

The effects of Cu-foils crystal structure to the Graphene growth

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Cu foil is one of the candidate material as the substrate of industrial-scale CVD graphene synthesis. JX Metals Corporation has been supplied its high performance rolled copper foils to graphene researchers. In this report, JX synthesised and analysed CVD graphene on four different copper foils, which has different crystal structure. (See Fig 1)

1. JX original HA Cu foil (HA)
2. JX original HA-V2 Cu foil (HA-V2).
3. Conventional Rolled and Annealed Tough Pitch Copper (TPC)
4. Conventional Electro-Deposited Cu foil (ED)

Synthesized graphene are evaluated by Raman spectroscopy after transfer from Cu foils. HA and HA-V2 which has higher (100) orientation showed better quality and mono-layer fraction than other conventional foils.

Figures

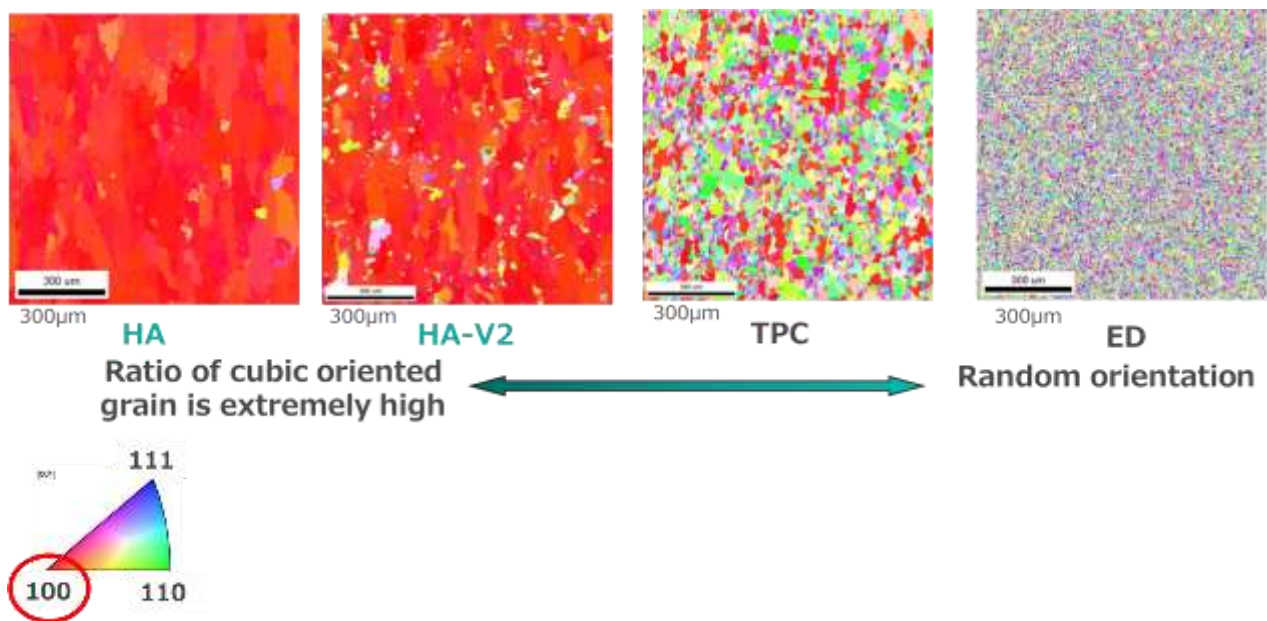


Figure 1: Crystal Orientation Comparison of 4 different Cu foils by EBSD (Electron BackScattering Pattern) mapping