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Understanding Fracture

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Facture is when things break. Sometimes we want things to break, other times we don't. Gravel for mixing concrete is made by breaking big rocks into small rocks — a vital process. But when your cell phone slips from your hand and accelerates towards the floor, you have a microsecond of hope that the glass in the screen does not break.

Engineers often use impact tests to determine the conditions under which materials will break. Test engineers place a specimen in the apparatus; a rod impacts the specimen; the specimen fractures. It is easy to describe the state of the specimen before and after the test, but what happens at the moment of fracture?