

## Abstract Details

**Title:** Oxy-acetylene brazing of al-cu metal tubes for minimizing refrigeration equipment cost

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**Abstract:** Several welding methods such as TIG, LASER were performed on Cu-Al ,with the arc was directed toward the copper as filler wire was added but the joints did not possess the required strength or ductility. It is also difficult to form Al-Cu joints by fusion welding because mutual solubility between Al and Cu in the liquid state but initiation of cracks after solidification. It is due to the significant difference in melting temperature and thermal conductivity of metals. In the present work, Cs-Al-F compounds in the form of white slurry is used brazing flux in the filler core wire. Such flux cored filler wire was found to be suitable for brazing aluminum-copper upto 350psi (2.4mpa) while the pressure encountered in piping of refrigeration system is about 20- 200 psi (0.14mpa to 1.4mpa). Brazed combination of Al-Cu in refrigeration system shall provide huge saving in cost of tubing while maintaining the desired mechanical and thermal properties.

**Keywords:** Flux core filler rod, welding, brazing, Cu-Al joints