

CN104060823 A**Title :**

一种现浇混凝土柱模板

One kind of cast concrete column template

Abstract :

本发明公开了一种现浇混凝土柱模板,包括基本拼块和自适应锁扣。所述的基本拼块表面带有圆弧形波纹,可凸向柱模内侧,也可凸向柱模外侧,用于浇筑特殊形状的柱子,如罗马柱。每个基本拼块四周设有环向加劲板和纵向加劲板,环向加劲板和纵向加劲板上设有锁洞,通过在锁洞内穿插自适应锁扣将基本拼块组装成柱模板。基本拼块和自适应锁扣均由高性能复合材料制作而成,重量轻,组装模板简单易行,拆模后易于清理维修,周转次数高。该现浇混凝土柱模板可省去复杂的外围支撑体系,韧性好,强度高,耐冲击和耐磨性好,不存在如钢模板局部敲打易变形、易锈蚀等耐久性问题。

The present invention discloses a method for in-situ concrete column forms, including basic pieces and adaptive lock. The basic pieces of corrugated surface with a rounded, convex to the column may die inside the column can also be convex outer mold for casting specially shaped pillars, such as Roman. Each basic block is surrounded by a ring to fight stiffeners and longitudinal stiffeners, circumferential and longitudinal stiffeners stiffening plate is provided with a lock hole, punctuated by the hole in the lock latch adaptive basic pieces assembled into a column template. The basic pieces and adaptive lock made by high-performance composite materials, light weight, simple assembly template, easy to clean after form removal maintenance, high turnover. The in-situ concrete column template can save complex peripheral support system, good toughness, high strength, impact resistance and wear resistance, there is no beating such as steel template partial deformation, easy to rust durability issues.

Claim(s) :

1. 一种现浇混凝土柱模板,包括基本拼块(1)和自适应锁扣(6),其特征在于:所述的基本拼块(1)表面带有圆弧形波纹(10),可凸向柱模内侧,也可凸向柱模外侧。
2. 根据权利要求1所述的一种现浇混凝土柱模板,其特征在于:所述的基本拼块(1)和自适应锁扣(6)由高性能复合材料制作而成。
3. 根据权利要求1所述的一种现浇混凝土柱模板,其特征在于:所述的基本拼块(1)四周设有环向加劲板(2)和纵向加劲板(3)。
4. 根据权利要求1所述的一种现浇混凝土柱模板,其特征在于:所述的基本拼块(1)设有环向短肋(4)和纵向短肋(5)。
5. 根据权利要求3所述的一种现浇混凝土柱模板,其特征在于:所述的环向加劲板(2)和纵向加劲板(3)上设有锁洞(7)。
6. 根据权利要求5所述的一种现浇混凝土柱模板,其特征在于:所述的锁洞(7)截面与自适应锁扣(6)截面形状相吻合。
7. 根据权利要求1所述的一种现浇混凝土柱模板,其特征在于:所述的基本拼块(1)沿环向可分为半圆拼块或1/3拼块或1/4拼块,基本拼块(1)沿环向的数目可根据柱的大小而调节。

- 1 A cast concrete column forms, including basic pieces (1) and adaptive lock (6), characterized in that: said (1) basic pieces with arc-shaped corrugated surface (10), may be convex to the inside of the column mode, column mode can also be convex to the outside.
- 2 The system of claim 1, wherein the in-situ concrete column forms, characterized in that: the basic pieces (1) above And adaptive lock (6) is made by the high-performance composite materials.
- 3 according to an in-situ concrete column template according to claim 1, characterized in that: the basic pieces (1) above Surrounded by a ring to the stiffener (2) and longitudinal stiffeners (3).
- 4 according to an in-situ concrete column template according to claim 1, characterized in that: the basic pieces (1) above Has a ring to the short ribs (4) and longitudinal short ribs (5).
- 5 according to an in-situ concrete column template according to claim 3, wherein: said circumferential stiffening plate (2) And longitudinal stiffeners provided (3) on the lock hole (7).

6 according to an in-situ concrete column template according to claim 5, characterized in that: the locking hole (7) cross-section Adaptive lock (6) cross-sectional shape match.

.

7 according to an in-situ concrete column template according to claim 1, characterized in that: the basic pieces (1) above Along the ring to be divided into blocks (1) along the ring according to the number of large semi-circular column tile pieces or 1/3 or 1/4 pieces, the basic fight Small and regulation.

Description :

一种现浇混凝土柱模板 技术领域

[0001] 本发明涉及建筑施工领域，具体指一种现浇混凝土柱模板。 背景技术

[0002] 建筑模板是混凝土结构工程施工的重要工具。目前建筑施工领域常用的柱模板为 木模板、钢模板。木模板重量轻，搬运方便，切割灵活，但占地面积大，强度低，损耗大，不宜 重复使用，周转次数小，组合刚度相对较小，外围支撑体系十分复杂。钢模板部件强度高，组合刚度大，拼缝严密不易变形，但钢模板重量重，安装期间需要吊车辅助作业，所花费的机械台班数量大，而且钢模板综合单价较高，拆模时存在局部敲打易变形、易锈蚀等耐久性问题。为解决木模板和钢模板存在的各种不足，本发明提供了一种现浇混凝土柱模板，该模板 采用高性能复合材料制作而成，且能用于浇筑特殊形状柱子，如罗马柱。 发明内容

[0003] 本发明的目的在于提供一种重量轻，组装模板简单易行，拆模后易于清理维修，周转次数高，能省去复杂的外围支撑体系，韧性好，强度高，耐冲击和耐磨性好，不存在如钢模板局部敲打易变形、易锈蚀等耐久性问题的现浇混凝土柱模板。

[0004] 本发明的目的是这样来实现的，该现浇混凝土柱模板包括基本拼块和自适应锁扣，所述的基本拼块表面带有圆弧形波纹，可凸向柱模内侧，也可凸向柱模外侧。圆弧形波纹凸向柱模内侧，可用于特殊形状的柱模，如罗马柱模；圆弧形波纹凸向柱模外侧，也可用于特殊形状的柱模，如罗马柱模。通过在基本拼块表面设置圆弧形波纹，用于浇筑特殊形状的柱子，浇筑而成的柱子表面也因此带有圆弧形波纹，外形美观，经济实用。

[0005] 本发明的特征还在于所述的基本拼块和自适应锁扣由高性能复合材料制作而成。高性能复合材料，如GFRP（玻璃纤维增强塑料），韧性好，轻质高强，耐冲击和耐磨性好，不存在如钢模板局部敲打易变形、易生锈等耐久性问题。

[0006] 本发明的特征还在于所述的基本拼块四周设有环向加劲板和纵向加劲板。设置环向加劲板和纵向加劲板可以增加基本拼块沿环向与纵向的刚度，同时利于基本拼块沿环向和纵向的简单快速拼装。从而增强该模板的组合刚度，保证现浇混凝土柱严格按设计要求 施工成形。

[0007] 本发明的特征还在于所述的基本拼块设有环向短肋和纵向短肋。设置环向短肋可增大基本拼块的环向刚度及凹槽处的局部刚度。设置纵向短肋可增大基本拼块纵向拼装处的局部刚度。从而增强该模板的组合刚度，保证现浇混凝土柱严格按设计要求施工成形。

[0008] 本发明的特征还在于所述的环向加劲板和纵向加劲板上设有锁洞。锁洞内可穿插 自适应锁扣，从而将基本拼块快速组装成柱模。

A cast concrete column template technology in the field

[0001] The present invention relates to the field of construction, specifically refers to a cast concrete column template. BACKGROUND

[0002] is an important tool for building templates concrete structural engineering construction. Currently the building construction field column templates for commonly used wooden template, steel template. Wooden template light weight, easy handling, cutting flexible, but large area, low intensity, big loss, not reusable, small turnaround times, combined stiffness is relatively small, peripheral support system is very complex. High strength steel template component, a combination of stiffness, patchwork tight and difficult to deformation, but the weight of heavy steel template, crane auxiliary operations required during installation, a large number of Jixietaiban spent, and the higher price of steel template synthesis, the presence Chaimo local beat easily deformed, easy to rust durability issues. In order to solve a variety of wood and steel template templates existing problems, the present invention provides a cast concrete column template, which is made using high-performance composite materials, and can be used for special shapes pouring columns, such as Roman. SUMMARY

[0003] The present invention is to provide a lightweight, simple assembly template, easy to clean after form removal maintenance, high turnover, can save complex peripheral support system, good toughness, high strength, resistance shock and wear resistance, there is no beating such as steel template partial deformation, easily corroded cast concrete column forms and other durability problems.

[0004] The present invention is achieved, the in-situ concrete column forms including basic pieces and adaptive locking, the tile surface with a substantially arc-shaped corrugations, may projection to column mold the inside, but also outside of the convex mold to the column. Column mold convex arc-shaped corrugated inner side of the pillar mold can be used for special shapes, such as the Roman mold; Column mold to mold the convex arc-shaped corrugated outer column can also be used for special shapes, such as the Roman mold. By setting basic tile surface arc-shaped

[0009] 本发明的特征还在于所述的锁洞截面与自适应锁扣截面形状吻合。自适应锁扣与锁洞截面形状吻合,使自适应锁扣能穿插在锁洞中,实现拼块之间的连接固定。

[0010] 本发明的特征还在于所述的基本拼块沿环向可分为半圆拼块或1/3拼块或1/4拼块,基本拼块沿环向的数目可根据柱的大小而调节。柱直径越大,基本拼块沿环向的数目就越多。施工人员可根据场地要求和操作难易程度选择基本拼块的形式,从而实现现浇混凝土柱模板的快速拼装。

[0011] 以下结合附图和具体实施例对本发明进行详细描述。附图说明

[0012] 以下附图中,1为基本拼块,2为环向加劲板,3为纵向加劲板,4为环向短肋,5为纵向短肋,6为自适应锁扣,7为锁洞,8为钢筋笼,9为混凝土,10为圆弧形波纹。

[0013] 图1为圆弧形波纹凸向柱模内侧的柱模板示意图;

[0014] 图2为圆弧形波纹凸向柱模外侧的柱模板示意图;

[0015] 图3为圆弧形波纹凸向柱模内侧的1/4拼块平面结构布置示意图;

[0016] 图4为圆弧形波纹凸向柱模外侧的1/4拼块平面结构布置示意图;

[0017] 图5为圆弧形波纹凸向柱模内侧的半圆拼块平面结构布置示意图;

[0018] 图6为圆弧形波纹凸向柱模外侧的半圆拼块平面结构布置示意图;

[0019] 图7为自适应锁扣组成示意图;

[0020] 图8为自适应锁扣与锁洞截面形状吻合示意图;

[0021] 图9为自适应锁扣插入锁洞过程示意图;

[0022] 图10为圆弧形波纹凸向柱模内侧的1/4拼块环向拼装示意图;

[0023] 图11为圆弧形波纹凸向柱模外侧的1/4拼块环向拼装示意图;

[0024] 图12为圆弧形波纹凸向柱模内侧的1/4拼块环向拼装俯视示意图;

[0025] 图13为圆弧形波纹凸向柱模外侧的1/4拼块环向拼装俯视示意图;

[0026] 图14为圆弧形波纹凸向柱模内侧的柱模板整体拼装示意图;

[0027] 图15为圆弧形波纹凸向柱模外侧的柱模板整体拼装示意图。具体实施方式

[0028] 本发明如附图1~15所示。

[0029] 图1~2为圆弧形波纹凸向柱模内侧和外侧的柱模板示意图,该现浇混凝土柱模板包括基本拼块1和自适应锁扣6,所述的基本拼块1表面带有圆弧形波纹10,可凸向柱模内侧,也可凸向柱模外侧。图3~6为基本拼块平面结构布置示意图。图3和图5为圆弧形波纹10凸向柱模内侧的1/4拼块和半圆形拼块平面结构布置示意图,由该1/4拼块和半圆形拼块拼装而成的柱模可用于浇筑特殊形状的柱子,如罗马柱。图4和图6为圆弧形波纹10凸向柱模外侧的1/4拼块和半圆形拼块平面结构布置示意图,由该1/4拼块和半圆形拼块拼装而成的柱模也可用于浇筑特殊形状的罗马柱。图3~4为1/4拼块,图5~6为半圆拼块。4块1/4拼块或2块半圆拼块即可组装成特殊截面形状的柱模,再通过竖向的拼装形成现浇混凝土柱模板,即可浇筑混凝土柱。基本拼块1之

corrugated special shape for pouring columns, pouring from the post also carries the arcuate surface corrugation, beautiful appearance, economical and practical.

[0005] The present invention is also characterized in that the basic pieces and adaptive lock made from high performance composite material formed. High-performance composite materials such as GFRP (glass fiber reinforced plastics), good toughness, lightweight, high strength, impact resistance and wear resistance, there is no such as steel t Dae board local knock deformation, and so prone to pound durability issues.

[0006] The present invention is also characterized in that the basic pieces surrounded by a ring to the stiffeners and longitudinal stiffeners. Setting ring may increase the stiffeners and longitudinal stiffeners basic pieces along the circumferential and longitudinal stiffness, while in favor of basic pieces along the circumferential and longitudinal simple and fast assembly. Thereby enhancing the combined stiffness of the template to ensure that in-situ concrete column forming in strict accordance with the design requirements of the construction.

[0007] The present invention is also characterized in that the basic pieces with a hoop and longitudinal short ribs short ribs. Set ring to the short ribs to increase the local stiffness ring stiffness and recess basic pieces to. Set short longitudinal rib can be increased substantially longitudinal pieces assembled at the local stiffness. Thereby enhancing the combined stiffness of the template to ensure that in-situ concrete column forming in strict accordance with the design requirements of the construction.

[0008] The present invention is also characterized in that the ring is provided with a lock hole to stiffeners and longitudinal stiffening plate. Inside can be interspersed adaptive lock latch, which will be assembled into basic pieces fast column mode.

[0009] The present invention is further characterized in that said lock adaptive lock hole cross section consistent cross-sectional shape. Adaptive locking lock hole coincide with the cross-sectional shape, the adaptive lock can be interspersed in the lock hole, realize the connection between the fixed pieces.

[0010] The present invention is also characterized in that the basic pieces can be divided along the circumferential semicircular pieces or 1/3 or 1/4 tile fight three, the number of basic pieces along the circumferential available adjusted according to the size of the column. The larger the column diameter, the greater the number of basic pieces along the loop direction. Construction workers can choose to fight in the form of a basic block level according to site requirements and ease of operation, enabling rapid assembly situ concrete column template.

[0011] The following accompanying drawings and specific embodiments of the present invention will be described in detail. Brief Description

[0012] The following drawings, 1 is the basic pieces, 2 for the ring to stiffeners, longitudinal

间通过自适应锁扣6连接 拼装, 操作简单, 连接牢靠, 组模快, 且浇筑形成的柱子外形美观, 省去了复杂的外围支撑体系。施工时先放置钢筋笼8, 然后拼装基本拼块1形成整体柱模板, 再浇筑混凝土 9, 养护一段时间拆除模板, 即能看到外形美观且经济实用的罗马柱。

[0030] 基本拼块1和自适应锁扣6由高性能复合材料制作而成。高性能复合材料, 如 4 GFRP (玻璃纤维增强塑料), 韧性好, 轻质高强, 耐冲击和耐磨性好, 不存在如钢模板局部敲 打易变形、易生锈等耐久性问题, 同时避免了木模板组合刚度低、损耗大且周转次数小的缺点。

[0031] 基本拼块1四周设有环向加劲板2和纵向加劲板3。设置环向加劲板2和纵向加劲板3可以增加基本拼块1沿环向与纵向的刚度, 同时利于基本拼块1沿环向和纵向的简单快速拼装。从而增强该模板的组合刚度, 保证现浇混凝土柱严格按设计要求施工成形。

[0032] 基本拼块1设有环向短肋4和纵向短肋5。设置环向短肋4可增大基本拼块1的环向刚度及凹槽处的局部刚度。设置纵向短肋5可增大基本拼块1纵向拼装处的局部刚度。从而增强该模板的组合刚度, 保证现浇混凝土柱严格按设计要求施工成形。

[0033] 环向加劲板2和纵向加劲板3上设有锁洞7, 锁洞7用于穿插自适应锁扣6, 从而实现基本拼块1之间的连接拼装。

[0034] 图7为自适应锁扣组成示意图; 自适应锁扣6形状似钥匙, 可分为匙头6. 2、匙尾 6. 1、匙柄6. 3和挡板6. 4。匙头6. 2与锁洞7截面形状相吻合, 但尺寸略小, 便于穿插过锁洞7; 匙柄6. 3截面呈圆形, 能在锁洞7中自由旋转360度, 锁洞7最小内径大于匙柄6. 3最大外径, 从而能保证匙柄6. 3能在锁洞7中自由旋转; 匙尾6. 1略大, 且设有挡板6. 4, 不能从锁洞中穿过。匙柄6. 3的长度略大于环向加劲板2或纵向加劲板3厚度的2倍。

[0035] 图8为自适应锁扣与锁洞截面形状吻合示意图。黑色线外框围成的表示锁洞7, 填充部分表示自适应锁扣6, 锁柄6. 3呈圆形截面, 区别就在于锁洞7中间部分有圆形洞与弧形洞两种情况。自适应锁扣6与锁洞7截面形状吻合, 如同钥匙与门开锁洞, 门锁锁洞的截面形状决定了钥匙的截面形状, 钥匙能将门锁打开。图9为自适应锁扣插入锁洞过程示意图。拼装基本拼块1时, 将基本拼块1之间相应的环向加劲板2和纵向加劲板3对齐, 从而两锁洞7也相应对齐。自适应锁扣6的匙头6. 2穿过两对齐的锁洞7到达另一端, 匙尾 6. 1略大, 且设有挡板6. 4, 因此不能通过两对齐的锁洞7从而留在了两对齐锁洞7的另一侧, 然后转动匙头6. 2一定角度, 使其与锁洞7相对错动, 这样自适应锁扣6就将基本拼块1拼装成了柱模板。

[0036] 图10~图11为圆弧形波纹凸向柱模内侧和外侧的1/4拼块环向拼装示意图。图12~图13为圆弧形波纹凸向柱模内侧和外侧的1/4拼块环向拼装俯视图。拼装而成的柱模板内部截面形状即是所需浇筑柱子的截面形状。

[0037] 基本拼块1沿环向可分为半圆拼块或1/3拼块或1/4拼块, 基本拼块1沿环向的数目可根据柱的大小而调节。柱直径越大, 基本拼块1沿环向的数目就越多。以上所说半圆拼块或1/3拼块或1/4拼块, 并不作为本申请的限制, 施工人员可根据场地要求和操作难易确定基本拼块1的形式, 从而实现现浇混凝土柱模板的快速拼装。

[0038] 图14~15为圆弧形波纹凸向柱模内侧和外侧的柱模板整体拼装示意图。拼装而成的柱模板组合刚度大, 无需增设复杂的外围支撑体系即可保证现浇混凝土柱严格按照设计要求施工成形, 且拆模简便迅速, 拆模后易于清理与维修, 周转次数高, 经济适用。5

stiffeners 3, 4 ring to short rib, short rib 5 is a longitudinal, 6 adaptive lock, 7 is a lock hole, steel cage 8, 9 is a concrete, 10 arc-shaped ripples.

[0013] 1 is a schematic diagram of the arc-shaped corrugated convex column to column template mold inside;

[0014] FIG. 2 is a convex arc-shaped corrugated column to column template mold outside schematic;

[0015] FIG. 3 is an arc-shaped pieces of corrugated projection plane schematic structural arrangement inside the cylinder mold 1/4;

[0016] FIG. 4 is an arc-shaped corrugated outer convex to the column mold pieces 1/4 schematic arrangement of a planar structure;

[0017] FIG. 5 is an arc-shaped pieces of corrugated projection plane schematic structural arrangement inside the cylinder mold semicircle;

[0018] FIG. 6 is an arc-shaped corrugated outer convex to the column mold semicircle pieces schematic arrangement of a planar structure;

[0019] FIG. 7 is a schematic diagram of an adaptive catch composition;

[0020] FIG. 8 is a cross-sectional shape of the adaptive lock lock hole coincide schematic;

[0021] FIG. 9 is an adaptive process schematic buckle into the lock hole;

[0022] FIG. 10 is an arc-shaped corrugated convex mold to fight to the inside of the column 1/4 block schematic diagram of the ring assembly;

[0023] FIG. 11 is an arc-shaped corrugated convex to the 1/4-post mode outside the ring schematic pieces to assemble;

[0024] FIG. 12 is an arc-shaped corrugated convex toward the inside of the cylinder mold hoop 1/4 pieces assembled a schematic plan view;

[0025] FIG. 13 is an arc-shaped corrugated outer convex mold to column 1/4 pieces assembled schematic plan view of the hoop;

[0026] FIG. 14 is an arc-shaped corrugated lug template to post the whole schematic assembled inside the mold;

[0027] FIG. 15 is a convex arc-shaped corrugated column to column template mold assembly outside the overall schematic. DETAILED DESCRIPTION

[0028] The present invention as shown in the drawings 1~15.

[0029] FIG. 1 to 2 arc-shaped corrugated boss schematic template to mold the inside and outside of the column, the in-situ concrete column forms including basic pieces 1 and adaptive lock 6, wherein the basic fight 1 with an arc-shaped corrugated surface of the block 10 can be convex toward the inside of the column mode can also be protruding outward column mode. Figure 3 ~ 6 pieces basic schematic arrangement of a planar

structure. Figure 3 and Figure 5 is an arc-shaped corrugated projections 10 1/4 pieces and semicircular pieces flat structure to a column layout schematic of the inside of the mold, 1/4 block from this fight and semicircular pieces assembled from the column column mode can be used for pouring special shapes, such as Roman. Figure 4 and Figure 6 is an arc-shaped bellows 10 convex to the outside of the column mold 1/4 pieces and semicircular pieces schematic arrangement of a planar structure, 1/4 block from this fight and semicircular pieces assembled from the column mode can also be used for casting special shape Roman. Figure 3 to 4 1/4 pieces, Fig. 5 to 6 semicircular pieces. 4 1/4 pieces or two pieces can be assembled into a semi-circular cross-sectional shape of the post of special mold, then formed in-situ concrete column template through vertical assembly, then pouring concrete columns. The connection between the basic pieces 1 through 6 adaptive lock assembly, simple, reliable connection, set of die fast, and formed the pillars pouring appearance, eliminating the need for complex peripheral support system. Placed first construction steel cage 8, and then assembled to form an overall basic pieces a column template, and then pouring concrete 9, after removal of the template curing period of time, that is able to see beautiful appearance and economical Roman column.

[0030] The basic pieces 1 and adaptive latch 6 is made by the high-performance composite materials. High-performance composite materials, such as 4 GFRP (glass fiber reinforced plastics), good toughness, lightweight, high strength, impact resistance and wear resistance, there is no beating such as steel template partial deformation, rust and other durability problems, while avoiding wooden template combination of low stiffness, loss of a large number of minor faults and turnover.

[0031] The basic pieces 1 is surrounded by a ring to the stiffeners 2 and 3 longitudinal stiffeners. Setting ring stiffeners to longitudinal stiffeners 2 and 3 may increase the basic pieces 1 in the hoop and longitudinal stiffness, while in favor of basic pieces 1 along circumferential and longitudinal simple and fast assembly. Thereby enhancing the combined stiffness of the template to ensure that in-situ concrete column forming in strict accordance with the design requirements of the construction.

[0032] 1 basic pieces of short rib 4 with a hoop and longitudinal short rib 5. Setting ring short rib 4 can be increased to basic pieces of ring 1 local stiffness of the stiffness and recess. Set short longitudinal rib 5 basic pieces can be increased local stiffness longitudinally assembled at. Thereby enhancing the combined stiffness of the template to ensure that in-situ concrete column forming in strict accordance with the design requirements of the construction.

[0033] has a lock hole 7 on 3 hoop stiffening plate 2 and longitudinal stiffeners, lock hole 7 for adaptive locking interspersed 6, in order to achieve the basic pieces assembled a connection between.

[0034] FIG. 7 is a schematic diagram of an adaptive catch composition; adaptive buckle

shaped like a key 6, can be divided into head 6.2 spoon, spoon the end of 6.1, 6.3 and bezel spoon handle 6. 4. Spoon head 6.2 7 cross-sectional shape of the lock hole match, but slightly smaller size, easy inserted through the lock hole 7; spoon handle 6.3 circular cross-section, can freely rotate 360 degrees in the lock hole 7, the lock hole 7 The minimum diameter greater than the maximum outer diameter of 6.3 spoon handle, which can guarantee the spoon handle 6.3 can rotate freely in the lock hole 7; 6.1 Tail slightly larger spoon, and a bezel 6.4, not from the lock hole In passing through. 2 times the length of the spoon handle 6.3 is slightly larger than the hoop stiffeners or longitudinal stiffeners 2 3 thickness.

[0035] Figure 8 is a cross-sectional shape of an adaptive lock with a lock hole anastomosis Fig. Black wire frame representation enclosed lock hole 7, 6 filling portion represents the adaptive lock, the lock lever 6.3 circular cross section, the difference lies in the middle part of the lock hole 7 has a circular hole with a curved hole in both cases. Adaptive lock lock hole 6 and 7 sectional shape consistent with the cross-sectional shape as the key hole door lock, door lock hole determines the cross-sectional shape of the key, the key can open the lock. Figure 9 is an adaptive process schematic lock into the lock hole. Assembling basic pieces 1:00, the basic pieces corresponding to the stiffening ring 3 Align plate 2 and longitudinal stiffeners between 1 so that the two lock hole 7 is aligned accordingly. Adaptive head lock key 6 6.2 through two aligned locking hole 7 reaches the other end, because spoon tail 6. Shang slightly larger and has baffles 6.4, and therefore can not be justified by two lock hole 7 thus stay in the other side of the two aligned locking hole 7, then turn key head 6.2 - given the angle so that it is relatively dislocation lock hole 7, so adaptive lock 6 will become basic pieces assembled 1 column template.

[0036] FIG. 11 is a circular arc 10~ corrugated convex column mode to fight inside and outside the ring 1/4 block schematic diagram of the assembly. FIG. 13 is a circular arc 12~ corrugated convex mold inside and outside of the column to 1/4 pieces assembled schematic plan view of the hoop. Column template assembled from internal cross-sectional shape that is the cross-sectional shape of the desired casting the column.

[0037] The basic pieces a semicircle along the ring to be divided into pieces or 1/3 or 1/4 tile pieces, a number of basic pieces along the hoop can be adjusted according to the size of the column. Column diameter, the greater the more basic pieces along the ring to the number 1. Semicircle above mentioned pieces or 1/3 or 1/4 tile pieces, and not as a limitation of the present application, the construction may be based on site requirements and ease of operation to determine the basic pieces in the form of 1, in order to achieve in-situ concrete Fast assembly column template.

[0038] FIG. 14~15 convex arc-shaped bellows assembly schematic overall column to column template mold inside and outside. Assembled from a combination of column template stiffness without adding complex peripheral support system to

ensure the in-situ concrete column forming construction in strict accordance with the design requirements, and quick and easy form removal after Chaimo easy to clean and repair, turnover is high, the economy apply. 5

Date translated: 23 January 2016