Research on Diagnostic Costs for Exterior Walls of Buildings

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(Key words) Exterior wall diagnosis, Diagnostic costs, Periodical report system

1. Introduction

Inasmuch as professional knowledge and technology are required for research/diagnosis for mortar finished exterior walls, although it is generally asked of building diagnosis operators, with reference to the diagnostic cost proposed from the operators, a great many have commented on the inability to judge whether or not it is a fair price. Information on research costs is scarcely publicized and information as serving as materials for these judgments has yet to be improved.

Based on this situation, in order to comprehend prices and price compositions or the like in the research diagnosis for exterior walls, we carried out a questionnaire survey targeting building diagnostic operators.

2. Research method

In the survey, we configured two categories of RC condominiums (5 story/gross floor area 1,814m^2: Building A and 11 story building/5,887m^2: building B) as model buildings, and collected information on exterior wall diagnosis costs by percussion diagnosis and infra-red rays, operation items and those compositions in the estimate, and the standard unit prices of each operation.

In calculating the costs, on the presumption of a case when required for "diagnosis only" exists in multiple classes in ordinary diagnostic operations, we asked for submission of data capable of examining each cost.

In consideration of regional characteristics and firm size for these surveys, we divided the whole nation into six areas and collected data from research diagnostic operators.

3. Outline of survey results

1) Diagnostic costs by percussion method

In regard to the estimated amount of the percussion method, the variability of the total costs (direct cost, temporary stage + miscellaneous expenses) was great and the maximum/minimum reached to about 30 times in two model cases. In this survey, due to the condition of the temporary stage to be configured by the operators' side, the costs of temporary stages between the one by strut scaffolding and the place employing gondolas or high-elevation operating vehicles spread to 50 times in the cost of temporary stage cost only (Figure 1). In the cost examination, it was reconfirmed that the confirmation of conditions for temporary stages became one point.

2) Diagnostic costs by infrared ray method

Although the variability of total costs is smaller than the case of the percussion method, nonetheless, the maximum/minimum spread to about nine times. In the case of infrared ray survey, the ratio occupied by onsite photographing and analysis operations in direct costs is large, having a spread of more or less ten times (Figure 2). In respect to this point, since there were few operators using high-elevation operating vehicles, it is considered the cost difference occurred due to this.

In general, the survey on the north surface is difficult by the infrared method. In the survey this time, inasmuch as there were operators to have examined cost calculations based on the possibilities of such diagnosis, knowledge in reference to materials to the judge appropriate technical strength was gained.

4. Conclusion

Concerning these survey results, we are prepared to publicize as the data for building

owners and so forth to utilize in examining survey and diagnostic costs.

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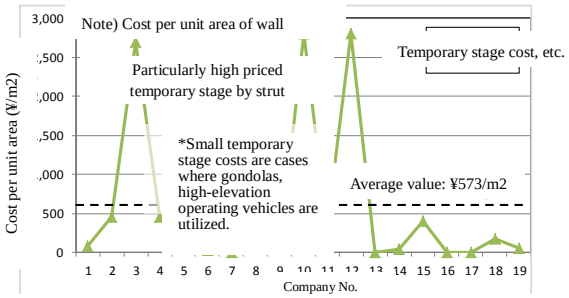

Figure 1: Estimate costs distribution (temporary stage cost, etc.

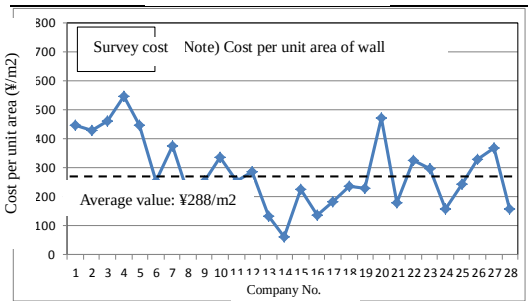

Figure 2: Estimate costs distribution (Direct survey cost in case