

New Book Information

Metallic Glasses and Their Composites

D.V. Louzguine

Handbook

The formation of metallic glasses and dual-phase composite/hybrid materials is reviewed, as well as the glass transition process and the resulting structural phenomena. These materials exhibit high strength, extreme hardness, good wear resistance and large elastic deformation.

Keyword: Metallic glasses, metallic glass composites, crystal/glass transition, nano-crystallization, phase separations, supercooled liquids, glassy nanocomposites, nanoscale quasicrystals, mechanical properties, nanoscale wear resistance, Bauschinger effect, cryogenic temperature, porous glasses, nanocomposite alloys, soft magnetic alloys, hard magnetic alloys, magnetocaloric effect, corrosion resistant alloys, surface oxides, catalysts

ISBN 13: 978-1-945291-42-5

Publication Date: 2018 (1/2/2018)

Direct URL: <http://www.mrforum.com/product/metallic-glasses-and-their-composites>

334 pages, color print, paperback, USD 125.00

Materials Research Foundations Vol. 19

BISAC Subject Classification code: TEC021000

BIC/Thema Subject Classification code: TGM

Imprint: Materials Research Forum LLC, publisher's sales rights are Worldwide

Product Form: bc

Summary:

The formation of metallic glasses and dual-phase composite/hybrid materials is reviewed, as well as the glass transition process and the resulting structural phenomena. These materials exhibit high strength, extreme hardness, good wear resistance and large elastic deformation.

Due to their excellent structural, functional, magnetic, chemical and biological properties metallic glasses are suitable for a great many applications, including in such areas as microelectromechanical devices, pressure sensors, orthopaedic screws and precision surgical instruments.

