

Comparison study on cost of concrete and steel reinforcement for multipurpose hall building with seismic design

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Abstract:

Multipurpose hall is a public building of people assembly for various function and activities. It can be converted to be a temporary shelter during disaster like flood and earthquake. After experiencing tremors from both local and distant earthquakes, the time has come to implement the seismic design to new buildings in Malaysia to ensure public safety. The implementation of seismic design also affecting the cost of construction, especially materials. Therefore, this paper presents the taking off results for reinforced concrete multipurpose hall building with seismic design. In this study two parameters namely as soil type and concrete grade had been considered as design variable. Result from design and taking off demonstrated that the amount of steel reinforcement is strongly influenced by both parameters. The usage of steel for reinforced concrete buildings with seismic design is estimated to increase around 3% to 59% depend on soil type and concrete grade. Results also demonstrated that higher concrete grade require lower amount of steel as reinforcement.

Keywords : Experiencing Tremors From; Distant Earthquakes; Especially Materials; Therefore

ACKNOWLEDGMENT

All authors acknowledged the financial support from Internal Research Grant number RDU1703240 provided by Universiti Malaysia Pahang as well as facilities provided in design laboratory. Special thanks is dedicated to Azlina Nordin, Ummu Nurulatiqah Kamis, Anis Farhana Mazlan, Nur Hazwani Mohd Rashid, and Hanis Athirah Roslan for their effort as research assistants.