

課題番号 : F-14-AT-0082
 利用形態 : 技術代行
 利用課題名(日本語) :
 Program Title (English) : The Adhesion of Ceramic Particles onto a Glass Substrate
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1. 概要(Summary)

The objective of this study is to investigate the interface layer (adhesion) of a ceramic film deposited onto a glass substrate.

2. 実験(Experimental)

The ceramic film was deposited onto the glass substrate at room temperature [1]. The metal trace-substrate interface layer was observed using FIB-SEM, where the cross-sectioning could be done in-situ. Prior to the FIB-SEM characterization, a layer of Palladium (100 nm) was sputtered onto the sample surfaces to minimize any electron charging during the FIB-SEM process.

3. 結果と考察(Results and Discussion)

Figures 1 and 2 show the cross-sectional views of the ceramic film on the glass substrate.

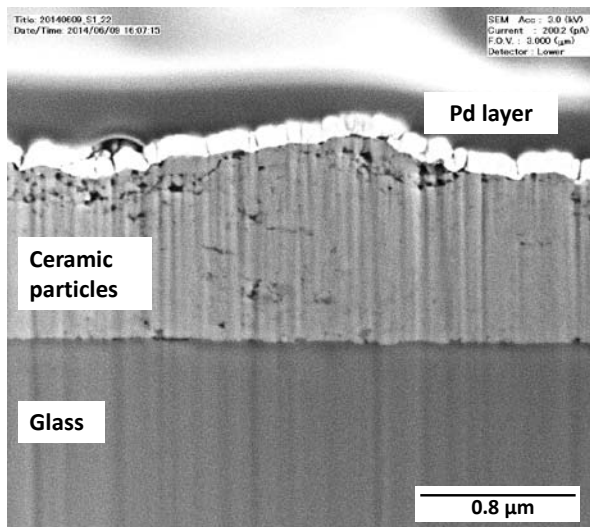


Fig.1 Cross-sectional view 1 of the ceramic film on a glass substrate.

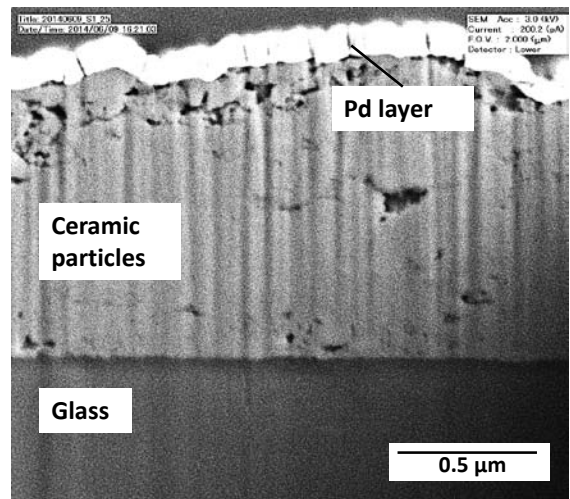


Fig.2 Cross-sectional view 2 of the ceramic film on a glass substrate.

From both figures, a good adhesion of the ceramic particles onto glass could be observed, which indicates the presence of a uniform anchor layer. These results are promising towards the goal of depositing metallic films onto glass.

4. その他・特記事項(Others)

Nil.

5. 論文・学会発表(Publication/Presentation)

[1] Ying Ying Lim, Yee Mey Goh, Hiroki Tsuda, Jun Akedo, Masahiro Aoyagi, Changqing Liu, “Adhesion of Aerosol Deposition Traces Targeted for Flexible Electronics Applications” Proc. Third Int. Conf. Adv. Manuf. Multifunct. Miniaturised Devices (ICAM3D); 1 pp., 2014.

6. 関連特許(Patent)

Nil