US 20230231427A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2023/0231427 A1**

Leonardi et al. (43) **Pub. Date: Jul. 20, 2023**

(54) **STATOR WITH SERPENTINE COOLANT PATH ON THE OUTER SURFACE**

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(21) Appl. No.: **17/576,584**

(22) Filed: **Jan. 14, 2022**

Publication Classification

(51) **Int. Cl.**

H02K 1/20	(2006.01)
H02K 7/00	(2006.01)
H02K 9/19	(2006.01)

(52) **U.S. Cl.**

CPC ***H02K 1/20*** (2013.01); ***H02K 7/006*** (2013.01); ***H02K 9/19*** (2013.01)

(57) **ABSTRACT**

An electric machine for an electrified vehicle includes a stator core configured to receive a plurality of windings. The stator core including a plurality of interchangeable stacked laminations arranged in sub-stacks. The sub-stacks having an outer diameter surface divided into circumferential quadrants, each quadrant having a cutout extending inwardly at a predetermined depth and radial position to define a serpentine cooling path on the outer surface of at least a portion of the sub-stacks. The sub-stacks are circumferentially rotated relative to each other such that two quadrants have a first cutout orientation, and the two other quadrants have a second cutout orientation, the first cutout orientation is different than the second cutout orientation and when rotated in sequence each cutout aligns to form the continuous serpentine cooling path in a quadrant of the stator core.