

INCREASE OF IN-PLANE COMPRESSIVE FORCES DUE TO INERTIA IN WALL PANELS SUBJECTED TO AIR BLAST LOADING

FORSEN,R.

In calculations predicting the response of exterior load bearing walls of buildings subjected to lateral blast loading the static resistance function is an important parameter. The static resistance to lateral load is influenced by in-plane compressive forces for instance from the load of stories above the wall. When such a wall deflects due to lateral load the supports move outward and tend to lift the mass that creates the compressive force. If the lateral load is the shockwave originating from a detonating HE charge it may create considerable acceleration of the mass and because of inertia the in-plane compressive force may be many times larger than at static load. The procedure has been theoretically simulated and dynamic resistance functions of load bearing brick masonry walls with different strength and mass load have been calculated. Isodamagecurves concerning walls with dynamic resistance functions are presented and compared to traditionally representation.