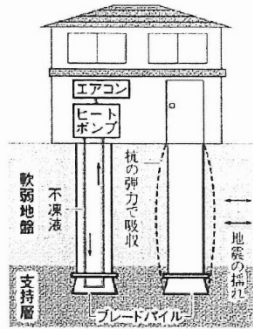


新聞掲載記事

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「住環境設計室」が独自工法 地震被害ゼロで問い合わせ急増



福島県郡山市の設計建築会社「住環境設計室」が開発した住宅向け免震基礎工法が東日本大震災後、注目を集めている。安価で工期も早く、震災の地震の揺れによる被害はゼロという。鋼管を介して地中熱を利用できる利点もあり、東北独自の技術としてアピールしている。

この免震工法はねじれた先端部に円盤が付いた「ブレードディスクパイプ」という特殊な形状の鋼管杭(くい)を使用。住宅の基礎として地中に埋め、鋼管の弾力性で地震の力を受け流す。杭の形状で、国土交通相の認定を2件取得した。

日大工学部(郡山市)との共同研究では最大振幅で約90%、最大加速度が約60%いずれも減少し、高い免震効果が裏付けられたという。

工費は地盤の性質などで変わり、延べ床面積約130平方メートルの2階住宅で、長さ4～8メートルの杭を15～20本使用して80万～130万円。一般的な免震工法の3分の1以下という。工期は1、2日で、メンテナ

ンスも不要。

地中熱を活用できるメリットもあり、杭内部で不凍液を循環させればヒートポンプの熱源になり、冷暖房などに使える。

同社の影山千秋社長によると、2000～10年の施工実績は震災被害が大きかった岩手、宮城、福島3県で516件、東北全体では1098件。地震の揺れによる建物被害はないという。

震災以降、工法に関する問い合わせが増えており、特に西日本の業者から施工代理店などになりたいという申し出が相次いでいる。

同社と共同研究を進めている日大工学部機械工学科の加藤康司教授(東北大名誉教授)は「免震、エコの両面で震災後の社会を変える可能性のある技術。安価な鋼管を使うので国際的な普及にも障害はない。こうした技術を地域でもり立てていけば、東北独自の産業興しにつながる」と話す。

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Original method made by “Housing Environment Design Office” No damage from the quake, receives a lot of inquiry.

Aseismic Basic Method, developed by an architect company in Koriyama city, Fukushima ken, is getting a center of attention after the eastern Japan great earthquake. It is cheap price, fast to install and zero damage by the quake. This method also has a merit of using ground heat through the steel pipe, and the company is spreading its new method as an original northeast Japan method, where the earthquake had occurred.

This method uses a specially formed steel pipe pile, where its twisted tip of this pile has a disk called “Blade Disk Pile” to be embedded into the ground as a base of a house to use its elasticity power of the steel tube to fend off the quake force. By this original shape of the pile, the company had obtained two approvals from the Ministry of Land and Transport.

Joint study with University of Japan, Engineering Dept. (Koriyama-city) proved the maximum 90% of decrease of amplitude, 60% of maximum increase of the velocity and it proved very high aseismic properties.

The cost of installation varies from the type of the ground, etc. For two-stories house of 130 m² floor area needs 15 to 20 piles of 4-8m, and it will cost at around 800.000 to 1.200.000 yen. This is one third of the general aseismic method's price. The installation period shall be taken one to two days and no need to do any maintenance work.

Also, this method has a merit to use ground heat to circulate anti-freezing solution to be a source of heat pump and can be used for air-conditioning properties, too.

According to president Kageyama Chiaki, of said company. The installation has been done to 516 houses in Iwate, Miyagi and Fukushima prefectures where the damage of the earthquake was quite severe. 1098 houses for whole Tohoku region. There was no damage to the buildings by the quake.

After a big earthquake, the company has been receiving more and more inquiries, especially western Japan agencies wishes to be an agency for this installation method.

Professor Kato koji (honorary prof. at Tohoku Univ.), from Japan University Engineering Dept. Machinery Engineering Div. states that “ This method has possibilities both aseismic and ecological point of view and can change the society after the earthquake. It shall have no problem of spreading

internationally because of cheap steel tube is used. If we expand this techniques as our regions speciality, that could be a fuel for Tohoku region's industry boom.

