

Organizing the relation ship of the viscosity of lava flow and the shape of columnar joijnt

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Columnar joints are topography formed by causing volume contraction when the lava flow that has erupted and flowed from the volcano is cooled by the atmosphere.

It is known that the cross section of the column joint is basically hexagonal, but the actual column joints often take five or seven other than hexagons. We at Kaijo Chugakuji Faculty made an assumption that the cause of the irregular shape may be related to the viscosity of the lava flow, and tried to prove the hypothesis from the experiment. In addition, I thought that I could find the relationship between the nature of lava flow and the shape of the cross section.

In order to investigate the above things, once dissolving the starch in the water and then evaporating the water, the volume of the starch is shrunk to reproduce the "columnar joint" created in the same process as the process of forming the column joints. We did research by conducting experiments. Also, in order to reproduce the difference in viscosity of lava, experiments were conducted by changing the weight ratio of water and starch.

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