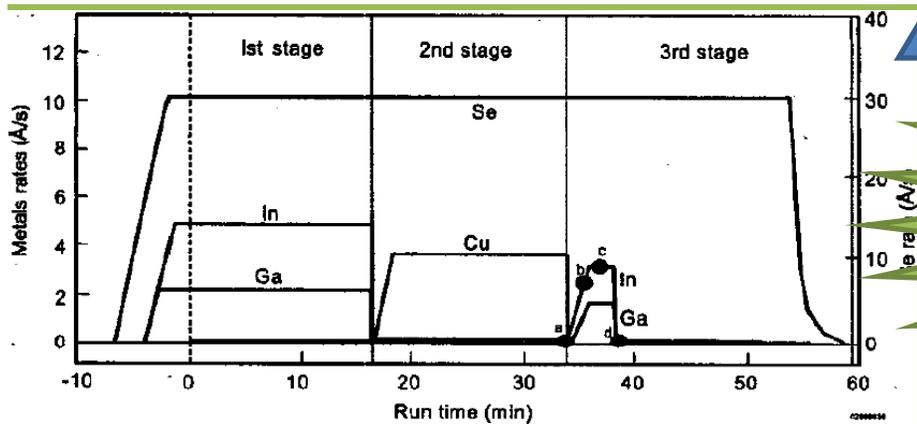




# Cu(In,Ga)Se<sub>2</sub> Photovoltaic Absorber

19.5% efficient device;  
1 hr process

Adapt lab methods to high  
rate chemical vapor  
deposition



2 min roll-to-roll process



R. Noufi, Y. Yan, J. Abu-Shama, K. Jones, M. Al-Jassim, B. Keyes, J. Alleman, and K. Ramanathan, *The Conference Record of the 29<sup>th</sup> IEEE Photovoltaic Specialists Conference*, IEEE, Piscataway, 508, 2002.

# Chemical Vapor Deposition of CIGS

