

1121 Pearson J and Rinehart J S  
COMPUTATION RELATING TO REFLECTION OF PLANE ELASTIC  
WAVES STRIKING FREE SURFACES OBLIQUELY  
13 August 1952, NOTS TM No. 931.

1122 Allen W  
ELASTIC DESCRIPTION OF A HIGH-AMPLITUDE SPHERICAL  
PULSE IN STEEL  
21 April 1953, NOTS TM No. 994.

1123 Huth J H and Cole J D  
A THEORETICAL TREATMENT OF SPALLING  
Rand R M - 1181 .

1124 Evans W M and Taylor G I  
DEFORMATION AND FRACTURES PRODUCED BY INTENSE  
STRESS PULSES IN STEEL  
Research, 1952, Vol. 5, pp. 502-509.

The mechanism of plastic deformation and fracture due to high explosives is investigated by studying the fractures produced. Specimens are sectioned and etched. Metallurgical photomicrographs are made to study the change in crystalline structure. Article is well illustrated with typical fractures.

1125 Kolsky H and Shearman A C  
INVESTIGATION OF FRACTURES PRODUCED BY TRANSIENT  
STRESS WAVES  
Research, 1949, Vol. 2, pp. 384-389.

The mechanism of fracture due to detonation of explosives is studied by observing the fractures of bodies of various shapes. Plastic bodies are used. Large plates, small plates, cylinders, and cones are investigated. Various fractures are well illustrated.

1126 Kochler J S and Seitz F  
THE STRESS WAVES PRODUCED IN A PLATE BY A PLANE  
PRESSURE PULSE  
1944, OSRD Report No. 3230.

1127 Rinehart J S and Pearson J  
CONICAL SURFACES OF FRACTURE PRODUCED BY ASYMMET-  
RICAL IMPULSIVE LOADING  
Journal of Applied Physics  
1952, Vol. 23, pp. 685-687.

The conical surface of fracture of an explosively loaded thick wall cylinder is analyzed from the

standpoint of stress wave propagation. It is shown that the angle of failure is a function of the velocity of propagation of the wave. Experimental results are shown which tend to verify the explanation.

- 1128 Pearson J and Rinehart J S  
DEFORMATION AND FRACTURING OF THICK-WALLED STEEL  
CYLINDERS UNDER EXPLOSIVE ATTACK  
Journal of Applied Physics  
1952, Vol. 23, pp. 434-441.
- This article discusses the deformation and fracturing of thick-walled cylinders due to internal explosives. The presentation is primarily focused on describing the mechanism of failure that occurs under these circumstances. Stress wave propagation and behavior of the material are not emphasized in the presentation.
- 1129 Starr L and Savitt J  
SPALLING PRODUCED BY DETONATION OF EXPLOSIVE IN VERY  
HEAVY WALLED METAL TUBES  
Physical Review  
1952, Vol. 86, pp. 600.
- 1130 Rinehart J S  
HARDNESS PLATEAUS AND TWINNING IN EXPLOSIVELY LOADED  
MILD STEEL  
Journal of Applied Physics  
1954, Vol. 25, p. 778.
- 1131 Mallory H D  
PROPAGATION OF SHOCK WAVES IN ALUMINUM  
Journal of Applied Physics  
1955, Vol. 26, pp. 555-559.
- The velocity of shock waves in aluminum and the associated translational motions, produced by metal-metal impact, have been determined by an electrical contact technique. The results obtained have been used to evaluate an equation of state for the metal. (Author's abstract)
- 1132 Rinehart J S  
SOME OBSERVATIONS ON HIGH SPEED IMPACT  
U. S. Naval Ordnance Test Station  
Technical Memorandum RRB-50  
19 October 1949.
- 1133 Rinehart J S  
THE BEHAVIOR OF METAL UNDER HIGH AND RAPIDLY APPLIED  
STRESSES OF SHORT DURATION  
U. S. Naval Ordnance Report No. 1183  
27 September 1949.