

Comparison of Fire Protection Laws between Japan and East Asian Countries

Yasuaki Nakahara (K110614)

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The purpose of this research is based on rapid development and explosion of number of skyscrapers and huge sized buildings in East Asian countries. By these factors we think that the risk of fire accidents will rise and we might experience a serious fire disaster. Therefore, we considered that it would be necessary to compare the fire protection laws among each country and find out an appropriate standard.

The scope of this research is based on Building/Fire Codes of China, Thailand, Vietnam and Bangladesh, which was available in Japanese translation. The items to compare come from some of the basic viewpoint of fire protection in Japan, such as Fire alarm systems for Early fire detection, Sprinkler systems for Early fire extinguishing, Compartmentation or Using incombustible material on interior for Delay of fire and smoke expansion and Emergency stairs for Evacuation.

On the subject to installation standard of fire alarm systems, the Classification of building use is specified as a standard through each country except Thailand. This is because it is a basic element to identify the fire hazard character of the building. Fire might be difficult to find out in a hotel because there are many individual rooms or many people have difficulty to evacuate in hospital. Countries such as Vietnam and Bangladesh have a strict standard for market or shops possibly because there are large amount of combustible materials exist and they are crowded with people.

Height of a building is specified in Thailand, Vietnam and Bangladesh. In Japan, instead of height of a building, number of stories is specified as a standard. Although, this is not enough to cover a high-rise building with only few stories such as Fukuoka Tower (234m, 5 stories).

A floor without window is considered as dangerous when fire occurs and thus, it is specified as an element of standard in Japan. However, China and Bangladesh have standard for basement floors, which has a similar aspect to floor without window.

Table 1. Comparison of fire alarm systems installation standard among each country

Item	JP	CN	TH	VN	BD
Classification of building use	○	□	×	○	□
Total area	○	△	×	×	×
Floor area	○	△	×	×	△
Number of stories	○	△	×	○	□
Height	×	×	○	○	○
Others	-Floor w/o window* -Basement floors	-Number of beds -Basement floors	-	All markets	-Shops -Basement floors

*Condition of “Floor w/o window” is provided in Japan Fire Service Act.

As a result of comparison, some part of fire protection laws of each country leans to its culture, stage of development, climate, infrastructure, ability of fire fighter and so on. Although, some of these laws seem to be not enough to prevent fire expansion to upper floors in a high-rise/large scale building.

Compared to other kinds of buildings, it can be said that the character of fire hazard does not differ a lot among countries to countries. Therefore, it would be necessary to develop a common fire protection rule for such buildings.