Illustration of forces upon buildings

Design, Architecture

Another hazard is in the vulnerability of the appliances to fire explosion as they could be the primary source of fire outbreak due to the fact that they are electrical appliances that work under high voltages and currents. Any disaster that takes place on the second floor of the building is capable of destroying the whole building and the placement of the heavy appliance on the second floor without sufficient fire extinguishers is a hazard on its own.

The heavy timber construction has the capability of carrying the furniture and appliances within the building, except during the failure of the building. Loads of furniture and appliances would act downward and the heavy timber pillar is strong enough to hold the building and prevent it from failing due to the loads acting upon it. The composite material help transfers the load on the building to the ground. The supporting column and the heavy timber act together to support the load that acts on the building. It is the failure between the bond that exists between these supporting columns and the heavy timber that would utterly destroy the strength and composite nature of the structural element (Cote, 2003).

When loads are placed on a floorboard, the floorboards act as beams and transfer this load to the joists. The joists would then transfer this load to a girder at one end and to a masonry wall at the other end. The masonry wall supports one end of the girder, while the column supports the other end of the girder (Brannigan & Corbett, 2007).