

Chapter 11

Supplement 11B: Movie Files of MFCI Experiments

[Movie 11.1](#)

This clip shows a non-explosive experimental magma–water interaction, showing the process of thermal granulation. Approximately 130 ml of basaltic melt at a temperature of 1280°C is poured into 3.5 liters of purified water at room temperature in a container 50 cm high. The sound was captured by high-resolution pressure transducers and synchronized to the movie, which is therefore shown at 10 times slower than real time. As Cadio EX-F1 cameras were used at a rate of 300 frames per second.

[Movie 11.2](#)

This clip shows an explosive experimental magma–water interaction, in which basaltic melt is contained within a crucible 50 mm in diameter. 5 ml of water was injected into the melt and the explosion was triggered by an air-gun pellet (with energy <10 KJ) fired from above. The MFCI energy release was measured to be > 15 kJ. This run used a NAC GX-1 camera at 5000 frames per second and an exposure time of 100 µs. No sound.

Movie files provided courtesy of Bernd Zimanowski and Ralf Buttner, Physikalisch Vulkanologisches Labor, Universität Würzburg, Pleicherwall 1, Würzburg, D-97070, Germany; <http://www.geologie.uni-wuerzburg.de/physvulk/>