

Structure of continental crusts and lower crustal delamination

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Seismic velocity structures from the North American continent and the Europe continent provide important clues about the lower continental delamination. Moho depth data show that the average crustal thickness of the Paleozoic continental collision zones, e.g. Kaledonian-, Variscan- and Appalachian orogens, is thinner than that of the Archean/Proterozoic cratons. Compared to the Archean/Proterozoic cratons, the upper and lower crust of Paleozoic continental collision zones is thinner. In addition, the average P-wave velocity of continental collision zones is higher than that of cratons. These imply the delamination of the mafic lower crust after continental collision.