

ABSTRACT

Proposed is a method of producing an yttrium-based thermal spray coating. The method includes forming a coating on a substrate by atmospheric plasma spraying of an yttrium-based granular powder including at least one yttrium compound powder selected from the group consisting of Y_2O_3 , YOF , YF_3 , $Y_4Al_2O_9$, $Y_3Al_5O_{12}$, and $YAlO_3$, and a silica (SiO_2) powder. The yttrium-based granular powder includes less than 10 w% of a Y-Si-O mesophase. Then yttrium-based thermal spray coating can exhibit low porosity, high density, and excellent plasma resistance.

Fig. 1