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Recycling of Construction Waste

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Introduction

In most parts of the world, the construction industry consumes a huge amount of natural resources and generates large quantities of construction waste. Construction waste, or Construction and Demolition (C&D) waste, is generally defined as a mixture of inert and non-inert materials arising from construction, excavation, renovation, demolition, roadwork and other construction-related activities. The inert materials comprise soft inert materials such as soil, earth and slurry, and hard inert materials such as rocks and broken concrete. The non-inert materials include wastes such as metals, timber, plastics and packaging wastes. The effective management of construction waste has become one of the key environmental issues in Hong Kong and many other places as there is limited space available for the disposal of the waste. In Hong Kong of the available landfill capacity was used to manage construction waste. Following the current trend, the landfills in Hong Kong will be filled up in 5-9 years.

Description

Reducing the generation and recycling of construction waste are therefore a priority in the waste management hierarchy recycling of construction waste, in particular the inert and hard demolition rubbles, has received much research interests in the past decade. In fact, a number of research papers have been published in Waste Management disseminating useful information on the effects of recycled aggregates derived from construction waste on the properties of concrete and other construction products. However, relatively less emphasis has been paid on construction waste minimization (i.e., reducing waste at source). But with the introduction of higher charges for construction waste disposal and recycling, there are stronger economic incentives for developers and contractors to implement measures to reduce construction waste. Construction waste reduction can be achieved through changes in design concepts and through material and construction method selections. Design measures and concepts that can be used to reduce construction waste include dimensional coordination and standardisation, minimizing the use of temporary works, avoiding late design modifications, and providing more detailed designs. Recent studies have shown that about 10% of construction waste is generated from the cutting of building materials during the construction process. If designers could consider at the design stage, dimensions to match with the material size standards, cutting wastes can be significantly reduced. The use of standard grids in the design could also facilitate the use of standard material sizes. Another design concept is the use of alternative forms of design to minimize the need for temporary works [1-5].

Conclusion

This could be achieved by specifying the use of low-waste building technologies such as prefabrication and system metal formworks. The use of these technologies can contribute to waste reduction significantly, as a recent study in Hong Kong showed that timber formworks account for about 30% of the waste identified on-site. These alternatives could also contribute to cost savings. Late design modifications due to last minute changes by clients are important as they generally involve demolishing the already built components and redoing of works. Therefore design modifications, if necessary, should be considered early in the design process, and late changes should be avoided. Also, by providing more detailed designs, waste reduction during construction could be achieved by avoiding abortive works and excessive redoing of works.

References

1. Allam Ayat A., Nermin E. Eleraky, Nadeen H. Diab and Mahmoud Elsabahy, et al. "Development of sedative dexmedetomidine sublingual in situ gels: *In vitro* and *in vivo* evaluations." *Pharmaceutics* 14 (2022): 220.
2. Syrous, Nesjla Sofia, Terje Sundstrøm, Eirik Søfteland, and I.B. Jammer. "Effects of intraoperative Dexmedetomidine infusion on postoperative pain after craniotomy: A narrative review." *Brain Sci* 11 (2021): 1636.
3. Yoo, Young Chul, Won Sik Jang, Ki Jun Kim and Jung Hwa Hong, et al. "Effect of dexmedetomidine on biochemical recurrence in patients after robot-assisted laparoscopic radical prostatectomy: A retrospective study." *J Pers Med* 11 (2021): 912.
4. Liu, Weiping, Jiangmei Liu, Yuqin Song and Xiaopei Wang, et al. "Mortality of lymphoma and myeloma in China, 2004–2017: An observational study." *J Hematol Oncol* 12 (2019): 1-10.
5. Cunningham, Isabel, Sergio Sanchez Sosa, and Diane Hamele-Bena. "Single organ microenvironment and the common features of tumors of leukemia, lymphoma, and myeloma cells growing there: A literature review." *Eur J Haematol* 108 (2022): 169-177.

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