

The ISTL of River Hayakawa in Yamanashi Prefecture, central Japan -east-side down with dextral strike-slip shear sense-

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Fault rocks and minor structures along the Itoigawa-Shizuoka Tectonic Line (ISTL) in southwest Yamanashi Prefecture were studied to identify brittle and ductile deformations. Various kinds of minor structures; such as shear fractures, extension fractures and minor faults, and micro structures; such as deformation twinning, deformation lamella, subgrain, and pressure solution were observed in the Amahata Group (about 20-64 Ma), the Kushigata (15-17Ma) and Momonoki (13-15Ma) Groups. Minor structures were recognized in four locations: location 1 (Nishiyama-Onsen), (a) N-S striking in homogeneous fracture set, (b) E-W striking fracture set, (c) NE-SW striking fracture set (in porphyrite), (d) conjugate fault set and (e) N-S striking fracture set (in porphyrite); location 2 (logging road of Arakura); (a) NNE-NNW to SSW-SSE striking minor fault set, (b) N-S striking normal fault (in slate); location 3 (Narata Village), E-W striking dyke rocks (in slate), location 4 (at the river side of Arakura), NE-SW striking echelon fracture set (in slate).

The fault rocks along the ISTL were classified into 4 types on the basis of deformational microstructures under microscope observation. Type 1 (about 1 cm in width) is mylonite, characterized with foliation in both matrix and clasts. Type 2 on both sides of type 1 (about 50 cm in width on porphyrite side and about 70 cm in width on slate side) is cataclasite accompanied with dynamic recrystallization in some parts of fault rocks. Type 3 on each side of type 2 (about 110 cm and more in width on porphyrite side and 20 cm and more in width on slate side) is cataclasite with pressure solution and cataclastic flow in some part of fault rocks. Type 4 is fault gouge. Type 1 to type 3 are present at the location 1. Type 4 is present at location 2. The shear sense developed in types 1 to 3 shows east side down with right-lateral strike-slip. Type 4 shows reverse fault with N-S striking and W dipping.

The shearing structure in the fault rocks indicate to the movement of ISTL-Formation in the early stage and probably consistent with the crustal structure on the basis of gravity anomaly.