

The pros and cons of steel construction to firefighters

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The Pros and Cons of Steel Construction to Firefighters

The use of steel in construction has rapidly increased over time. Steel is an alloy of iron and other elements including carbon. This property makes it a viable choice for construction as it causes the metal to possess additional characteristics that are not possible for pure metals. Steel is preferred for the construction of both residential and commercial buildings all over the United States. In fact, home owners with steel buildings have lower insurance premiums while commercial buildings using steel for construction are susceptible to lower tax rates as the government considers use of steel, environmental friendly.

The advantages of steel construction are vast. First, steel is much lighter than other construction materials like wood, brick and concrete. Second, it is resilient, it has an excellent strength to weight ratio, meaning it is able to support heavy weights with a low mass proportion. Third, it is malleable and is thus available in various shapes and sizes making it more efficient. Finally, it is cost effective. Its alloy nature is a combination of various elements that would have been expensive individually (Connell, 2005 pg 252).

These advantages make fire fighting easier in that; its light property makes it easier for firemen to move through rubble and save property as well as lives. In other buildings such as those constructed of concrete, maneuvering through the rubble is difficult for firemen making it hard for them to do their jobs. Also, steel is highly flame retardant. This makes it easier to put out fires and it less costly for fire departments.

The main disadvantage of steel construction is that steel is an excellent

conductor of heat and has a poor ability to resist fire (Connell, 2005 pg 251). In the event that the architect did not put in place specific measures for the particular building, the occurrence of a fire or high temperatures causes building disintegration. Improper placing of steel beams, joists and studs would cause a building to fall immediately in catastrophic events. These poor connections are what make steel construction hazardous to firemen. The high probability of steel to disintegrate makes it difficult for firemen to perform their duties during fires as there are chances of the building collapsing on them. Therefore extra precautions are required which may take time.

Generally, steel construction makes firefighting easier. However, poor connection is the lead cause of injury or death to firemen and victims as well as destruction of property. Therefore, as long as a good job is done, there will be no problems in performing fireman duties.

Reference

Connell, J. P. (2005). Emergency rescue shoring techniques. Tulsa, Okla.: Pennwell.