



New connection on: : 17-08-2018 : 07:05:39 - Last disconnection on: : 17-08-2018 : 07:05:39

V 4.0.0.44358(LP,U,linux) (Rev:43856 2017-04-27 09:03:29 +0200#(D201802)) (RPM D201802)

## Welcome to EPOQUE Rebuild under the Production Environment

[EPODOC: SS 10] ..fi epodoc



Database: EPODOC

[EPODOC: SS 10] gypsum and ((fiber 3d glass) of fiberglass) and layer+

An opening or closing bracket is missing. *ERROR(-101304)*

[SS 10] gypsum and ((fiber 3d glass) or fiberglass) and layer+

Results in EPODOC **349**

[SS 11] \* and PD<2014-06-17

Results in EPODOC **224**

[SS 12] \* and (embed+ or penetrat+ or encrust+)

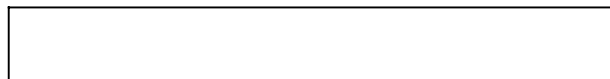
Results in EPODOC **39**

[SS 13] ..li 1-10



**1/39** © EPODOC / EPO

PN - [CN203569797U](#) U 20140430  
PR - CN20132687171U 20131103  
AP - CN20132687171U 20131103  
DT - I  
PA - GOLD MANTIS CONSTR  
DECORATION CO LTD  
TI - Ultrahigh imitation stone  
column structure  
AB - The utility model discloses an  
ultrahigh imitation stone column



structure which comprises multiple **layers** of lap-joint steel frames (1), an internal supporting framework (2), a GRG (**glass fiber** reinforced **gypsum**) stone column, an upper supporting steel frame base and a lower supporting steel frame base, wherein the lap-joint steel frames (1) are crossed steel frames assembled by angle steel; the lap-joint steel frames (1) are arranged in the GRG stone column; the internal supporting framework (2) is perpendicular to the planes of the crossed steel frames and **penetrates** through the inner center of the whole GRG stone column; the internal supporting framework (2) is fixed with the lap-joint steel frames (1); a rotating shaft (3) is arranged on the upper supporting steel frame base; an inner-diameter steel ring is arranged in the rotating shaft (3); another rotating shaft (3) is arranged on the lower supporting steel frame base; another inner-diameter steel ring is arranged in the rotating shaft (3); and the upper supporting steel frame base and the lower supporting steel frame base are respectively fixed at two ends of the internal supporting framework (2) through the inner-diameter steel ring to form a stone column rotating structure. The ultrahigh imitation stone column structure is high in decoration property, realizes resource replaceability, is convenient for construction and is high in construction efficiency and convenient to maintain.

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PN | - <a href="#">CN203498264U</a> U 20140326                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| PR | - CN20132471966U 20130802                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| AP | - CN20132471966U 20130802                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| DT | - I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| PA | - SHANGHAI CHUNCUI<br>DECORATION MATERIAL CO LTD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| TI | - Reinforced <b>glass fiber</b> high-<br>strength <b>gypsum</b> board                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| AB | - The utility model discloses a<br>reinforced <b>glass fiber</b> high-<br>strength <b>gypsum</b> board. The<br>reinforced <b>glass fiber</b> high-<br>strength <b>gypsum</b> board is<br>characterized by comprising<br>a <b>gypsum</b> board substrate, and<br>at least one mesh cloth <b>layer</b><br><b>embedded</b> into the <b>gypsum</b><br>board substrate. The<br>reinforced <b>glass fiber</b> high-<br>strength <b>gypsum</b> board has the<br>beneficial effects that the<br>strength of the overall <b>gypsum</b><br>board is improved by utilizing<br>glass fibers, and besides, the<br>toughness and the strength of<br>the <b>gypsum</b> board can be<br>effectively improved by<br>combining the structure of the<br>mesh cloth <b>layer</b> . |

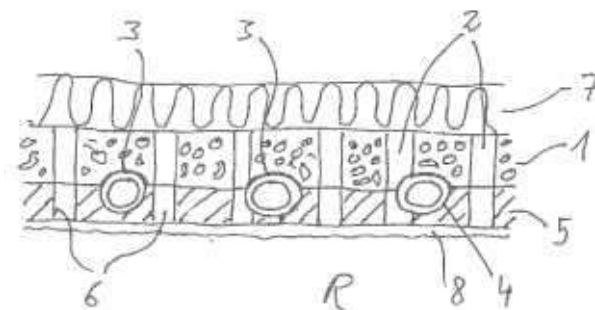
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|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PN | - <a href="#">CN203452218U</a> U 20140226                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| PR | - CN20132471968U 20130802                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| AP | - CN20132471968U 20130802                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| DT | - I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| PA | - SHANGHAI CHUNCUI DECORATION MATERIAL CO LTD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TI | - Reinforced <b>glass fiber</b> high-strength fire-proof heat-preservation <b>gypsum</b> board                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| AB | - The utility model discloses a reinforced <b>glass fiber</b> high-strength fire-proof heat-<br>preservation <b>gypsum</b> board. The reinforced <b>glass fiber</b> high-strength fire-proof heat-<br>preservation <b>gypsum</b> board is characterized by comprising <b>gypsum</b> board base<br>material, at least one mesh fabric reinforced <b>layer</b> and a <b>glass fiber</b> cotton and/or<br>aluminum silicate wool and/or rock wool heat-preservation <b>layer</b> , wherein the mesh<br>fabric reinforced <b>layer</b> is <b>embedded</b> into the <b>gypsum</b> board base material; the <b>glass</b><br><b>fiber</b> cotton and/or aluminum silicate wool and/or rock wool heat-preservation <b>layer</b> is<br>combined to the surface of the <b>gypsum</b> board base material. The reinforced <b>glass fiber</b><br>high-strength fire-proof heat-preservation <b>gypsum</b> board has the advantages that all |

the material is self-fireproof A-grade material, no inflammable material or non-A-grade fireproof material is added, and therefore the whole **gypsum** board has good fireproof performance, and use safety of a user is guaranteed; a large number of high-strength annexing agents are used, strength can be effectively enhanced, and the density of the whole body is regulated by regulating the adding quantity of flue gas desulfurization **gypsum**; the double-layer mesh fabric structure can effectively enhance strength of the **gypsum** board, and improvement of tenacity of the **gypsum** board in the length direction is facilitated.

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- PN - [DE102012206187](#) A1 20131017
- PR - DE201210206187 20120416
- AP - DE201210206187 20120416
- DT - \*; Rep
- CT - || STSE (A1)  
[DE10341255](#) B4 20050616 [ ] (SGL CARBON AG [DE]);  
[DE102005029051](#) A1 20061228 [ ] (SGL CARBON AG [DE]);  
[DE102009055441](#) A1 20110707 [ ] (SGL CARBON SE [DE]);  
[DE202009002911U](#) U1 20100722 [ ] (REHAU AG & CO [DE]);  
[DE202009011329U](#) U1 20091105 [ ] (ZEHNDER VERKAUF VERWALTUNG [CH]);  
[DE202011002988U](#) U1 20120522 [ ] (REHAU AG & CO [DE]);  
[DE202011050169U](#) U1 20120820 [ ] (STELLARIS ENERGY SOLUTIONS GMBH & CO KG [DE])
- CCI - [E04B5/48](#) ; [E04C2/525](#) ;  
[F24D3/14](#) ; [F24F5/0092](#)
- CCA - [F28F21/02](#)
- PA - LINDNER AG [DE]
- TI - Ceiling or wall element has graphite **layer** that is arranged on air-conditioning space at facing side and is provided with register pipes of heating or cooling battery
- AB - The ceiling or wall element has a support plate (1) provided with low thermal conductivity. The support plate is formed



of **gypsum** plasterboard or **gypsum** fiber board. A graphite **layer** (5) is provided on an air-conditioning space (R) at a facing side. The register pipes (4) of a heating or a cooling battery are **embedded** in the graphite **layer**. A reinforcing **layer** is made of stiff **glass fiber** material or carbon non-woven fabric material. A covering **layer** (8) is made of non-woven fabric material or metal.

**5/39** © EPODOC / EPO

- PN - [KR20130077851](#) A 20130709
- PR - EP20040292115 20040901
- AP - KR20130055840 20130516
- DT - I
- CCI - [B32B5/022](#) ; [B32B13/02](#) ; [B32B13/14](#) ; [E04C2/043](#)
- CCA - [B32B2250/03](#) ; [B32B2250/40](#) ; [B32B2260/023](#) ; [B32B2260/046](#) ; [B32B2262/02](#) ; [B32B2262/062](#) ; [B32B2262/14](#) ; [B32B2307/306](#) ; [B32B2307/7265](#) ; [B32B2307/73](#) ; [B32B2419/04](#) ; [B32B2439/70](#) ; [B32B2607/02](#) ; [Y10T442/2238](#) ; [Y10T428/249932](#) ; [Y10T442/697](#) ; [Y10T442/665](#) ; [Y10T442/659](#) ; [Y10T442/698](#) ; [Y10T442/2631](#) ; [Y10T442/699](#) ; [Y10T442/2221](#)
- PA - LAFARGE SA [FR]
- TI - NEW **GYP SUM** BOARD AND ASSEMBLIES COMPRISING IT
- AB - PURPOSE: A new **gypsum** board including a mat-facer and an external insulation system are provided to be strong on humidity and fire and to include mechanical characteristics in a wet condition. CONSTITUTION: A **gypsum** board includes one or more mat-facers including an inner **layer** and an outer **layer**. The inner **layer** is connected to the core of the **gypsum** board and includes an organic fiber mixture of 0 to 30 weights, inorganic fiber of 25 to 60 weights, and cellulose fiber of 25 to 60 weights based on the total weights of fiber used in the inner **layer**. The outer **layer** requisitely includes the cellulose fiber of 90 weights. The mat-facer includes one or more binders and one or more mineral filler particles. The particles include the d 50 of 0.1 or 10µm and are partly distributed to the inner **layer** or the outer **layer**. The filler particles materially **penetrate** inside a fiber **layer**. The mat-facer does not materially include **glass fiber**, and the inner **layer** or the outer **layer** includes a waterproof agent.

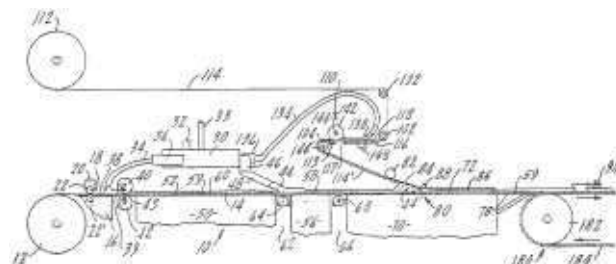
**6/39** © EPODOC / EPO

- PN - [CN103203797](#) A 20130717
- PNFP - CN103203797B B 20150708
- PR - CN2012109315 20120112
- AP - CN2012109315 20120112

|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DT   | - I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CT   | -    STSE (A)<br><a href="#">CN101284394</a> A 20081015 [A] (XUEHUI CUI [CN])<br>[A]<br><a href="#">GB2136345</a> A 19840919 [A] (CHISHOLM DONALD MICHAEL, et al)<br>[A]<br><a href="#">FR2889991</a> A1 20070302 [A] (SERRAS EDOUARD [FR])<br>[A]<br><a href="#">CN1843729</a> A 20061011 [A] (CUI XUEHUI [CN])<br>[A]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CTNP | -    STSE (A)<br>[] 郭泰民,<br>"陶瓷模具用石膏粉的质量要求及测试方法", <<2008第三届全国石膏生产与应用技术交流大会论文集 >>, (20080514)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| PA   | - (A B)<br>SHANGHAI CHUNCUI DECORATION MATERIAL CO LTD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TI   | - (A B)<br>Method for eliminating influence of bleeding on surface strength of bleeding surface of GRG ( <b>Glass Fiber</b> Reinforced <b>Gypsum</b> ) product                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| AB   | - (A)<br>The invention discloses a method for eliminating the influence of bleeding on the surface strength of a bleeding surface of a GRG ( <b>Glass Fiber</b> Reinforced <b>Gypsum</b> ) product. The method comprises the following steps of marking a corresponding contour line on the side wall of a mold cavity of a mold according to the <b>gypsum</b> board thickness value of the GRG product, wherein the vertical distance from any point of the contour line to the bottom of the mold cavity is equal to the <b>gypsum</b> board thickness value; arranging a plurality of bleeding water drainage holes on the contour line or slightly above the contour line; then arranging an <b>embedded</b> part at the bleeding water drainage holes; laying five <b>layers</b> of <b>gypsum</b> plaster and <b>glass fiber</b> felts in the mold cavity in <b>layers</b> ; drawing the <b>embedded</b> part out after a reinforcing edge is prepared; after laying the fifth <b>layer</b> of <b>gypsum</b> plaster, erecting a shaping board at the upper edge of the side wall of the mold to smear towards the same direction or smear back and forth; then laying the fifth <b>layer</b> of <b>glass fiber</b> felt on the <b>layer</b> of <b>gypsum</b> plaster; and smearing again by using the shaping board along the upper edge of the side wall of the mold before the <b>gypsum</b> plaster is pre-hardened. According to the method, the problem of low strength of the bleeding surface caused by bleeding can be solved, the <b>gypsum</b> board thickness can be controlled, and the damage to the strength of the <b>gypsum</b> product caused by punching after the hardening of the <b>gypsum</b> product is avoided. |

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|      |                                                                                   |
|------|-----------------------------------------------------------------------------------|
| PN   | - <a href="#">EA200400002</a> A1 20040624                                         |
| PNFP | - EA006830 B1 20060428                                                            |
| PR   | - US20010875733<br>20010606; US20020164108<br>20020604; WO2002US17795<br>20020605 |
| AP   | - EA20040000002 20020605                                                          |



|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DT  | - I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CCI | - <a href="#">B32B13/02</a> ; <a href="#">B28B11/0845</a> ;<br><a href="#">B28B19/0092</a> ; <a href="#">E04C2/043</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| CCA | - <a href="#">Y10T156/1011</a> ; <a href="#">Y10T156/1034</a> ;<br><a href="#">Y10T156/1043</a> ; <a href="#">Y10T428/22</a> ;<br><a href="#">Y10T428/23</a> ; <a href="#">Y10T428/232</a> ;<br><a href="#">Y10T428/237</a> ; <a href="#">Y10T428/239</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CUA | - <a href="#">B32B2260/021</a> ; <a href="#">B32B2260/044</a> ;<br><a href="#">B32B2607/00</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| PA  | - (B1)<br>BPB PLC [GB]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TI  | - (B1)<br>GLASS REINFORCED <b>GYPSUM</b><br>BOARD AND OF MANUFACTURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| AB  | - (B1)<br>A multi-layer <b>gypsum</b> board<br>having face sheets comprising<br>inorganic <b>fiber</b> randomly<br>oriented <b>glass fiber</b> , completely<br>impregnated with <b>gypsum</b><br>slurry <b>penetrates</b> through the<br>random interstices between the<br>inorganic fibers and coats the<br>board surfaces with <b>gypsum</b><br>slurry. The multi-layer <b>gypsum</b><br>board may have a polymeric<br>compound added to<br>unset <b>gypsum</b> , where the<br>compound may comprise one of<br>the following; polyacrylamide,<br>polymethylacrylamide,<br>polyvinylidene chloride,<br>polyamide, poly(hexamethylene<br>adipamide), polyvinylchloride,<br>polyethylene, cellulose acetate,<br>polyisobutylene, polycarbonate,<br>polypropylene, polystyrene,<br>polychloroprene, styrene,<br>butadiene, natural rubber, poly<br>(2,6 dimethyl pentene oxide), poly<br>(4-methyl-1-pentene) and<br>polydimethyl siloxane. The multi-<br><b>layer gypsum</b> board may<br>comprise a first <b>layer</b> of a<br>mixture of polymeric compound<br>additive and set <b>gypsum</b> having<br>an outer surface and being<br>impregnated in a thin sheet of |

randomly aligned inorganic fibers so as to encase the core **gypsum** within two facing **layers** having a combination of set **gypsum** and polymeric compound.

**8/39** © EPODOC / EPO

- PN - [CN202730991U](#) U 20130213
- PR - CN20122417572U 20120822
- AP - CN20122417572U 20120822
- DT - I
- PA - SUZHOU ACADEMY OF BUILDING RES
- TI - Internal temperature preservation system for outer wall
- AB - The utility model provides an internal temperature preservation system for an outer wall. The internal temperature preservation system comprises a substrate wall body; the inner side of the substrate wall body is sequentially provided with a first desulfurization **gypsum** temperature preservation mortar **layer**, a polyurethane inorganic composite plate, a second desulfurization **gypsum** temperature preservation mortar **layer**, a **gypsum layer** as well as a water-resistant putty **layer** arranged on the surface of the **gypsum layer** by shaving; and **glass fiber** gridding cloth is **embedded** into the **gypsum layer**. The internal temperature preservation system provided by the utility model has the beneficial effects that the system has the advantages of low heat conduction coefficient, good temperature preservation performance, water resistance and dampness resistance; the combustion performance level achieves the A-level fire-proofing requirement, and meets the A2-level relevant provisions in GB8624-2006 Building Material and Product Combustion Performance Classification.

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- PN - [CN202596014U](#) U 20121212
- PR - CN20122265593U 20120607
- AP - CN20122265593U 20120607
- DT - I
- PA - UNIV JINAN
- TI - Composite sandwiched wall partitioning board reinforced by **penetrating gypsum** mortar through core **layer**
- AB - The utility model discloses a composite sandwiched wall partitioning board reinforced by **penetrating gypsum** mortar through a core **layer**. The composite sandwiched wall partitioning board reinforced by **penetrating gypsum** mortar through the core **layer** consists of an upper surface **layer**, a lower surface **layer** and the core **layer**, wherein **fiberglass** meshes are arranged inside the upper surface **layer** and the lower surface **layer** respectively; the core **layer** is made of a polystyrene foam board, so that the self weight thereof can be reduced; and 3 rows of 15 columnar **gypsum** mortar-through bonding bodies with the diameter of 20mm are arranged on the core **layer** so as to form a reinforcing structure **penetrating** through the core **layer**, so that the strength and the integrity of the composite sandwiched wall partitioning board can be improved;

triangular, semicircular or trapezoidal grooves are formed on the two sides of the wall partitioning board, so that the wall partitioning board is convenient to construct and install; and various performance can meet requirements of a building wall partitioning board.

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PN - [CN202595932U](#) U 20121212

PR - CN20122265595U 20120607

AP - CN20122265595U 20120607

DT - I

PA - UNIV JINAN

TI - Integrated reinforcing composite heat-insulation board with **gypsum** adhesive cement **penetration** heat-insulation **layer**

AB - An integrated reinforcing composite heat-insulation board with a **gypsum** adhesive cement **penetration** heat-insulation **layer** is formed by an upper surface **layer**, a lower surface **layer** and a heat-insulation **layer**. The upper surface **layer** and the lower surface **layer** are respectively provided with a **layer** of **fiberglass** gridding cloth, the heat-insulation **layer** is made of a polystyrene foam plastic board, the weight of the heat-insulation **layer** can be reduced, the heat-insulation **layer** is provided with 6 **gypsum** adhesive cement **penetration** adhesion bodies with the dimensions of 200mm\*30mm, the surface **layers** are connected with the heat-insulation **layer** more firmly, board warping can be avoided, strength and integrity of the board are improved, and various performances can meet the requirements of the heat-insulation board for construction.