

Title (en)
CARBIDE WITH TOUGHNESS-INCREASING STRUCTURE

Title (de)
HARTMETALL MIT ZÄHIGKEITSSTEIGERNDEN GEFÜGE

Title (fr)
MÉTAL DUR À STRUCTURE AUGMENTANT SA RÉSISTANCE

Publication
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Application
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Abstract (en)
[origin: WO2017186468A1] The invention relates to a method for producing a carbide with a toughness-increasing structure, comprising the following steps: providing a hard material powder, wherein the average BET particle size of the hard material powder is less than 1.0 µm; mixing the hard material powder with a binder powder; shaping the mixture made of hard material powder and binder powder to form a green body; and sintering the green body. The invention also relates to a carbide with a toughness-increasing structure comprising a phase made of hard material particles and a phase made of binder metal heterogeneously distributed in the carbide, which is present in the form of binder islands, wherein the carbide with a toughness-increasing structure produced after the sintering has a phase made of hard material particles with an average particle size in the region between 1 nm and 1000 nm, and the binder islands have an average size of 0.1 µm to 10.0 µm and an average distance between the binder islands of 1.0 µm to 7.0 µm.

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