1004 Clark D S and Datwyler G
STRESS-STRAIN RELATIONS UNDER TENSION IMPACT LOADING
Proceedings ASTM
1938, Vol. 38, Part II, p. 98.

Force elongation curves are obtained for several materials for an impact velocity of 11 ft/sec. It is concluded that yield forces under dynamic conditions are higher than under static conditions.

1005 Clark D S and Duwez P E
DISCUSSION OF THE FORCES ACTING IN TENSION IMPACT TESTS OF METAL
Journal of Applied Mechanics, Trans. ASME
1948, Vol. 70, p. 243.

A method is described for measuring the forces acting on a specimen during a tension impact test. Plastic wave propagation theory is used to interpret the results obtained. Impact velocities to a maximum of 200 ft/sec. Very good article on interpretation of force-time curves obtained from such tests.

1006 Plass H J
A COMPARISON OF PLASTIC LONGITUDINAL WAVE THEORIES FOR STRAIGHT RODS
University of Texas, Defense Research Lab. N. 327, CF2009.

1007 Lee E H and Tupper S J
ANALYSIS OF PLASTIC DEFORMATION IN A STEEL CYLINDER STRIKING A RIGID TARGET
Journal of Applied Mechanics, Trans. ASME
1954, Vol. 76, p 63.

The G. I. Taylor dynamic compression test (article 1001) is used to determine the entire strain distribution for a test cylinder of nickel-chrome steel. In the interpretation of results, interest is concentrated on the plastic and elastic wave fronts which emanate from the surface of contact. The theory of the propagation of plastic waves is presented. This is a fundamental article in relation to impacts large enough to cause plastic deformation. Impact velocities to about 1500 fps.

1008 Lee E H and Wolf H
PLASTIC-WAVE PROPAGATION EFFECTS IN HIGH SPEED TESTING
Journal of Applied Mechanics, Trans. ASME
1951, Vol. 73, p. 379.

This article discusses how a material test carried out at high speed may be markedly influenced by plastic-wave

propagation effects. The range of speed is determined which permits satisfactory test interpretation without the need for detailed plastic-wave analysis.

Fundamental article on the interpretation of high speed material tests.

1009 Habib E T
A METHOD OF MAKING HIGH-SPEED COMPRESSION TESTS ON SMALL COPPER CYLINDERS
Journal of Applied Mechanics, Trans. ASME
1948, Vol. 70, p. 248
Discussion Journal of Applied Mechanics, 1949, Vol. 71, p. 98.

High-speed compression tests are performed on small copper cylinders by subjecting them to the impact of a piston fired from a pneumatic gun. Experimental techniques are discussed and results of the tests are shown as energy absorbed versus deformation. The complication due to plastic strain waves is mentioned.

Velocity of impact 25-200 fps.

1010 White M P and Griffis LeVan
THE PROPAGATION OF PLASTICITY IN UNIAXIAL COMPRESSION
Journal of Applied Mechanics, Trans. ASME
1948, Vol. 70, p. 256.
Discussion Journal of Applied Mechanics, 1949, Vol. 71, p. 219.

A theoretical investigation of the mechanism of uniaxial compression impact on elastic-plastic materials is described. It is concluded that four different modes of behavior can occur, depending on the impact velocity.

1011 Sternglass E J and Stuart D A
AN EXPERIMENTAL STUDY OF THE PROPAGATION OF TRANSIENT LONGITUDINAL DEFORMATIONS IN ELASTOPLASTIC MEDIA
Journal of Applied Mechanics, Trans. ASME
1953, Vol. 75, pp. 427-434.

An experimental study is presented which is concerned with confirming the theory of the propagation of plastic waves. It is concluded that the velocity of propagation of the wave front is that of the elastic wave which is not in agreement with theory as proposed by Von Karman and Taylor.

1012 Malvern L E
THE PROPAGATION OF LONGITUDINAL WAVES OF PLASTIC DEFORMATION IN A BAR OF MATERIAL EXHIBITING A STRAIN-RATE EFFECT
Journal of Applied Mechanics, Trans. ASME