

Seismogenic fault in subduction zone, Okitsu Melange, Shimanto accretionary complex

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The fault rock in the Okitsu Melange, Shimanto accretionary complex is characterized by the pseudotachylyte, the typical evidence for the seismic rapid slip. The Okitsu Melange, however, is perhaps ancient seismogenic fault of the subduction zone, the tectonic setting within the accretionary prism and detail structure along the fault was uncertain.

The result of the detailed structural analysis indicates that the Okitsu Melange is composed of the three thrust sheets of the sheared oceanic stratigraphy with the imbricate structures which may the partly exposure of the duplex structure and the fault rock occurs along the roof thrust of the duplex.

The grade of the deformation decreases with the distance from the fault zone. The deformation mechanisms surround the fault is characterized by the brittle failure and the pressure solution deformation. The pressure solution may cause the creeping during the interseismic period, and fluid flow along the fault zone relates to the deformation process.