Title (en)

MONOLITHIC MEMBRANE FILTRATION STRUCTURE

Title (de)

MONOLITHISCHE MEMBRANFILTRATIONSSTRUKTUR

Title (fr)

STRUCTURE FILTRANTE MONOLITIQUE A MEMBRANE

Publication

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Application

EP 18732840 A 20180531

Priority

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Abstract (en)

[origin: WO2018220332A1] Membrane filtration structure for the filtration of liquids, comprising at least one monolithic material comprising: - a support (1) formed of a porous inorganic material of permeability Ks, the support having a generally tubular shape having a main axis (X), an upstream face (2), a downstream face (3), a peripheral surface and an inner portion; - a plurality of channels (4, 5) parallel to the main axis of the support, formed in the inner portion of the support, the channels being separated from each other by internal walls formed of the porous inorganic material; the channels being sealed at one or the other of the upstream or downstream ends thereof in the flow direction of the liquid, to respectively define inlet channels (4) and outlet channels (5) for the liquid, in order to force the liquid to pass through the porous walls separating the inlet and outlet channels, - a membrane (6) of permeability Km and average thickness tm covering the inner surface of at least the inlet channels (4); characterised in that the average path distance D of the liquid satisfies the relationship (1): D = α×(A×log(Ks×tm/Km)+B) (1) wherein: α is a coefficient within a range of 0.0008 to 0.0013; A = 272×Øc +272×pi + 0,02; and B = 601×Øc + 1757×pi + 0.28; Øc being the average hydraulic diameter of the channels and pi being the average thickness of the inner walls.

IPC 8 full level

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CPC (source: EP US)

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