Erroneous entries uncovered

Uncover 30 errors in the MaterialsUniverse database in density, melting temperature, yield stress, and elongation for steels, alloys, and polymers
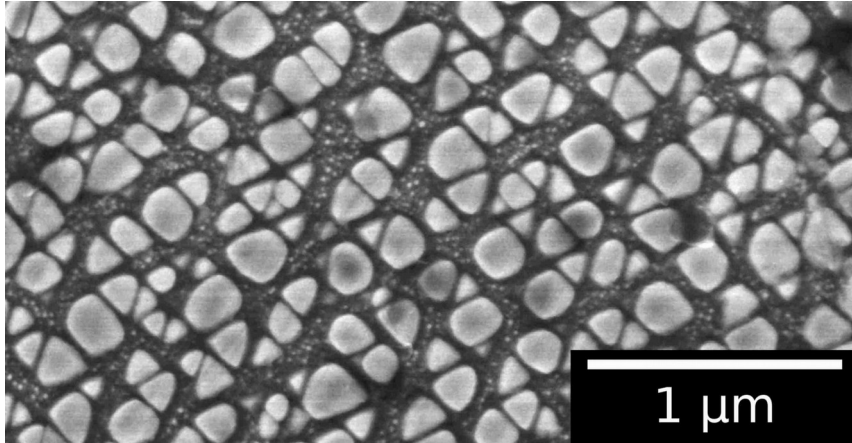
Errors confirmed against primary data sources

Errors found with 80% fidelity

Exploit composition-property and property-property correlations
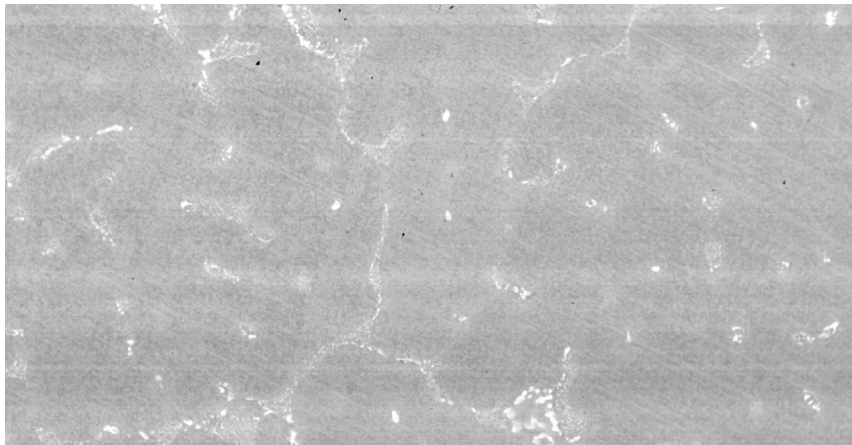
Predict number of errors remaining in the database

Alloys designed

1 μm

Nickel-base superalloy
Materials & Design 131, 358 (2017)

Optimize and experimentally verify cost, density, phase stability, fatigue life, yield stress, ultimate tensile strength, stress rupture, oxidation resistance, and tensile elongation

Molybdenum-base forging alloy
Scripta Materialia 146, 82 (2018)

Optimize and experimentally verify cost, phase stability, precipitate content, yield stress, and hardness