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

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<th>Compositional Library</th>
<th>Adhesion Layer</th>
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<td>Gas Releasing Agents</td>
<td>(GRAS)</td>
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<tr>
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<td>Si</td>
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<td>Steel</td>
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High-Throughput Characterization of Formability

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

A. P1 \text{ Si Mold} \quad \text{P2 \quad BMG}

B. \text{~3000 compositions}

Yale 5.0kV 5.2mm x120 SE(M)

Yale 5.0kV 0.1nm x35 SE(M)
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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