Cu_alloys dataset

Dataset of mechanical properties and electrical conductivity of copper-based alloys

Gorsse, S., Gouné, M., Lin, W-C. & Girard, L. Dataset of mechanical properties and electrical conductivity of copper-based alloys, Figshare, https://doi.org/10.6084/m9.figshare.c.6475600.v1 (2013).

This dataset is a collection of data on approximately 150 copper-based alloys, including Cu-Be, Cu-Ti, Cu-Ni-Ti, and low low-alloyed Cu-based alloys. The data compilation is based on articles published since 1993 and consists of about 1831 records. Each record contains a unique set of descriptors, such as composition and processing route, and targets, including properties such as hardness, yield strength, ultimate tensile strength, and electrical conductivity. The dataset includes information on the composition in mass percent of 20 alloying elements, and hundreds of temperature-time thermal treatments and thermomechanical conditions.

1832 entries (rows)

Alloy formula;

Alloyclass;

Cu;Al;Ag;B;Be;Ca;Co;Ce;Cr;Fe;Hf;La;Mg;Mn;Mo;Nb;Nd;Ni;P;Pb;Pr;Si;Sn;Ti;V;Zn;Zr;Tss (K);

tss (h);

CR reduction (%);

Aging;

Tag (K);

tag (h);

Secondary thermo-mechanical process;

Hardness (HV);

Yield strength (MPa);

Ultimate tensile strength (MPa);

Electrical conductivity (%IACS);

DOI