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## Research on Brazing technique of tungsten materials and reduced active ferritic–martensitic steels

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An active helium cooled structure was adopted in the high performance divertors, which requires metallurgical bond of plasma facing materials (PFMs) and structural materials. The tungsten materials were one important part in the PFMs, and the structural materials were made of reduced active ferritic–martensitic steels (RAFMS). The tungsten materials were joined to RAFMS using Fe-based amorphous reduced active fillers by vacuum brazing. Joint interface was analyzed by several methods, such as optical microscope, SEM, EDS. The results showed that the weld zone forms a good metallurgical bond with no voids or cracks. And then the mechanical properties testing were performed preliminarily. The shear strength is 250MPa, which is much higher than other results.

### Eligible for student paper award?

Yes

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