

Acoustic Microscopy

Ceramics

Figs. a, b and c show **ceramics**. The hardness of an industrial material is often measured by the Vickers method, in which a diamond pyramid is indented in the material at a defined force. The size and shape of the indented area depend on the hardness and previous treatment of the material.

Fig. a: Vickers hardness indentation in Al_2O_3 ceramic sample. Crack formation at the corners of the pyramid depends on the ductility of the material.

Frequency : 1.3 GHz
Image width: 312 μm

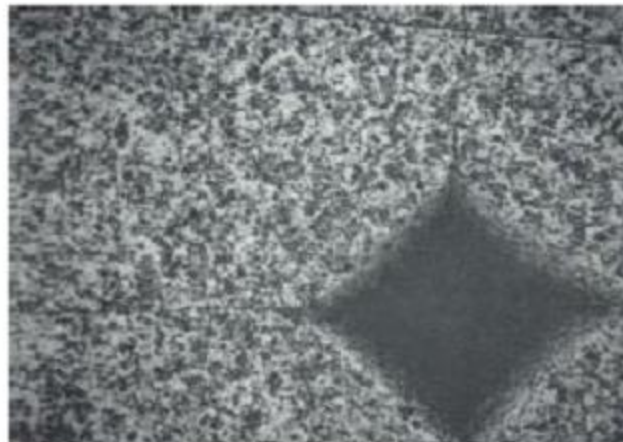


Fig. b: Hardness indentation in a Si_3N_4 ceramic sample.

Frequency : 1.3 GHz
Image width: 500 μm

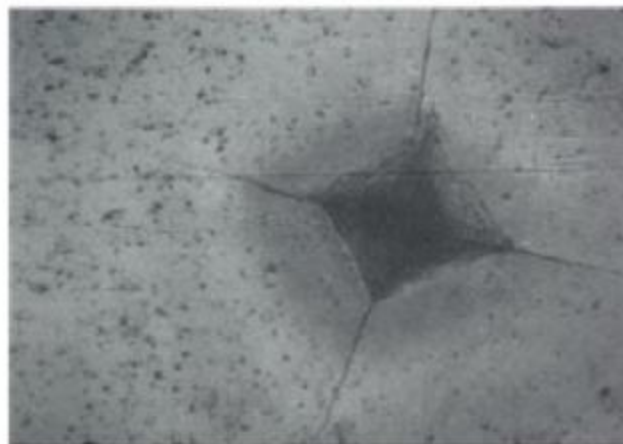


Fig. c: Hardness indentation in a metal alloy. The brighter area round the Vickers imprint shows the deformation of the material caused by the inclined areas of the pyramid.

Frequency : 1.3 GHz
Image width: 100 μm

