

# JMatPro

PRACTICAL SOFTWARE FOR MATERIALS PROPERTIES

**MPO version 1.0 – March 2022**

**MPO version 1.0.1 – January 2023**

**MPO version 2.0 – September 2024**

**MPO version 2.1 – November 2024**

## **VERSION 2.1 (November 2024)**

- Fixed casting route calculations for stainless steels.
- Added check to prevent running calculations for pure elements.
- Updated terms and conditions.

## **VERSION 2.0 (September 2024)**

- Extended design space to include processing variables: heat treatment temperature, austenitisation temperature, cooling rate, and holding temperature/time
- Implemented calculation of mechanical properties for aluminium alloys, general steels, and Ni- and NiFe-based superalloys
- Added a casting route for the calculation of thermodynamic and physical properties
- Added new module "Cast Iron"
- Extended objective space to include many more properties: average expansion coefficient, solidification range, hot cracking susceptibility, growth restriction factor, room-temperature yield stress, tensile stress, and hardness, rupture stress/life, average bond order and orbital energy level
- Further extended objective space to include user-defined properties as a function of temperature and alloy composition
- Updated the thermodynamic and properties databases to match those included in JMatPro v14.0
- Fixed a minor bug preventing some popup components from working properly

## **VERSION 1.0.1 (January 2023)**

- Fixed a minor initialisation bug

## **MPO released (v1.0) (March 2022)**

