

RECYCLABLE BUILDING BLOCK AND BUILDING SYSTEM USED FOR CONSTRUCTING BUILDING

Technical Field

The present disclosure relates to building material, and more particularly to a set of recyclable construction blocks.

Background Art

Generally, a solid waste involved in the present disclosure includes: industrial solid wastes, domestic wastes, construction wastes, urban sludge, and crop straw wastes. The industrial wastes include, but not limited to, a waste slag, a slag and corner wastes of industrial products. The domestic wastes include, but not limited to, waste papers, waste furniture, used plastic, packaging materials and surplus deteriorating foods, which are produced in daily life. The construction wastes include, but not limited to, cement blocks, bricks and decoration materials produced while old buildings are demolished. The urban sludge includes, but not limited to, sludge produced by sewage treatment, sludge excavated in urban underground projects, and sludge deposited in urban sewage all year round. The crop straw wastes include, but not limited to, rice straw, wheat straw, corn stalk, sorghum stalk, cotton straw, peanut straw, sesame straw, and rape straw. At present, there are many methods to deal with these various types of wastes. However, with the continuous development of the society, the various types of wastes have not been handled well and become increasingly serious social problems and continue to cause harm to the human living environment.

At the same time, various methods for constructing walls are using cement mortar to block bricks into walls, or after the frame block is built, the wall plates are fixed to the frame block. These methods must be implemented by professional staff using professional tools and equipment. And the built walls are all base blank walls without any decoration. After the wall is built, if it needs to be renovated and decorated, the building material used for building the wall cannot be used repeatedly for construction and demolition. As a result, a large amount of building materials is wasted, and the disassembled construction waste cannot be decomposed and become new solid wastes, causing environmental pollution.

Therefore, a new recyclable building system needs to be provided.

Summary

This invention discloses a set of recyclable construction blocks, which mainly comprises a **standard block**, a **left corner block**, a **right corner block**, an **adjusting block**, a **reinforcement positioning rod** which passes through the **positioning hole** of the blocks up and down, a **power cable hole** located in the middle of the blocks running up and down, a **transverse cable pipe groove** formed by stacking the upper and lower blocks together, a **left convex structure** on the left side of the standard block, a **concave structure** on the right side of the standard block, an **uninterrupted monolithic inclined upper convex block** located at the top of the blocks, a **right concave structure** at lower center of the blocks, **the decorative surfaces** on both sides or one side of the blocks, as well as a **sealing pad** between the upper and lower blocks when stacked up together, a **joint connector** to reinforce the joint of the positioning rods.

The basic functions and characteristics of the invention are:

1. **The standard block, the left corner block, the right corner block, the adjusting block**, the reinforcing positioning insertion rod and the connection joint of the connecting position insertion rod are stacked according to the method of the invention. Each block is tightly fastened to one another by strengthening the positioning rod and the concave and convex grooves of the upper and lower sides without any binder. It is also possible to build a wall with decorative surfaces and power cable slots without any cutting, and make the blocks be demolished and used repeatedly (see Fig. 5 and Fig. 6 for further details).

2. Sealing pad is arranged at the connection between the upper and lower stacking blocks to ensure the function of waterproof, sound insulation and heat preservation after the wall is built.

3. The standard block, the left corner block, the right corner block, the adjusting block already has its two sides or one side decorated when produced at workshops, thus the built wall by these blocks is no longer needed to be decorated after building.

4. The standard block and the adjusting block can be used with the left corner block and/or the right corner block, to build a closed building wall without any cutting, and they can also be used to build a single wall.

5. The outer diameter of the reinforcing positioning inserting rod is smaller than the minimum inner diameter of the positioning hole by 1 - 2 millimeters, so that the positioning rod can tightly lock the blocks each other.

6. At the left corner block and the right corner block, the positioning hole and the power cable holes are completely symmetrical. No matter the two blocks are staggered with 90° or 180° or 270° , the positioning hole and the power cable hole can be well connected in a straight line up and down.

7. The dimension relation of each blocks is as follows: the length of the standard block is L, the width is W; the outer length of the left corner block is L+W, the inner length is L, the outer width is $1/2 L+W$, the inner width is $1/2 L$; the outer length of the right corner block is L+W, the inner length is L, the outer width is $1/2 L+W$, the inner width is $1/2 L$; the length of the adjusting block is $1/2 L$, the width is W; we can calculate the different size of the blocks widths and lengths according to the above formula with a allowance of $\pm 30\text{mm}$. The dimensions of other blocks are precisely related to the length and the width of the standard block, so that each block can be perfectly stacked upon and locked each other to make a building without any cutting of the blocks.

8. When stacking and building walls with multiple blocks, the concave and convex structures of the blocks form tenons and mortises between the upper and lower blocks as well as the left and right side blocks and the blocks are fastened by the positioning rods tightly to each other. The positioning holes and the power cable holes of each block are symmetrically arranged. After

stacking multiple storey blocks, the positioning holes, the power cable holes are connected in a straight line up and down, and all the blocks are precisely connected and locked in series by strengthening the positioning rods through the positioning holes.

9. The joint connector of the positioning rod is arranged in form of zigzag, and the blocks are locked tightly to form a firm structural relationship, which can resist a strong object impact and earthquake distortion.

10. The reinforcement positioning rod inserted into the positioning holes may be a hollow pipe made of metal, plastic or composite material, which can also be used as a water supply pipe, a gas supply pipe, a power supply cable pipe or telecommunication wire pipe etc., And the reinforcement positioning rod can also be fabricated at construction site by structural adhesives, hot melt plastics, epoxy or mixed materials, cement concrete or just be a solid rod such as a steel bar.

11. The decorative surfaces of the blocks can be painted, mould-made, embossed, engraved, pasted or hand-painted to show a variety of color or color pictures. The decorative surfaces may be flat or stereoscopic of wood, stone, brick, leather, camouflage trade mark figures, or photo, geometry etc.

12. The decorative surface of the blocks may be made as a part of blocks when the blocks are being fabricated at the workshops or be made separately and be jointed together at construction site. The decorative surface may be made on the one side or both sides of the blocks.

13. The blocks may be fabricated by using sludge, solid waste (including but not limited to municipal sludge, industrial solid waste, municipal domestic waste, construction waste, crop straw waste) and mini vitrified beads, ceramic grains, fibrous cloth, plant fibers, rock fibers, ceramics, Plastic or glass fibers mixture of curing agent, water repellent, modifier, flame retardant, binder, and with the addition of steel bars, metal fittings to improve the strength.

14. The disclosure makes solid wastes to treasures, transforms all kinds of solid wastes that destroy human living environment by means of crushing, drying, comprehensive killing germs, deodorizing, mixing and stirring, forming, curing, sealing and curing. These construction blocks are one side or two sides decorated and are stacked together to form a solid and firm building by inserting the positioning rods into the interlocking positioning holes and are recyclable by pulling the positioning rods out of the positioning holes and demolishing the blocks with no damage. And with their existing transverse grooves, vertical through holes and decorated surfaces of the blocks, power wire notches and paintings on the walls are no longer necessary. The processing of fabricating these blocks may use all kinds of solid wastes by crushing, drying, comprehensive killing germs, deodorizing, mixing, forming, curing, sealing, and finishing. The standard process may be as follows:

15. (1) Transport solid waste into crushing centre for crushing (except silt from underground);

16. (2) Web wastes such as silt, sludge, house waste are transported to the high temperature dehydration centre, where sterilization, deodorization will be operated to kill germs and large quantities of high temperature steam will be collected and transfer to the high temperature steam kiln.

17. (3)The crushed solid waste from the crushing center and the dried-up and classified waste (municipal solid waste, urban silt) from the high temperature dehydration centre will be send to the mixing center to be mixed in proportion with the curing agent, waterproofing agent, modifier, flame retardant and adhesive binder.

18. (4) In the shaping center, mixed materials will be made to the shape of standard blocks, adjusting blocks, left corner blocks and right corner blocks accordingly.

19. (5) The shaped blocks will be send to the high temperature steaming kiln for high temperature steam curing, and the distilled water produced thereof will be sent to the mixing center for mixing with other materials.

20. (6) After high temperature steam curing, the blocks will be sent to the veneer processing center to finish the decorative sides of the blocks according to the needs of the customers. When necessary, the blocks will be sealed and packaged with synthetic materials to ensure the overall physical and chemical properties of the blocks remain stable and unchanged for a long time.

21. (7) Finally, the finished product blocks will be sent to the packing and palletizing center, and then loaded and transported to the user;

22. (8) The handicapped blocks in the packaging and palletizing center will be sent to the shaping center to be repaired. And the damaged products will be sent into the crushing center and to be crushed again. The whole process is clean and healthy, discharging no any waste at all.

23. When constructing a building, waterproof glue, fastening adhesive, structural adhesive, cement or other adhesive materials can be used to further strengthen the blocks stacked together.

24. This disclosure has a positive effect: (1) converting all kinds of solid wastes that give people a headache into new building material that can be repeatedly demolished and rebuilt for many times; (2) reducing by huge quantities the construction wastes caused by building renovations;(3) The large amount of water vapor produced from high moisture domestic waste and municipal sludge in the high temperature dehydration and elimination center will be feed into the high temperature steam kiln to cure the shaped blocks. And the condensing water is sent into the mixing center to agitate other raw materials to produce blocks. This processing technology makes the high temperature steam and condensed water generated during the processing fully reused and eliminates the discharge of wast water and high temperature steam. (4) As the side surfaces of the blocks are finished with decorations and the walls constructed by these blocks are also customer specified decorated, wall decoration or building renovation is no longer needed. Thus

cement dust and sand dust scattered from the town transportation vehicles to the roads and urban sewage system of the urban cities will be greatly reduced. And the social problem of professional construction workers shortage can greatly alleviated because the blocks are precisely made to be tenon and mortise interlocked, and any one with no special training is able to build his house simply by stacking the blocks together.

Brief Description of the Drawings

The above and/or additional objects, features and advantages of the present disclosure, will be further elucidated by the following illustrative and non-limiting detailed description of embodiment of the present disclosure, with reference to the appended drawings, wherein:

Fig. 1 is a process flow chart for making the blocks of the invention;

Fig. 2 is a overhead view of the standard block of the present invention;

Fig. 3 is a side stacking view of the standard block of the invention;

Fig. 4 is a overhead view diagram of the standard block, the left corner block, the right corner block and the adjusting block of the invention.

Fig. 5 is a schematic diagram of the wall stacked by the blocks and the use of the positioning rods in the positioning holes of the present invention;

Fig. 6 is a hierarchical diagram of the blocks layout of the present invention for building a house.

Description of the Preferred Embodiments

The present invention will be further illustrated below with reference to the attached drawings and the embodiments. The description in more detail aims to help to understand the present invention, instead of limiting the present invention. According to the contents disclosed by the present invention, those skilled in the art shall understand that the present invention can be implemented even without some or all of these specific details. Under other circumstances, to avoid weakening the inventiveness of the present invention, the well-known methods, structures and the like will not be described in detail.

(embodiment 1) figs. 1 to 6 show the specific embodiments of the invention, wherein fig. 1 is a process flow chart of the blocks of the invention; fig. 2 is a overhead view of the standard block of the invention; Fig. 3 is a side stacking view diagram of the standard block of the invention; fig. 4 is a overhead view diagram of the standard block, a left corner block, a right corner block and an adjusting block of the invention; fig. 5 is a schematic diagram of the wall stacked by the blocks and the use of the positioning rods in the positioning holes of the present invention; Fig. 6 is a hierarchical diagram of the blocks layout of the present invention for building a house.

As seen in figure 1, recycled waste J enters the crushing Center A to be pulverized to about 5mm particles. After the waste is crushed, the relatively dry waste (e.g. industrial slag, construction waste, agricultural straw, etc.) Will be transported directly to the mixing center D; waste K (municipal sludge, mud, domestic waste, etc.) with high moisture content (municipal sludge, mud, domestic waste.) is feed into the high temperature dehydration and deodorizing center B. where the wast will be stirred and dried up by 600-900 degrees Celsius hot air, and all bacteria and organisms will be killed, the odor will be eliminated, the waste water content of the wast will be reduced to less than 8%. Large amounts of vaporized high temperature water vapor I will be sent to high temperature steam Kiln C. After being crushed and dehydrated, wastes K and L will be mixed in different proportions of curing agents, water repellents, modifiers, flame retardants at the mixing center D according to the customer's requirements. The binder is stirred and mixed and then transported to the shaping center to fabricate construction blocks. In the product shaping center, the well mixed waste will be made into various shapes of blocks and specifications according to the requirements of the user. In the shaping center E, the blocks are made by special precision die with shock press or static press or reverse die mechanism according to different material proportion formula and using purpose. The central part of the whole strip of the block is inwardly indented and higher than the uninterrupted integral slope structure on the side of the block, and the left side is also protruded accordingly. The middle raised block is buckled with the concave block at the bottom of another block when stacked on each other, and the right side of the block has a concave structure, which is used for fastening and connecting with the projecting structure on the left side of the other block. The central bulge structure of the block has a uniform distribution of through positioning holes from the top of the block to the bottom of the block. When multiple blocks are stacked up, these holes are used for positioning, fixing the blocks location with other blocks. After the embryo blocks are shaped, blocks will be sent to the high temperature steaming kiln C for curing. In the high temperature steam kiln C, the embryo blocks will be cured gradually by high temperature steam for 8 to 18 hours. The distilled water H condensed from high temperature steam in the process will be collected and transported to the mixing center D for mixing waste material. After high temperature steam curing, the embryo blocks will enter the veneer processing center G. where embryo blocks side surfaces will be decorated on one side or both sides, packed and palletized according to the user's request. Unqualified products will be returned to crushing center A or sent to shaping Center E for repair.

As shown in Fig. 2, the upper part of the blocks is inwardly indented and raised from the side of the block with an uninterrupted integral slope on the convex structure 11, and the left side also has a left convex block 9. A through positioning hole 6 and a wire cable hole 7 are distributed evenly between the upper convex block and the lower concave block for locating and fixing the position of the blocks. The right side of the standard block has a right concave block 10, which is used to hold the left convex structure to the left side of the other block. On both sides of the block lies the decorative surface 13.

Seen fig. 3, the positioning hole 6 going through the upper convex structure 11 and the concave structure 12 is located in the middle position of the standard block 1, with its center point, the left and right parts of the standard block 1 are completely symmetrical, The internal diameter of the positioning hole 6 is 1-2 mm larger than the outer diameter of the inserted

positioning rod 5, which ensures that the blocks can be locked neatly and tightly after each block is stacked. When the two blocks are stacked with each other, the lower concave structure 12 of the upper block and the upper convex structure 11 of the lower block are interlocked to form a transversely perforated wire cable pipe groove 8. Between the upper block and the lower block, a sealing pad 14 is placed between the blocks, and the upper block compacts the sealing pad 14 with its own weight to form a closed strip of airtight, ensuring that the built wall has the functions of waterproof, wind proof, sound insulation and heat preservation. On both sides of the block lies the decorative surface 13, which can display a variety of black and white or colored, flat or stereoscopic wood, stone, brick, leather patterns by spraying, moulding, laminating, engraving, pasting or hand-drawing camouflage lines or figures, photos, geometry, trademark patterns. As soon as the house is built, the walls of the house are immediately ready for use with beautiful decorations. Wall decoration is no longer needed for time saving. The cement mortar once scattered on the roads in the urban streets, and the urban sewage pipeline silt will be reduced miraculously to benefit the mankind.

Figure 4 clearly and simply shows the dimension relationships of the blocks of the invention. According to the illustration, when the length of the standard block 1 is 500mm and the width W is 150mm, the length of the adjusting block 4 is 250mm (i.e. $1/2L$) and the width is 150 mm, and the outer length of left corner block 2 is 650 mm (i.e. $L+W$), peripheral width is 400 mm (i.e. $1/2L+W$), inner length is 500 mm, width is 250 mm (i.e. $1/2L$). According to actual practice for many times, this scientific calculation formula ensures that the blocks can be perfectly interlocked each other to build a house without cutting any blocks.

Fig. 5 shows how the blocks of the invention are stacked each other to build a wall. It can be seen from the diagram that the upper and lower blocks are stacked up in form of $1/2$ interlacing, the upper and lower concave and convex tenon joints are fastened to each other, the positioning holes of the blocks are vertically lined up, and the positioning rods reinforce the upper and lower blocks in series into one body. The joint 15 of the connecting rods are also arranged in form of zigzag structure to form a very strong structural relationship, which can resist strong impact of objects and earthquake distortion.

Fig. 6 shows the splicing effect layouts of the blocks of the invention when building a house. The figure 1 indicates the splicing of the first layer of the blocks and figure 2 indicates the splicing of the second layer of the block, and so on. Through the display of the diagram, it can be seen that the blocks can be used to build a closed wall without any cutting on the blocks, and the blocks are stacked up by $1/2$ interlacing to interlock firmly each other. The concrete method of building the wall is to first build a solid flat foundation or floor board, and then align the blocks one by one according to the left and right concavity tenon structure. (if the wall is needed to be stuck, the surface of the docked concave and convex structures should be brushed with the adhesive coating, and the crutch shall be brushed on the surface of the docked concave and convex structures). Corner parts are built with corner blocks. After the first layer is finished, the second layer of the blocks shall be built according to the shape of the blocks in the same way (if it is necessary to bond, brush the coating on the surface of the upper and lower concavity and convex structures of the butt joint, and insert the positioning rods into the corresponding

positioning holes. To fill the 1/2 interlacing gaps, the adjusting block is applied in line with the standard block or the corner block. The left corner block 2 and the right corner block 3 are staggered with a 90° turn, and they are firmly interlocked by inserting the positioning rods into the positioning holes with them. When building more than one room on one floor, the left corner block 2 can be used according to the actual need with the right corner block 3 staggered with 90° or 180° or 270° turns. The whole process of building wall, waterproofing, heat insulation and wall decoration on both inside and outside surfaces can be completed at one time, as the blocks are prefabricated with heat insulation, waterproofing and surface decorative materials, and the wall can be demolished with no damage and rebuilt at will according to user's needs.

When building load-bearing walls, cement, sands, stone grains and reinforcing steel frames are suggested to fabricate the blocks while high-story buildings and partition walls are preferred for lightweight blocks which are made of vitrified beads, ceramic grains, fibrous cloth, straw foam, rock wool or other lightweight materials. If a wall shall have a decorative surface, the surface of the block will be fabricated with a variety of colors or color patterns or with flat or three-dimensional wood, stone, brick, leather, camouflage geometry, trademark designs or figures by spray, mold, film, engraving, pasting or hand-drawing. When the wall is not planned to be removed, cement or permanent adhesive glue can be brushed on the butt of the blocks or the blocks may be stacked at the construction site with cement, structural glue, hot melt plastic, epoxy or mixed materials. Instead of hollow metal, plastic or composite tubes, positioning rods can also be used as power cable pipes, trachea, gas supply pipes, telecommunication wire pipes.

In the foregoing specification, specific embodiments of the invention have been described. However, one of ordinary skill in the art appreciates that various modifications and changes can be made without departing from the scope of the invention as set forth in the claims below. Accordingly, the specification and figures are to be regarded in an illustrative rather than a restrictive sense, and all such modifications are intended to be included within the scope of the invention. The invention is defined solely by the appended claims including any amendments made during the pendency of this application and all equivalents of those claims as issued.

What is claimed are:

1. A SET OF RECYCLABLE CONSTRUCTION BLOCKS comprising

a standard block for constructing buildings

a left corner block for constructing building corners

a right corner block for constructing building corners

an adjusting block for filling the interlace gaps, wherein

each of the standard block, the left corner block, the right corner block and the adjusting block includes:

positioning holes running from the top of the block to the bottom of the blocks

vertical wire pipe holes running from the top of the block to the bottom of the blocks

a convex structure at the top of the blocks

an uninterrupted integral slope structure indented and raised above the top side of the blocks

a concave structure at the bottom of the blocks

concave structures at the one end of the standard block, adjusting block and at both ends of the left corner block and right corner block

a convex structure at the one end of the standard block

2. A SET OF RECYCLABLE CONSTRUCTION BLOCKS according to claim 1, wherein, the dimensional relations between the standard block, the left corner block, the right corner block and the adjusting block are defined as following:

the length of the standard block is L, the width is W;

for the left corner block, the outer length is L+W, the outer width is $\frac{1}{2}L+W$, the inner length is L, and the inner width is $\frac{1}{2}L$;

for the right corner block, the outer length is L+W, the outer width is $\frac{1}{2}L+W$, the inner length is L, and the inner width is $\frac{1}{2}L$;

for the adjusting block, the length is $\frac{1}{2}L$, the width is W;

different lengths and widths of the standard block, the left corner block, the right corner block, and the adjusting block can be calculated according to the above formulas so that the blocks can be perfectly combined to build a house without any cutting of the blocks.

3. A SET OF RECYCLABLE CONSTRUCTION BLOCKS according to claim 1, further comprising

a plurality of **sealing pads** sandwiched between two interlocking blocks stacked upon each other, wherein each of the interlocking blocks is one of the standard block, the left/right corner block and the adjusting block.

4. A SET OF RECYCLABLE CONSTRUCTION BLOCKS according to claim 1, further comprising

decorated surface(s) on one side or both side surfaces of the standard block, the left corner blocks, the right corner block or the adjusting block.

5. A SET OF RECYCLABLE CONSTRUCTION BLOCKS according to claim 1, wherein

besides being used in conjunction with the left corner block, and/or the right corner block to

build a closed wall, the standard block and/or the adjusting block can also be used independently to build a single wall.

6. A SET OF RECYCLABLE CONSTRUCTION BLOCKS according to claim 1, further comprising **positioning rods** inserted into the positioning holes to position and interlock the blocks wherein, the outer diameter of the positioning rods is smaller than the minimum inner diameter of the positioning holes by 1-2 millimeters .

7. A SET OF RECYCLABLE CONSTRUCTION BLOCKS according to claim 1, further comprising **a horizontal groove** formed by the concave structure of the upper block stacked upon the convex structure of the lower block for installing cable and pipes.

8. A SET OF RECYCLABLE CONSTRUCTION BLOCKS according to claim 1, wherein the positioning holes and/or the vertical wire pipe holes running through from the top to the bottom of the standard block, the left corner block, the right corner block and/or the adjusting block are set up in full symmetry, and can be lined up vertically no matter the two up and down adjacent blocks are interlaced with 90° or 180° or 270° turns.

9. A SET OF RECYCLABLE CONSTRUCTION BLOCKS according to claim 1, further comprising **connectors** of the positioning rods which are arranged inside of the built walls in zigzag positions to form a firm structural relationship to resist the strong impact of a object or earthquake.

10. A SET OF RECYCLABLE CONSTRUCTION BLOCKS according to claim 6, wherein the positioning rods may be hollow tubes made of metal, plastic or composite material, or may also be used as a water supply pipe, a power supply pipe, a gas supply pipe or a telecommunication wire pipe, or may also be cast on the construction site with steel bar, cement, structural glue, hot melt plastic, epoxy adhesive or mixed material.

11. A SET OF RECYCLABLE CONSTRUCTION BLOCKS according to claim 4, wherein **the decorated surface(s)** on one side or both side surfaces of the standard block, the left corner blocks, the right corner block or the adjusting block display multiple color or are color pictures, flat or three-dimensional wood patterns, stone, brick, leather, camouflage or figure, photo, geometry, trademark patterns done by means of spray painting, reverse moulding, lamination, engraving, pasting or hand-drawing.

12. A SET OF RECYCLABLE CONSTRUCTION BLOCKS according to claim 4, wherein **the decorated surface(s)** on one side or both side surfaces of the standard block, the left corner blocks, the right corner block or the adjusting block may be made in one body as a part of the blocks or bonded into one body after being made in separate parts, or may also be decorated on one side only.

13. A SET OF RECYCLABLE CONSTRUCTION BLOCKS according to claim 1, wherein either one of the standard block, the left corner block, the right corner block and the adjusting block is possibly made of a mixture of sludge, construction waste, vitrified beads, ceramic grains, fibrous cloth, plant fibers, rock fibers, plastic raw materials or fiberglass with water repellents, modifiers, flame retardants, adhesives, and by adding steel bars, metal fittings to improve the strength.

14. A SET OF RECYCLABLE CONSTRUCTION BLOCKS according to claim 1, wherein either one of the standard block, the left corner block, the right corner block and the adjusting block is possibly made by a process flow of such as crushing, drying, synthesizing, deodorizing,

mixing and shaping, curing, and/or decoration.

The specific process is as follows:

- (1) The solid waste(J) is sent into the crushing center (A) to be crushed into grains (with the exception of silt K);
- (2) Waste with high water content will be sent into the high temperature dehydration center(B) for dehydration, sterilization, deodorization where large quantities of high temperature water vapor(I) obtained will be carried out to the high temperature curing kiln(C).
- (3) The crushed solid waste(L) and the dehydrated sludge will be mixed in a certain proportion with the curing agent, waterproof agent, modifier, flame retardant and binder in the mixing center(D).
- (4) Well mixed materials will be sent to the shaping center(E) to be shaped into embryo blocks.
- (5) The embryo blocks will be sent to the high temperature curing kiln (C) for curing where the condensed water(H) from curing processing will be pumped to the mixing center for reuse.
- (6) After high temperature curing, the blocks will be sent to the finishing center (F) to be decorated according to the requirements of the customers. When necessary, the blocks will be sealed and packaged with synthetic materials to ensure that the whole physical and chemical properties of the blocks are stable and unchanged for a long time.
- (7) The finished blocks will finally be sent to the packaging center (G) to be palletized for delivery to customers;
- (8) The defective blocks produced in the packaging center (G) will be sent to the shaping center (E) for repair while the broken blocks will be sent to the crushing Center (A) and to be crushed again for next processing.

15. A SET OF RECYCLABLE CONSTRUCTION BLOCKS according to claim 1, wherein the standard block, the left corner block, the right corner block and/or the adjusting block may be stacked together with either of a waterproofing adhesive, a fastening adhesive, a structural adhesive, cement or other adhesive material into a firm body.