

Title (en)
DYNAMOELECTRIC MACHINE HAVING AN ENCAPSULATED COIL STRUCTURE

Title (de)
DYNAMOELEKTRISCHE MASCHINE MIT HARZVERKAPSELTER SPULENANORDNUNG

Title (fr)
MACHINE ELECTRODYNAMIQUE A ENROULEMENTS ENROBES

Publication
EP 1522134 A2 20050413 (EN)

Application
EP 03764427 A 20030710

Priority
• US 0321544 W 20030710
• US 39525102 P 20020712

Abstract (en)
[origin: WO2004008603A2] Magnet wires wound in slots in a lamination stack of a dynamoelectric machine are encapsulated, in whole or in part, with plastic. The plastic may be thermally conductive and have features molded therein that enhance heat transfer. The plastic may stiffen the armature and increase its critical speed. Characteristics of the plastic, its geometry and its distribution may be varied to adjust spinning inertia and resonant frequency of the armature. The magnet wires may be compressed into the slots, by application of iso-static pressure or by the pressure of the plastic being molded around them. Larger magnet wire can then be used which increases the power of the electric motor using the armature having the larger magnet wire. A two or three plate mold may be used to mold the plastic around the armature. Balancing features can be molded in place. The plastic can have a base polymer that is a blend of two or more polymers and various thermally conductive fillings.

IPC 1-7
H02K 15/12; H02K 13/00; H02K 3/34; H02K 1/32; H02K 9/22; H02K 3/46; H02K 3/48; H02K 3/12; H02K 1/30; H02K 15/16; H02K 7/04; H02K 13/04; H02K 3/30

IPC 8 full level
B29C 45/14 (2006.01); **H01F 5/00** (2006.01); **H02K 1/30** (2006.01); **H02K 1/32** (2006.01); **H02K 3/12** (2006.01); **H02K 3/30** (2006.01); **H02K 3/34** (2006.01); **H02K 3/44** (2006.01); **H02K 3/46** (2006.01); **H02K 3/48** (2006.01); **H02K 7/04** (2006.01); **H02K 9/22** (2006.01); **H02K 13/00** (2006.01); **H02K 13/04** (2006.01); **H02K 15/12** (2006.01); **H02K 15/16** (2006.01); **H02K 3/487** (2006.01); **H02K 3/50** (2006.01); **H02K 9/20** (2006.01)

CPC (source: EP US)
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