

# Continuous Casting of Aluminum and Copper Clad Ingots Under Electromagnetic Field

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Aluminum and copper clad ingots have gained great attention because its versatility to wide application areas, such as brazing sheet, light weight electrical wire and clad plate. In general, clad sheet and wire can be fabricated by rolling bonding or adhesive bonding. However these processes require complicated pre-treatment and processing and its processing cost is high. In this study, casting of aluminium and copper clad ingot was suggested and integrated by modification of direct chill casting and horizontal casting. Key parameter for successful interface bonding was precise control of cooling rate in the mould divider. To improve the bonding behaviour and microstructure of clad ingot, electromagnetic stirring was applied during continuous casting process. By applying electromagnetic stirring, the interface bonding of clad ingot edge region was improved with refined microstructure. In result, uniform and strongly bonded aluminium and copper clad ingot was fabricated under electromagnetic field. Finally preliminary study of rolling and extrusion of clad ingot was conducted and it shows promising results for fabrication of clad sheets and wire.

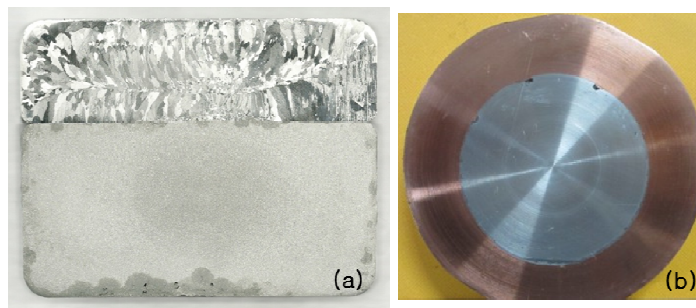


Figure 1: The microstructure of clad ingots, (a) Al/Al slab (b) Al/Cu billet

## References

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