CLAIMS

What is claimed is:

1. A cladded foil comprising:

a core comprising a balance of Al and between 0.2-0.4 wt. % Si, between 0.15-0.4 wt. % Cu, between 0.8-1.2 wt. % Mg, and between 0.04-0.35 wt. % Cr; and

a cladding comprising a balance of Al and between 1.5-4.5 wt. % Si, between 0.15-0.4 wt. % Cu, between 0.4-1.2 wt. % Mg, and between 0.04-0.35 wt. % Cr,

with the trace elements in the core and clad compositions comprising between 0-0.3 wt. % Fe, between 0-0.1 wt. % Mn, between 0-0.25 wt. % Zn, and between 0-0.15 wt. % Ti with any other elements less than 0.05 wt. % and the total of all other elements less than 0.15 wt. %.

2. The cladded foil of claim 1, wherein each foil is between 25 μm and 1000 μm in thickness.

3. The cladded foil of claim 1, wherein the core is a first layer of the foil and the cladding is a second layer of the foil.

4. The cladded foil of claim 1, wherein a first layer forms a first cladding of the foil, a second layer forms the core of the foil, and a third layer forms a second cladding of the foil.

5. The cladded foil of claim 1, wherein the cladding is between 8% and 45% of the total thickness of the cladded foil.

6. A cladded foil comprising:

a core comprising a balance of Al and between 0.2-0.4 wt. % Si, between 0.15-0.4 wt. % Cu, between 0.8-1.2 wt. % Mg, and between 0.04-0.35 wt. % Cr; and

a cladding comprising a balance of Al and between 1.5-4.5 wt. % Si, between 0.15-0.4 wt. % Cu, between 0.4-1.2 wt. % Mg, and between 0.04-0.35 wt. % Cr,

wherein the proportions of the core and cladding are selected so that the homogenization of the core and cladding results in 6061 aluminum alloy.

7. The cladded foil of claim 6, with the trace elements in the core and clad compositions comprising between 0-0.3 wt. % Fe, between 0-0.1 wt. % Mn, between 0-0.25 wt. % Zn, and between 0-0.15 wt. % Ti with any other elements less than 0.05 wt. % and the total of all other elements less than 0.15 wt. %.

8. The cladded foil of claim 6, wherein each foil is between 25 μm and 1000 μm in thickness.

9. The cladded foil of claim 6, wherein the core is a first layer of the foil and the cladding is a second layer of the foil.

10. The cladded foil of claim 6, wherein a first layer forms a first cladding of the foil, a second layer forms the core of the foil, and a third layer forms a second cladding of the foil.

11. The cladded foil of claim 6, wherein the cladding is between 8% and 45% of the total thickness of the cladded foil.

12. The cladded foil of claim 6, wherein the resulting alloy is 6061 aluminum alloy.

13. A cladded foil comprising:

a core comprising a balance of Al and between 0.2-0.4 wt. % Si, between 0.15-0.4 wt. % Cu, between 0.8-1.2 wt. % Mg, between 0.04-0.35 wt. % Cr, between 0-0.3 wt. % Fe, between 0-0.1 wt. % Mn, between 0-0.25 wt. % Zn, and between 0-0.15 wt. % Ti; and

a cladding comprising a balance of Al and between 1.5-4.5 wt. % Si, between 0.15-0.4 wt. % Cu, between 0.4-1.2 wt. % Mg, and between 0.04-0.35 wt. % Cr, between 0-0.3 wt. % Fe, between 0-0.1 wt. % Mn, between 0-0.25 wt. % Zn, and between 0-0.15 wt. % Ti.

14. The cladded foil of claim 13, with the trace elements in the core and clad compositions comprising between 0-0.3 wt. % Fe, between 0-0.1 wt. % Mn, between 0-0.25 wt. % Zn, and between 0-0.15 wt. % Ti with any other elements less than 0.05 wt. % and the total of all other elements less than 0.15 wt. %.

15. The cladded foil of claim 13, wherein each foil is between 25 μm and 1000 μm in thickness.

16. The cladded foil of claim 13, wherein the core is a first layer of the foil and the cladding is a second layer of the foil.

17. The cladded foil of claim 13, wherein a first layer forms a first cladding of the foil, a second layer forms the core of the foil, and a third layer forms a second cladding of the foil.

18. The cladded foil of claim 13, wherein the cladding is between 8% and 45% of the total thickness of the cladded foil.