

Title (en)
UNIT CELL TITANIUM CASTING

Title (de)
EINHEITSZELLENTITANGUSS

Title (fr)
COULÉE DE TITANE DE CELLULE UNITAIRE

Publication
EP 3439814 B1 20201209 (EN)

Application
EP 17779664 A 20170404

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Abstract (en)
[origin: TW201738389A] A system (5) and method (800) for unit cell casting of titanium or titanium-alloys is disclosed herein. The system (5) comprises an external chamber (45), a crucible (10) positioned within the external chamber (45), an induction coil (15) positioned around the crucible, an internal chamber (40) positioned within the external chamber (45), and a mold (30) positioned within the internal chamber (40). The external chamber (45) is evacuated and a pressurized gas is injected into the evacuated external chamber (45) to create a pressurized external chamber (45). An ingot (20) is melted within the crucible utilizing induction heating generated by the induction coil (15). The internal chamber (40) is evacuated to create an evacuated internal chamber (40). The titanium alloy material of the ingot (20) is completely transferred into the mold (30) from the crucible (10) using a pressure differential created between the external chamber (45) and the internal chamber (40).

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