Combinatorial process for Bulk Metallic Glasses

OCR Number: OCR 6186

Rapid Development of BMG Alloys with High Formability

High-Throughput Characterization

\[ F \propto \frac{h}{S} \]

- Combinatorial Sputtering
- Al: 10-30 %
- Cu: 30-60 %
- Zr: 30-55 %

- Compositional Library
- Adhesion Layer
- Gas Releasing Agents
- (GRAs)
- (GRAs) Si
- Steel
High-Throughput Characterization of Formability

\[ F \propto \frac{h}{S} \]

A. P1  
\( \text{Si Mold} \)  
P2  
BMG

B. 

C.  

Si Mold  
MG Film  
P1  
P2  

\(~3000 \text{ compositions}\)
Best formability composition here: Mg_{69}Cu_{21}Y_{10}

Best formability composition reported: Mg_{65}Cu_{25}Y_{10}

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