

Causes of building collapses

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Faulty Design Faulty Design Introduction Collapse of a building can be a very catastrophic disaster that can cause immense loss of life and property.

Buildings have been constructed with different methodologies since the earliest of times. In fact, the strength and level of sophistication of some of the oldest structures like the Pyramids of Giza is surprising. Today, advanced countries are in a competition of building tallest structures with unique designs and architecture. This raises the questions; why today, when technology is so advanced, do buildings collapse? Can man totally deter buildings' collapse? Three of the main causes of buildings' collapse are; faulty design of structures by incompetent engineers, overloading of structures, and natural disasters.

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Considering faulty design as a cause for building collapse, the most common areas of defects include architectural design defects, civil design defects, construction-drawing defects, defects caused by consultant firm consultants as well as staff, and defects resulting from construction materials among others (Assaf et al., 1996). Among the main causes of defects, design defect is the second most severe from failure to select the most appropriate materials implying that design is at the top of the reasons behind building collapses. The defects that may result due to civil design may be caused by factors that include failure to provide adequate structure movement provision and ignoring other critical considerations that incorporate effects resulting from environmental aggression, weather situations, biological effects, soil condition variations, effects of the wind on structure, and load impact on the structure. Architectural defects that may be blamed for leading to building collapses include failure to relate exterior materials with <https://assignbuster.com/causes-of-building-collapses/>

anticipated climatic conditions, narrow stairs, and failure to consider the local climate when designing the exterior shape. Maintenance practicality as well as adequacy may result in design defects through failure to consider exit equipment for the maintenance workers, deciding to design permanent fixtures instead of having removable ones, which are convenient when maintaining, and failure to consider maintenance in its entirety (Assaf et al., 1996). Construction drawing may lead to the development of dangerous faults due to lack of details, the existence of conflicting details, and lack of references that are critical in determining the success of the anticipated construction design. Considering the consultant firm administration, the main faults that may result from this include poor or lack of technical updating, hiring of unqualified designers, inadequate training, and misjudgment of climatic conditions.

References

Assaf, S., Al-Hammad, A. & Al-Shihah, M. (1996). Effects of Faulty Design and Construction on Building maintenance. *Journal of Performance of Constructed Facilities* 10(4), 171-174.