

High-Pressure Permeable Concrete Block

Current waste, future material



About Health Root

Established in 1992, Health Root Co., Ltd. mainly focused on special waste recycling sector. The core products include hollow bricks, pavement bricks, and high-pressure permeable concrete block. The firm aims at researching the feasibility of reusing the discarded compression molding compound from the IC packaging and testing industry. Via the Industry - academia partnership, Health Root obtained the permit of reusing discarded compression molding compound from the Industrial Development Bureau in 2018. Furthermore, its high-pressure permeable concrete block created from discarded compression molding compound was certified with carbon label from the Environmental Protection Agency in 2019.

Maintaining the 3 management principles of innovation, creativity and design, Health Root will continue to launch new products with the derived products from the recycled waste. The firm will proactively expand to global markets by the precondition of advocating environmental protection and circular economy.



Product Introduction

The high-pressure permeable concrete block produced by Health Root use discarded compression molding compound from scraps of IC packaging and testing industry as the material. This material could replace the gravel pellets in the conventional paver, thus reducing the excavation of gravel and protecting the ecosystem. Moreover, using discarded compression molding compound as material could significantly reduce the carbon emission from the manufacturing process, while maintaining the firmness and durability properties. The product, indeed an exceptional low carbon building material for the construction of "Sponge City," fulfills CNS 13295 Compressed Concrete Block Standards and CNS14995 Permeable Concrete Block Standards respectively in the field of compressive strength and water permeability.

80-90% of discarded compression molding compound is silicone dioxide or synthetic silicon, which are difficult to conduct waste treatment in an eco-friendly way. In the initial stage, the semiconductor packaging and testing companies incinerate or bury the waste, which in turn causes the growth of slag from the incinerators and thus increases the burden on the environment. The spotlight of Health Root technology is that it utilizes silicon dioxide material properties to achieve low carbon production process through special treatment, which transforms the discarded compression molding compound pellets into compressed bricks, permeable bricks, or high-pressure permeable concrete block. The scope of application is expanded to realize the concept of circular economy; therefore, the firm fulfills its corporate social responsibility.



Installing a pathway with high-pressure permeable concrete block



High-Pressure Permeable Concrete Block

Product Features



High Water Drainage Rate

Fulfill the CNS 14995 standards which coefficient of permeability $\geq 1.0 \times 10^{-2}$ cm/s, therefore the pavement does not accumulate water when raining.



High Compression Strength

Fulfill the CNS 13295 standards, providing block with a compression strength of 17Mpa~32Mpa, strong and durable.



Low Pollution for the Manufacturing Process

Compared with the conventional brick production process, it effectively reduces the carbon emissions and wastewater.



Eco-friendly Recycled Materials

The utilization rate of discarded compression molding compound reaches up to 45%, thus reducing the excavation of gravel.

Product Applications

The high-pressure permeable concrete block may be applied as material for landscaping and building construction, and widely applied to private residence or public facilities, such as campuses and parks, and the public construction, e.g., sidewalk and pavements for outdoor parking lots. Health Root provides gray and red permeable bricks for color matching and related applications.



High-pressure permeable concrete block applied to outdoor parking lot.