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## The fabrication of the 1.3 GHz single-cell cavity utilizing the different grain size niobium materials

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As the part of research into the manufacturing methods for SRF cavities used in ILC(International Linear Collider), two 1.3 GHz single-cell cavities have been fabricated by utilizing fine and medium grain size niobium materials, respectively, with the same manufacturing equipment. The fine grain size niobium material typically exhibits a grain size level equivalent to ASTM 5-6, whereas the medium grain size corresponds to ASTM 0-3 levels. The forming of the half cell shapes has been conducted using the same deep drawing die and press machine. The machining for cavity part fabrication and the welding for assembly have been carried out using identical jigs and equipment. We present the fabrication processes and the test results for cavities in detail.

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