

Two types of ultramylonite in lower to middle crustal rocks exposed in the Hidaka metamorphic belt, Hokkaido, Japan

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Strongly mylonitized rocks under lower and/or middle crustal conditions develop zonally in the Hidaka metamorphic belt. Their porphyroclasts are under 30% in volume. Two microstructural types of the mylonite with ultramylonite are distinguished: mixed and layered. Matrix of the mixed type is polymineralic mixture on grain scale, showing almost random fabrics. The layered type exhibits banded structures, which are formed by alternation of distinctive unmixed layers and thin mixed layers. The layered type zone is up to a few hundreds meters but the mixed type zone less than ten-odd meters in thickness. Differences in preferred orientations, microstructures, and chemical characteristics between these mylonites would suggest change in strain localization mechanisms within the lower crust.

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