Abstract

Seismic Retrofitting is in general referred to technique which either may alter the existing configuration or enhance by modification of a structure in order to resist higher level of to earthquake ground motion. Now improve understanding of seismic demand of the structure by the research investigators made it possible to have a required technique which can be applied appropriately for the seismic resistance of a structure. Further, the scientific study about the earthquake ground motion about Indian conditions made it possible to improve / revise the relevant Indian standard code considering recent experience of earthquakes in India. Also these understandings have made it possible to acknowledge the need of seismic retrofitting. As it has been stated in literature that 50% of the Indian land has become seismically active this was not taken into considerations in earlier version the code(s). According in new seismic map of India 60% of the Indian land and 78% of the population come under zone 3, 4 and 5 refer illustrated in the new seismic map of India. In chapter two of this report (in the revised code IS: 1893:2002 part 1 has four seismic zone instead of 5. Erstwhile zone 1 is merged into zone 2 which was considered inactive seismic area. Hence, zone 1 does not appear in the new seismic zone map; the only zone 2, 3, 4, and 5 applicable, this explain the value of seismic zone factor have been changed this now reflect more realistic value of effective peak ground acceleration considering maximum considered earthquake and service life of the structure in each seismic zone. Several building and other structures constructed before revision of the code need to be rehabilitated and retrofitted which is fall under red zone of the Indian seismic code. For large number of existing infrastructures not design as per new codal provisions to safe-guard such structure which include seismic retrofitting of the old building structures.

It has been practice of the practicing engineer The fiber reinforced polymer composites (i.e. FRP) are increasingly being consider as an enhancing and /or substitute for infrastructure component or structure that are constructed by traditional civil Engineering material namely concrete and steel. The typical characteristics of FRP composite are (i) light weight, (ii) high strength to weight ratio, (iii) corrosion resistance, (iv) exhibit high specific strength and (v) specific strength and easy to construct, and can be tailored to satisfy performance requirement. This special practice being consider as advantageous which FRP composite has in many construction and rehabilitation of structure trough its used as a