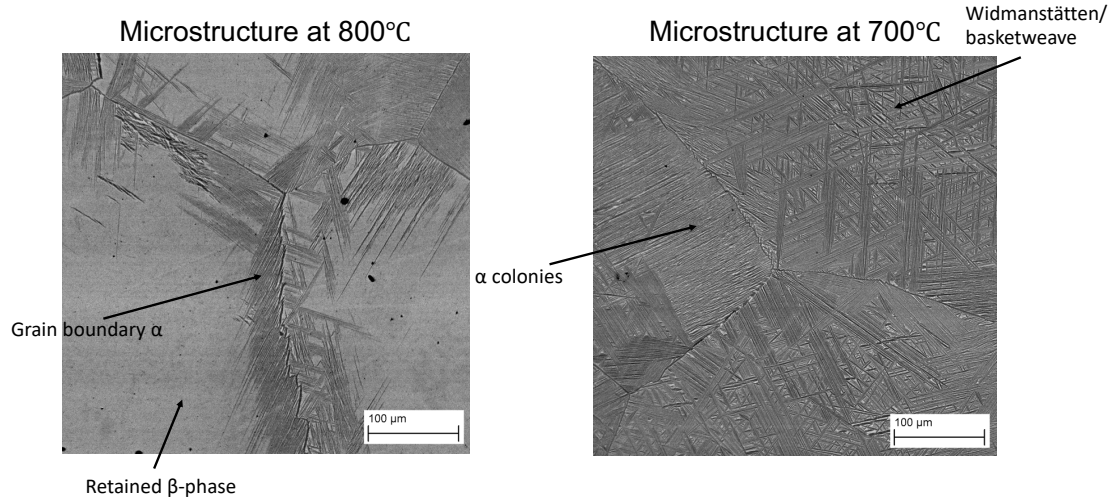


Phase Transformation in Ti and Zr alloys

Practice Questions

Please try to answer these questions, which were asked in the online videos. We will cover the answers to these questions, and others, in the “live” lecture.

1. Which crystal structure has the highest density, the α , hexagonal close-packed, phase or the β , body-centred cubic?
2. This near beta (metastable) Ti alloy was fast cooled from 800°C and from 700°C, so we can see what the high temperature microstructure would have looked like. How is this possible?



3. Using the Burgers Orientation Relationship, it is possible for there to be up to 12 different α variants produced on cooling from a single β -phase orientation. How many β variants can be produced from a single α orientation on heating?