

Study of how to grasp design information toward understanding the performance evaluation of existing homes

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1, Introduction

In the Ministry of Land, Infrastructure, Transport and Tourism, we organize "Comprehensive plan for renovation and distribution of existing home" in March 2012. In line with this plan, we are promoting several measures, that dissemination of housing performance indication system, or expansion of residential history information system, for improvement of durable and quality of housing stock. In National Institute for Land and Infrastructure Management, We are developing of techniques and methods that can evaluate the performance of the housing, even in situations where the design drawings or specifications are scattered and lost.(1).

In this paper, we will report on the survey on the design specifications of the existing house, which was carried out as part of the study of methods to estimate the characteristics of each part from housing distribution, for design information underlying on the basic of the performance evaluation of existing homes (Information of used materials and part material components).

2. Cases overview and analysis of research on design specifications

As data to estimate the materials and construction methods of wooden house, "The specifications of the Government Housing Loan Corporation (GHLC specifications)" is a leading material. We have considered the so-called

conventional wooden house construction methods, and have been built along the transition of the Corporation generally specification. However, an aspect of the variation due to regional differences and production building, have almost not been investigated so far.

Therefore, for the aim of understanding the realities of the design and specifications of an existing wooden detached house built by the regional small and medium housing builder companies, we conducted a survey of existing homes publications of the drawings available, which were built by home building companies with a proven track record of supplying housing which complying with GHLC specifications over the past 30 years. Using the research method of extracting a description indicating the materials and construction method, which is used by the drawings that are stored, we recorded the data by age and material of the structure of the housing, on the actual conditions of the construction methods.

The survey up to FY 2012, we have gained the data obtained about 650 of wooden detached house by 14 builders in Hokkaido, Tohoku, Kanto, Chubu, and Chugoku area.

Figure is obtained by plotting items of transition period related to description of GHLC specifications for each builders. We gained the summary of the item that GHLC specifications is leading and the item which has less relationship in terms of the timing for the introduction of materials and construction methods of each

Research trend and results

builder for corporation for the transition of the specification shown in Red-wave-line. On the other hand, in order to grasp the regional trend, it will be necessary to obtain more data.

【Reference】

1) Comprehensive Technology Development Projects "Development on performance evaluation technologies for home inspection to reduce uncertainty of existing home sales (2011-2014)"
<http://www.mlit.go.jp/tec/gijutu/kaihatu/pdf/soupro011.pdf>

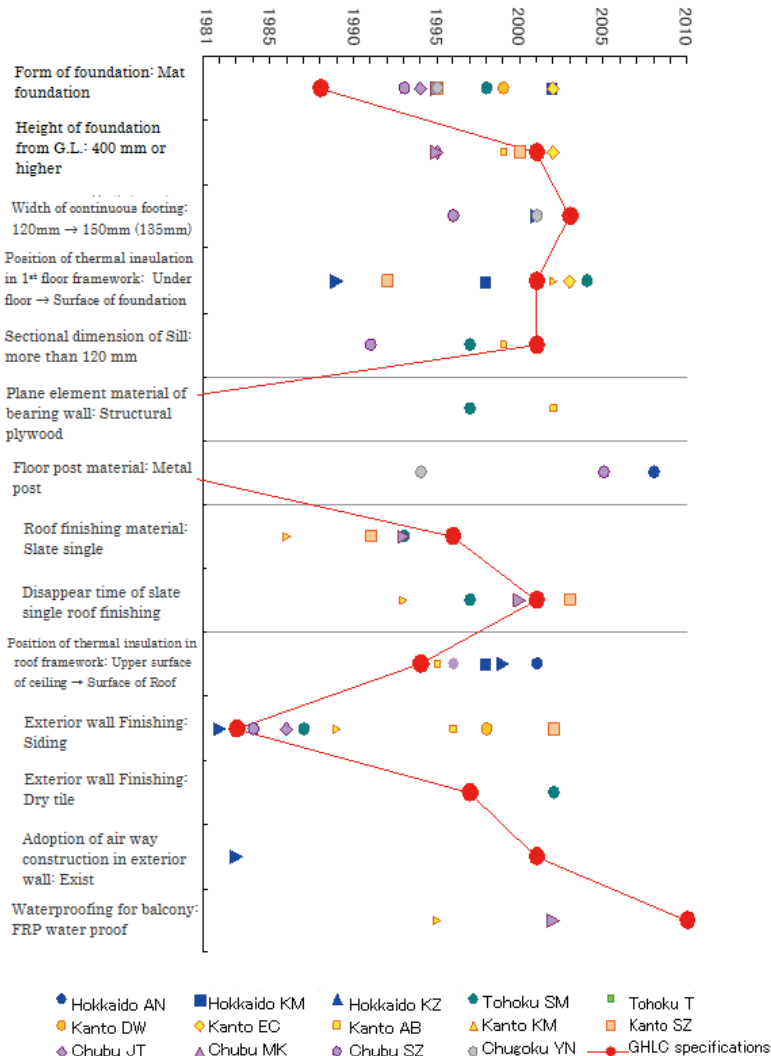


Figure: Transition period of design specifications

3. Subject of future investigation

For existing homes the drawing was dissipated, we plan to develop a database of the transition of the design specification with high accuracy for the establishment of a method as a clue to set the "Considered Specifications" deemed the characteristics of the materials and construction methods to retrieve data and to expand the broader realities of construction cases.