

ENGLISH SUMMARY

UDK 624.012.4:624.042.3:539.31:519.6

KILPELÄINEN, MIKKO, Polynom approximation for stress-strain relationship of concrete under short-time loading. Rakenteiden Mekaniikka 12 (1979) 1, p.

The article deals with polynomfunction as a mathematical model for stress-strain relationship of concrete. Such a model must fulfill some general requirements and boundary conditions. On the basis of those conditions the author has determined a polynomfunction of fourth degree as an approximation of stress-strain relationship in compression and a polynomfunction of third degree in exentrie tension and second degree in concentric tension. Polynomfunctions approximate test results very well, but differ from the stress-strain diagram given in the Finnish specifications for concrete constructions. They are very flexible and suitable for the computation of normal forces and bending moments in the structural design of concrete structures.

UDK 624.042.7:550.34:519.6

TORKKELI, EERO, Earthquake loads on equipment and seismic analysis methods.

This paper deals with seismic design of equipment and components. First their seismic loading is discussed along with comments on how plant and building design affects the excitation level. Harmonic dynamic analysis methods are outlined. Finally an example of actual equipment analysis is presented.

UDK 624.042.5:62-419.5:539.32

PERTTILÄ, HEIKKI, On the temperatures and deformations of sandwich structures

In this article the changes of temperature of sandwich structures are considered. The temperature of the roofs warmed by the sun depends very much on the quality and colour of the roofs. However, because the floor is getting colder at nights, the temperature of the whole structure changes periodically. The consideration of this kind of real temperature fields is very complicated. The calculation of deformations and tensions caused by the changes of temperature are also dealt with briefly.