ENGLISH SUMMARY

UDK 620.178.4:539.43:669.017

PIHLAJA, JUHA, Stress-strain properties of some metals in rapid loadings.
Rakenteiden Mekaniikka 9 (1976) 4, p. 1...16.

The article discusses stress-strain properties and capacity of some
metals to absorb kinetic energy in rapid loadings. The problem is met in
case of accidents possibly happening in reactor building of nuclear power
station and the prevention of damages caused by them. The metals under
review are copper, aluminium, mild steel and stainless steel. The works of
reference are based mostly on tests made in USA.

UDK 624.075.23:24

RANTALA, VEIKKO and LOIKKANEN, PENTTI, On the stability of eccentrically
compressed single angle column. Rakenteiden Mekaniikka 9 (1976) 4, p.17...26.

The allowable eccentric compression force for single angle columns of
five different lengths is calculated according to Finnish steel specifica-
tions and the International Recommendations. The buckling load for the
some bars has been determined computationally as a simple torsional buckling
case and experimentally and the load have been compared with the results of
some other similar experiments.

UDK 624.072.33:624.014.2

KANGAS, ILKKA, Computation of stability and limit state load for steel
frames. Rakenteiden Mekaniikka 9 (1976) 4, p. 27...39.

Basis for the theory of the element method given by Vijakkhana, Nishino
and Lee is presented in the article. The method gives means to make an
elastic plastic analysis of frames based on the second order theory and
to compute the frame stability. The second order behaviour is included
by a stability matrix. In an example the theory has been applied numer-
ically to a two story one bay frame and results are compared with those
of the first order theory.