Combinatorial process for Bulk Metallic Glasses

OCR Number: OCR 6186

Rapid Development of BMG Alloys with High Formability

High-Throughput Characterization

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

\( P_1 \quad P_2 \)

Si Mold

MG Film

\( F = \frac{1}{M} \int \frac{1}{\eta(T)} \, dF \)

Compositional Library

Adhesion Layer

Gas Releasing Agents

(GrAs) (GrAs) Si

Steel
High-Throughput Characterization of Formability

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

A. P1

B. Si Mold

C. MG Film

~3000 compositions
Mg-Cu-Y

Best formability composition here: $\text{Mg}_{69}\text{Cu}_{21}\text{Y}_{10}$

Best formability composition reported: $\text{Mg}_{65}\text{Cu}_{25}\text{Y}_{10}$

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