COST COMPARISON BETWEEN THE CONSTRUCTION OF LIGHTWEIGHT AND CONVENTIONAL PARTITIONS IN CHONGQING, CHINA

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Abstract
This paper presents a cost comparison of two methods of constructing interior partitions for housing, namely, conventional partitions (aerated-concrete-blocks) and lightweight partitions (gypsum board). The comparison demonstrates how substantial cost savings can be made by using lightweight partitions. The disadvantages identified in this study of the erection of conventional partitions include: (1) lower skill labour-intensiveness; (2) substantial use of wet trades; (3) excessive time-consumption; and (4) lack of flexibility for making changes to the layout during the life-time of the building. The data used in this paper were collected using field work sampling based on local conditions in the city of Chongqing on the Chinese mainland. A comparison is first made for 100m² of partition walls and then for an entire apartment. The latter comparison shows that the direct cost of an apartment built with lightweight partitions is about 8.2% - 13.9% less than for one built with conventional partitions. The cost difference can be even greater if other factors such as the reduction in loading, enlarged net room area, simpler finishing and shortening of the project duration are taken into consideration. It is also shown that use of lightweight partitions can further save up to 24% of the workforce for an entire apartment. In a period of skilled worker shortages in the construction industry, this saving can be significant. As a result, the use of lightweight partitions on a large scale is recommended for housing developments both in Chongqing and throughout China.

Key Words
Housing; Lightweight partition; conventional partition; direct construction cost.

INTRODUCTION

Chongqing, which is located in the southwest of China on the upper stream of the Yangtze River, is one of the four municipalities under the direct control of the Central Government. It has the largest area and largest population of the four municipalities in China. It covers an area of 82,400 square kilometres and had a population of 30,970,000 in 2003. In the midst of China’s economic development and its western development, Chongqing plays an important and strategic role. In 1999, Chongqing was named by Fortune magazine as “the Most Promising City in Western China” and in 2001, it was rated “the Most Competitive City in Western China” by China’s Economic Daily. In 2003, the World Bank released a report on the competitiveness of 23 Chinese cities and Chongqing ranked fifth among the 23 and first in West China (Xiao, 2004). In addition, the current favourable economic situation provides a good foundation for the development of Chongqing’s housing market, which today is very active. The strong demand for housing in Chongqing has caused the available total residential area to triple, and floor space per capita has risen from 8.52 to 20.44 square metres between 1997 and 2003 (Chongqing Statistical Yearbook, 2004).