

completely and since the thickness of the region estimated from the velocity-depth curve varies from about 30 to 50 km or more, although most of the thickness values are around 50 km, according to the velocity models referred above. It is clear, however, that there exists a close relation between the observed thickness and the width of the two-phase region, and if we suppose that the accurate correspondence would exist between them, the width is essentially determined by the temperature distribution and the Fe/Mg ratio in olivine. The constant temperature gives a value of about 50 km in width with a Fe/Mg ratio of 1:9, around the depth of 400 km in the mantle. To spread the thickness more than 70 km with the same chemical composition, however, the temperature at the termination of this region must be nearly 100°C higher than at its beginning.

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