SRINIVAS ; VEERAMASUNENI SRINIVAS D ; WEIXIN D SONG ; WEIXIN DAVID SONG ; WENQI LUAN ; YU QIANG

Agent(s): JAMES AND WELLS INTELLECTUAL PROPERTY; MOFFAT AND CO; SCHUETTE HARTMUT; BSB INTELLECTUAL PROPERTY LAW; BAHAR SANTOSO SH; LEYDIG VOIT AND MAYER LTD; PHILIP T; DAVID F; PRADIP K; FILBIN PAUL J ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: PREGELATINIZED STARCH WITH MID-RANGE VISCOSITY, AND PRODUCT, SLURRY AND METHODS RELATED THERETO

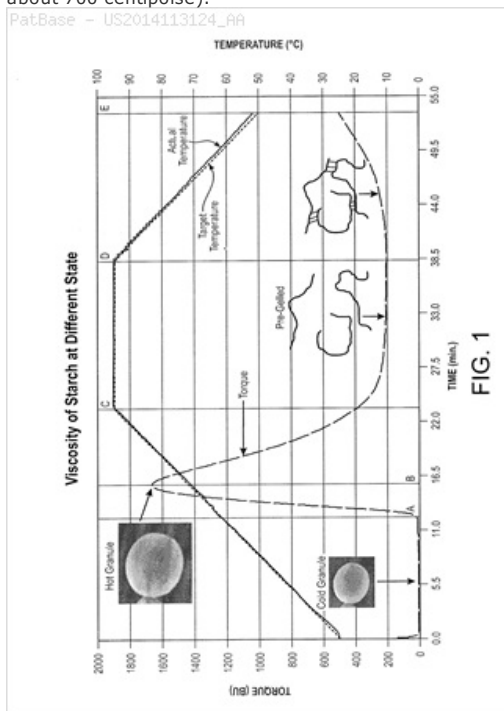
Abstract: Source: US2014113124A Disclosed are product (e.g., panels), slurry, and methods relating to a pregelatinized starch having a mid-range viscosity (i.e., from about 20 centipoise to about 700 centipoise).

Classifications:

International (IPC 8-9): B01J13/00 B28B1/16 B32B13/00 B32B37/15 B32B9/02 C04B11/00 C04B22/16 C04B24/00 C04B24/10 C04B24/22 C04B24/28 C04B24/38 C04B24/383 C04B28/00 C04B28/04 C04B28/14 C04B28/16 C04B38/10 C08B30/12 C08B30/14 C08B30/18 C08B31/06 C08B31/10 C08D30/14 C08L3/02 C08L3/08 C09D5/34 C09J103/02 C09J103/08 C13K1/06 E04B1/86 E04C2/04 E04C2/26 (Advanced/Invention); C04B103/10 C04B103/20 C04B111/00 (Advanced/Non-invention); C07K16/28 (Core/Invention)

CPC: C04B11/00 C08B30/12 C04B24/383 C04B28/16 C08B30/18 E04C2/26 C04B24/283 C04B38/106 C04B2103/10 C04B2103/20 C08B30/14 C08L3/02 C08L3/08 C09J103/02 C09J103/08 C04B14/28 C04B18/24 Y10T428/253 Y10T428/31971 B28B1/16 C04B24/38 C04B28/14 E04C2/043 C04B2111/0062 C04B2111/00672 Y02W30/97

US: 106/776 106/779 106/804 127/38 127/71 156/348 156/39 252/62 264/138 428/220 428/326 428/532



Family:

Publication number	Publication date	Application number	Application date
AR093072 AA	20150513	AR2013P103798	20131018
AR097880 AA	20160420	AR2014P103654	20141001
AU2013335106 AA	20140501	AU20130335106	20131014
AU2014329817 AA	20150409	AU20140329817	20140929
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CL2015000989 A1	20150904	CL20150000989	20150417
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CO16098183 A2	20160909	CO20160098183	20160418
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JP2016500639 T2	20160114	JP20150537757T	20131014
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MX2015004978 A1	20150717	MX20150004978	20131014
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PE10332015 A1	20150819	PE20150000526	20131014
RU2015117913 A	20161210	RU20150117913	20131014
TH159395 A	20170118	TH20161001804	20140929
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TW201514315 A	20150416	TW20140134059	20140930
US2014113124 AA	20140424	US20130835002	20130315
US2014113128 AA	20140424	US20130044582	20131002
US2015010767 AA	20150108	US20140494547	20140923
US2017073272 AA	20170316	US20160359196	20161122
US9540810 BB	20170110	US20130044582	20131002
WO14066079 A2	20140501	WO2013US64776	20131014
WO14066079 A3	20151008	WO2013US64776	20131014
WO15050804 A1	20150409	WO2014US57980	20140929

Priority:

AU20130335106	20131014	CL20150000989	20150417	US20130835002	20130315
US20120717588P	20121023	US20130044582	20131002	CN201380064231	20131014
US20140494547	20140923	WO2013US64776	20131014	WO2014US57980	20140929
US20160359196	20161122				

Probable Assignee: UNITED STATES GYPSUM CO

Assignee(s): (std): UNITED STATES GYPSUM CO

Assignee(s): US GYPSUM CO ; CHAN CESAR ; LEE CHRIS C ; SANG YIJUN ; SONG WEIXIN D

Inventor(s): (std): WEIXIN DAVID SONG ; YIJUN SANG ; SONG WEIXIN DAVID ; SONG WEIXIN D ; SANG YIJUN ; LEE CHRIS C ; CHAN CESAR ; SONG W D ; SANG YI JUN ; LI C C ; CHEN C ; SANG Y ; CESAR CHAN ; CHRIS C LEE ; CHRIS LEE ; WEISING SONG

Inventor(s): WEIXIN D SONG

Agent(s): MADDERNS PATENT AND TRADE MARK ATTORNEYS; JAMES AND WELLS INTELLECTUAL PROPERTY; MOFFAT AND CO; JOHANSSON AND LANGLOIS LTDA; DANILO ROMERO RAAD; BSB INTELLECTUAL PROPERTY LAW; PHILIP T; LEYDIG VOIT AND MAYER LTD; PRADIP K; HASAN SALIM ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: STRUVITE-K AND SYNGENITE COMPOSITION FOR USE IN BUILDING MATERIALS

Abstract: Source: US2015059621A A composition and process for the manufacture thereof for use in a hybrid building material comprising at least in part Syngenite ($K_2Ca(SO_4)_2 \cdot H_2O$) and Struvite-K ($KMgPO_4 \cdot 6H_2O$). Specified constituents, including magnesium oxide (MgO), monopotassium phosphate (MKP) and **stucco** (calcium sulfate hemihydrate) are mixed in predetermined **ratios** and the reaction proceeds through multiple phases reactions which at times are proceeding simultaneously and in parallel and reaction may even compete with each other for reagents if the Struvite-K reaction is not buffered to slow down the reaction rate). A number of variable factors, such as **water** temperature, pH mixing times and rates, have been found to affect resultant reaction products. Preferred **ratios** of chemical constituents and manufacturing parameters, including predetermined and specified **ratios** of Struvite-K and Syngenite may be provided for specified purposes, optimized in respect of stoichiometry to reduce the combined heat of formation to non-destructive levels.

Classifications:

International (IPC 8-9): C04B C04B11/00 C04B11/28 C04B12/02 C04B14/30 C04B22/00 C04B22/06 C04B22/14 C04B22/16 C04B24/42 C04B28/14 C04B28/34 F02D41/00 F02D41/10 F02D41/12 F02D41/24 (Advanced/Invention); C04B11/00 (Advanced/Non-invention); C04B (Subclass/Invention)

CPC: C04B12/025 C04B12/027 C04B28/34 C04B211/0062 C04B14/303 C04B14/304 C04B22/062 C04B22/142 C04B22/143 C04B22/147 C04B22/141 C04B22/0013 C04B24/42 C04B28/344 C04B22/066 C04B211/28 C04B11/28

US: 1/1 106/18.14 106/690 106/691 524/3

PatBase - US2015059621_AA



FIG. 1

Family:

Publication number	Publication date	Application number	Application date
AR098724 AA	20160608	AR2014P104623	20141211
AU2014337500 AA	20150423	AU20140337500	20141014
CA2927337 AA	20160413	CA20142927337	20141014
CN105873880 A	20160817	CN201480068472	20141014
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US2016236979 AA	20160818	US20140028372	20141014
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WO15057732 A1	20150423	WO2014US60518	20141014
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ZA201602953 A	20170726	ZA20160002953	20160429

Priority:

US20130865029P 20130812	US20130890702P 20131014	US20130890720P 20131014
US20130892581P 20131018	US20130892025P 20131017	US20130915601P 20131213
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Probable Assignee: CERTAINTED GYPSUM INC

Assignee(s): (std): BOYDSTON GERALD D ; CENTURIONE SERGIO ; CERTAINTED GYPSUM INC ; CERTAIN TEED GYPSUM INC ; CHERIAN ISAAC K ; CENTURIONE SERIGO ; HAUBER ROBERT J ; PATTARKINE GAURAV V ; LAMBERET SEVERINE ; FRAILEY NATHAN ; GHOSH ANIRBAN

Inventor(s): (std): ANIRBAN GHOSH ; NATHAN FRAILEY ; SERGIO CENTURIONE ; SEVERINE LAMBERET ; ROBERT J HAUBER ; ISAAC K CHERIAN ; GERALD D BOYDSTON ; GAURAV V PATTARKINE ; PATTARKINE GAURAV V ; LAMBERET SEVERINE ; HAUBER ROBERT J ; GHOSH ANIRBAN ; FRAILEY NATHAN ; CHERIAN ISAAC K ; CENTURIONE SERGIO ; BOYDSTON GERALD D ; CENTURIONE SERIGO

Agent(s): DENNEMEYER AND ASSOCIATES; RIDOUT AND MAYBEE LLP; MARGARITA CASTELLANOS ABONDANO; CHAPMAN AND CO; VANGELIS; ECONOMOU IP LAW; ECONOMOU VANGELIS

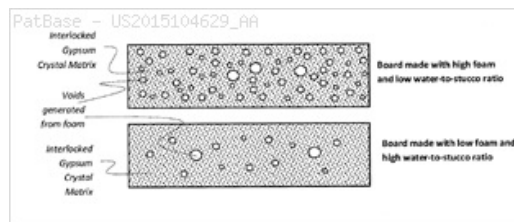
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Title: GYPSUM **WALLBOARD** PRODUCED USING A HIGH **WATER-TO-STUCCO RATIO**

Abstract: Source: US2015104629A A gypsum composition, board, and method of producing a gypsum board with increased **fire** endurance are described. The set gypsum-containing composition can be used to prepare a gypsum board having **fire** endurance, based on particular **water-to-stucco ratios**.

Classifications:

International (IPC 8-9): B28B1/30 C04B C04B111/00 C04B111/28 C04B111/30 C04B14/10 C04B14/20 C04B18/08 C04B18/14 C04B22/02 C04B24/38 C04B28/14 C04B38/02 E04B1/74 E04B1/94 E04C2/04 E04C2/284 E04F13/14 (Advanced/Invention); C04B111/00 C04B111/28 C04B111/30 (Advanced/Non-invention); C04B111/00 C04B111/28 C04B111/30 C04B28/14 (Core/Invention)
CPC: E04B1/942 E04C2/043 C04B28/14 C04B2111/00068 C04B2111/0062 C04B2111/28 C04B2111/30 C04B2201/20 Y02W30/92 Y02W30/94 Y02W30/97 Y10T428/31971 E04C2/284 E04F13/14 E04F2290/045
US: 156/45 428/220 428/448 428/532 428/703



Family:

Publication number	Publication date	Application number	Application date
AR098041 AA	20160427	AR2014P103838	20141015
AU2014334591 AA	20150423	AU20140334591	20141014
CA2927040 AA	20160408	CA20142927040	20141014
CL2016000796 A1	20161007	CL20160000796	20160406
CN105683122 A	20160615	CN201480056686	20141014
CO16105000 A2	20161031	CO20160105000	20160425
EP3057919 A1	20160824	EP20140789726	20141014
IN201617013625 A	20160831	IN201617013625	20160419
JP2016539891 T2	20161222	JP20160521298T	20141014
KR20160071397 A	20160621	KR20167010690	20141014
MX2016004357 A1	20160705	MX20160004357	20141014
PE04652016 A1	20160430	PE20160000442	20141014
TH164161 A	20170706	TH20161001935	20141014
TW201514123 A	20150416	TW20140135397	20141013
US2015104629 AA	20150416	US20130054689	20131015
WO15057601 A1	20150423	WO2014US60332	20141014
ZA201602887 A	20170726	ZA20160002887	20160428

Priority:

US20130054689 20131015 WO2014US60332 20141014

Probable Assignee: UNITED STATES GYPSUM CO

Assignee(s): (std): UNITED STATES GYPSUM CO

Assignee(s): CAO BANGJI ; CHAN CESAR ; SONG WEIXIN D

Inventor(s): (std): CAO BANGJI ; CHAN CESAR ; SONG WEIXIN D ; WEIXIN SONG ; SONG WEIXIN DAVID ; CESAR CHAN ; BANGJI CAO ; C CHEN ; B CAO

Inventor(s): WEIXIN D SONG

Agent(s): MADDERNS PATENT AND TRADE MARK ATTORNEYS; JAMES AND WELLS INTELLECTUAL PROPERTY; MOFFAT AND CO; JOHANSSON AND LANGLOIS LTDA; DANILO ROMERO RAAD; BRP RENAUD AND PARTNER MBB RECHTSANWAELTE PATENTANWAELTE STEUERBERATER; HASAN SALIM ET AL

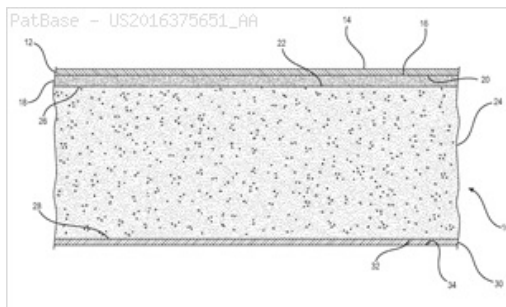
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Title: COMPOSITE GYPSUM BOARD AND METHODS RELATED THERETO

Abstract: Source: US2016375651A Disclosed is a composite gypsum board comprising a hoard core and a concentrated layer of substantial thickness (e.g., at least about 0.02 inches). The concentrated layer includes a higher weight percentage of an enhancing **additive** than the board core. The board core has a thickness greater than the thickness of the concentrated layer and forms the bulk of the board volume. The concentrated layer has a higher **density** (e.g., at least about 1.1 times greater) than the **density** of the board core. Also disclosed is a method of preparing a composite gypsum board.

Classifications:

International (IPC 8-9): B32B13/02 B32B13/04 B32B13/08
B32B13/14 B32B7/02 C04B11/00 C04B11/00 C04B22/16
C04B24/38 C04B28/14 E04C2/02 E04C2/04 (Advanced/Invention);
C04B11/00 (Advanced/Non-invention)
CPC: B32B13/08 E04C2/02 B32B2307/536 B32B2307/72
B32B2607/00 B32B2307/51 B32B2262/101 B32B13/02 C04B11/002
B32B13/04 C04B24/383 C04B22/16 B32B2419/00 B32B2264/06
B32B2264/062 B32B2264/0228 E04C2/043 C04B2201/20
B32B2250/04 B32B13/14 B32B2250/40 B32B2307/54 B32B2307/718
B32B2419/06 C04B28/14 C04B2111/00413 C04B2111/0062
B32B7/02 B32B2264/02 C04B11/00 B32B2260/028 B32B2260/046
B32B2307/50 B32B2419/04
US: 156/45 428/213



Family:

Publication number	Publication date	Application number	Application date
US2016375651 AA	20161229	US20160186232	20160617
US2016375655 AA	20161229	US20160186176	20160617
US2016375656 AA	20161229	US20160186212	20160617
US2016376191 AA	20161229	US20160186257	20160617
WO16209942 A1	20161229	WO2016US38737	20160622

Priority:

US20150184060P 20150624 US20160186176 20160617 US20160186232 20160617
US20160290361P 20160202 US20160186212 20160617 US20160186257 20160617

Probable Assignee: UNITED STATES GYPSUM CO

Assignee(s): (std): UNITED STATES GYPSUM CO

Inventor(s): (std): CHRIST BRIAN J ; DIEFENBACHER GREGG G ; JONES FREDRICK T ; LI ALFRED C ; SANG YIJUN ; JONES FREDERICK T ; TODD BRADLEY W ; VILINSKA ANNAMARIA ; SONG WEIXIN D

Agent(s): HASAN SALIM ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **FOAM** MODIFIERS FOR GYPSUM SLURRIES, METHODS, AND PRODUCTS

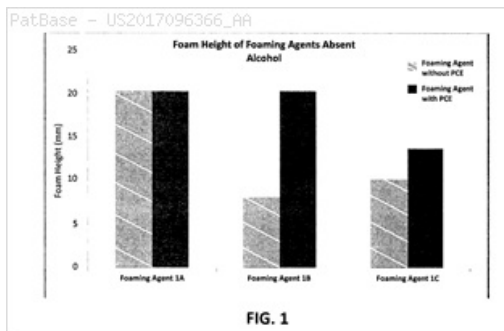
Abstract: Source: US2017096366A Disclosed is a **foam** modifier, e.g., useful for gypsum or cement slurries. The **foam** modifier comprises a fatty alcohol that is added to a gypsum or cement slurry that includes **foaming** agent, such as an alkyl sulfate surfactant. The fatty alcohol can be a C6-C16 fatty alcohol in some embodiments. The use of such a **foam** modifier can be used, for example, to stabilize the **foam**, reduce waste of **foaming** agent, improve void size control in the final product, and improve the gypsum board manufacturing process.

Classifications:

International (IPC 8-9): B01F17/00 B28B1/29 B28B1/50 B28B17/00 B32B13/08 B32B5/20 C04B24/02 C04B24/16 C04B24/32 C04B24/38 C04B28/04 C04B28/14 C04B38/10 E04C2/02 (Advanced/Invention); C04B103/48 (Advanced/Non-invention)

CPC: C04B24/026 C04B28/14 B32B5/20 B32B13/08 E04C2/02 B32B2607/02 C04B38/10 C04B2111/00612 C04B2111/0062 C04B38/106 C04B2103/48 C04B24/16 C04B24/32 C04B38/103 C04B24/383 B28B1/50 B28B17/0081 C04B2103/408 B28B1/29 B28B17/0036 B28B19/0092 B28C5/1269 B28C5/06 B28C7/0413 B28C7/0418 C04B28/02 B32B13/04 B32B2307/7145

US: 156/43 428/71



Family:

Publication number	Publication date	Application number	Application date
US2017096366 AA	20170406	US20160186336	20160617
US2017096369 AA	20170406	US20160186320	20160617
US2017152177 AA	20170601	US20170431444	20170213
WO17058316 A1	20170406	WO2016US38885	20160623

Priority:

US20150235979P 20151001 US20160186320 20160617 US20160186336 20160617
US20170431444 20170213

Probable Assignee: UNITED STATES GYPSUM CO

Assignee(s): (std): UNITED STATES GYPSUM CO

Inventor(s): (std): LI ALFRED C ; SONG WEIXIN D ; VILINSKA ANNAMARIA

Agent(s): HASAN SALIM ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW