

Title (en)
COMPOSITE TOOTH WITH TAPERED INSERT

Title (de)
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Title (fr)
DENT COMPOSITE AVEC INSERT TRONCONIQUE

Publication
EP 3563951 A1 20191106 (FR)

Application
EP 18170766 A 20180504

Priority
EP 18170766 A 20180504

Abstract (en)
[origin: CA3098478A1] The present invention discloses a composite tooth for working the ground or rocks, said tooth having a ferrous alloy reinforced at least in part by an insert, said part reinforced by the insert making it possible, after in situ reaction, to obtain an alternating macro/microstructure of concentrated millimetric zones of micrometric globular particles of titanium carbides separated by millimetric zones substantially free of micrometric globular particles of titanium carbides, said concentrated zones of micrometric globular particles of titanium carbides forming a microstructure in which micrometric interstices between said globular particles are also occupied by said ferrous alloy, characterized in that said macro/microstructure generated by the insert is spaced by at least 2 mm, preferably at least 3 mm, from the distal surface of said tooth.

Abstract (fr)
La présente invention divulgue une dent composite pour le travail du sol ou des roches, ladite dent comportant un alliage ferreux renforcé au moins en partie par un insert, ladite partie renforcée par l'insert permettant, après réaction in situ, l'obtention d'une macro-microstructure alternée de zones millimétriques concentrées en particules globulaires micrométriques de carbures de titane séparées par des zones millimétriques substantiellement exemptes de particules globulaires micrométriques de carbures de titane, lesdites zones concentrées en particules globulaires micrométriques de carbures de titane formant une microstructure dans laquelle les interstices micrométriques entre lesdites particules globulaires sont également occupés par ledit alliage ferreux caractérisée en ce que ladite macro-microstructure engendrée par l'insert est distante d'au moins 2 mm, de préférence au moins 3 mm de la surface distale de ladite dent.

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CPC (source: EP US)
B22D 19/02 (2013.01 - EP US); **B22F 3/23** (2013.01 - EP); **B22F 5/08** (2013.01 - EP); **C22C 1/055** (2013.01 - EP); **C22C 1/1015** (2013.01 - EP); **C22C 1/1036** (2013.01 - EP US); **C22C 1/1057** (2023.01 - EP); **C22C 33/0242** (2013.01 - EP); **E02F 9/285** (2013.01 - EP US); **B22F 2005/001** (2013.01 - EP US); **B22F 2007/066** (2013.01 - EP); **B22F 2998/00** (2013.01 - EP)

C-Set (source: EP US)
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Citation (applicant)
WO 2010031660 A1 20100325 - MAGOTTEAUX INT [BE], et al

Citation (search report)
• [XAI] US 2017233986 A1 20170817 - YANIAK THOMAS JOHN [US], et al
• [IDY] WO 2010031660 A1 20100325 - MAGOTTEAUX INT [BE], et al
• [Y] US 5337801 A 19940816 - MATERKOWSKI JAMES P [US]
• [A] JP 2004092208 A 20040325 - KOMATSU MFG CO LTD
• [A] WO 2017081665 A1 20170518 - INNERCO SP Z O O [PL]
• [A] US 5081774 A 19920121 - KUWANO YUKIMITSU [JP]

Cited by
CN115385726A; WO2021168297A1

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