

Title (en)

Composite material including alumina-silica short fiber reinforcing material and aluminum alloy matrix metal with moderate copper and silicon contents.

Title (de)

Verbundwerkstoff mit kurzen Tonerde-Silikafasern als Verstärkungselement und eine Matrix bestehend aus einer Aluminiumlegierung mit geringen Kupfer- und Siliziumgehalten.

Title (fr)

Matériau composite comportant des fibres courtes alumine-silice comme matériau de renforcement et une matrice métallique d'un alliage d'aluminium avec des teneurs en cuivre et en silicium peu élevées.

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Application

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Priority

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Abstract (en)

A composite material is made from alumina-silica type short fibers embedded in a matrix of metal. The metal is an alloy consisting essentially of between approximately 1.5% to approximately 6% of copper, between approximately 0.5% to approximately 2% of silicon, and remainder substantially aluminum. The short fibers may be all alumina short fibers, or may be all amorphous alumina-silica short fibers, or may have a substantial proportion of the mullite crystalline form included in them. The fiber volume proportion of the alumina-silica type short fibers may desirably be between approximately 5% and approximately 50%, and may more desirably be between approximately 5% and approximately 40%. And, in the desirable case that the fiber volume proportion of the alumina-silica type short fibers is between approximately 5% and approximately 20%, then the copper content of said aluminum alloy matrix metal is desired to be between approximately 2% and approximately 6%.

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