

Title (en)

AIRFOIL STRUCTURE, PRESSURE VESSEL AND METHOD OF PRODUCING THE SAME

Title (de)

TRAGFLÜGELSTRUKTUR, DRUCKBEHÄLTER UND VERFAHREN ZU DEREN HERSTELLUNG

Title (fr)

STRUCTURE DE SURFACE PORTANTE, RÉCIPIENT SOUS PRESSION ET SON PROCÉDÉ DE FABRICATION

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Application

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Priority

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Abstract (en)

The present invention relates to an airfoil structure, a pressure vessel for an airfoil structure, a method of manufacturing a pressure vessel for an airfoil structure and a method of manufacturing an airfoil structure. The airfoil structure (10) comprising:- an outer airfoil shape (12) configured to contact an airflow; and- at least one pressure vessel (20) disposed inside the outer airfoil shape (12) so that the at least one pressure vessel (20) is configured to carry at least a part of a load applied to the outer airfoil shape (12);wherein the at least one pressure vessel (20) comprises a plurality of vessel segments (30),wherein the plurality of vessel segments (30) are connected substantially in an axial direction (A) of the at least one pressure vessel (20), andwherein the plurality of connected vessel segments (30) substantially are wrapped with at least one pressure vessel layer (40) of fibre reinforced plastic so as to form one substantially continuous pressure vessel (20).

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- [Y] DE 102015008178 A1 20170202 - APUS AERONAUTICAL ENG GMBH [DE]
- [XAYI] US 10781973 B2 20200922 - BERNARD JAMES [GB], et al
- [XI] WO 2016173586 A1 20161103 - FRAUENTHAL AUTOMOTIVE MAN GMBH [DE]
- [A] CN 106628114 A 20170510 - UNIV BEIHANG
- [A] GB 2580686 A 20200729 - STRATOSPHERIC PLATFORMS LTD [IM]
- [A] US 2015336680 A1 20151126 - SCHUMACHER MARKUS [DE], et al
- [A] US 2015069184 A1 20150312 - BARMICHEV SERGEY D [US], et al

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