

ABSTRACT
HARD METAL MATERIALS

The present invention discloses a hard metal material in the form of a casting comprising 5-50 volume % particles of a refractory material with particle sizes less than 500 microns dispersed in a host metal, wherein the refractory material comprises particles of carbides and/or nitrides and/or borides of any one or more than one of titanium, zirconium, hafnium, vanadium, niobium, tantalum, chromium, and molybdenum.

The present invention also discloses a method of manufacturing a component of a hard metal material comprising:

- (a) forming a slurry of a hard metal material comprising 5-50 volume % particles of a refractory material that comprises particles of carbides and/or nitrides and/or borides of any one or more than one of titanium, zirconium, hafnium, vanadium, niobium, tantalum, chromium, and molybdenum with particle sizes less than 500 microns dispersed in a liquid host metal in an inert atmosphere, and
- (b) pouring the slurry into a mould and forming a casting of the component.

Figure 1