



Vertical test results for ITN single cell cavities

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To support the ILC Technology Network (ITN) Cryomodule project at KEK, we have constructed and assembled six single cell cavities, four fine grain (FG) and two medium grain (MG) for vertical testing (VT). A series of surface treatment were applied to the cavities using the proposed recipe for the construction of the International Linear Collider (ILC). This recipe consists of four steps: bulk electropolishing (EP), annealing, cold EP, and finally two step baking. Using this recipe, we can consistently exceed the ILC specifications. We analyze the performance and characteristics of these cavities using Q vs E and temperature mapping measurements. One of the cavities was treated with a special recipe which skips the cold EP step to simplify the cavity preparation process. We find that this modified recipe is also able to exceed the ILC specification, however the quality factor was negatively affected.

I have read and accept the Privacy Policy Statement

Yes

Footnotes

Funding Agency

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