Earth quake Resistant Building Design By Using Dampers

ABSTRACT

Earthquake cause severe damages to large-scale infrastructures. Structures are designed to resist dynamic forces through a combination of strength, deformability and energy absorption. Three control systems are used in earthquake resistant buildings. The Fluid Viscous Damper is an equipment protecting structure from damage in earthquake or strong wind. It comes under Semi-Active control systems when a control valve is provided. Viscous dampers distributed throughout an otherwise conventional structure can achieve damping at significantly lower cost. This project describes the fluid viscous damper used in the construction of earthquake resistant buildings. It also shows the design of modified fluid viscous damper by replacing the fluid used in fluid viscous damper with glycerol. A model of this damper and its alignment in the building is shown. It’s performance is compared with a building without the presence of damper using shaking table.

Index Terms — Fluid viscous damper, Shake-table equipment, Glycerol.