

Title (en)

Electrochemical anti-fouling system for structures wetted by sea water

Title (de)

Elektrochemisches Antifoulingsystem für seewasserbenetzte Bauwerke

Title (fr)

Système antisalissure électrochimique pour constructions mouillées par de l'eau de mer

Publication

EP 2316584 B1 20130327 (DE)

Application

EP 10075718 A 20101024

Priority

DE 102009051768 A 20091030

Abstract (en)

[origin: EP2316584A1] Electrochemical antifouling system (I), for combating the attachment of fouling organisms on seawater wetted building structures (02, 03), comprises a direct current circuit (23) for producing electrolysis in seawater, a grid structure electrode (05), at least a counter electrode (06) connected at the opposite poles of the grid structure electrode and an adjustable direct current source (07). Electrochemical antifouling system (I), for combating the attachment of fouling organisms on seawater wetted building structures (02, 03), comprises a direct current circuit (23) for producing electrolysis in seawater, a grid structure electrode (05), at least a counter electrode (06) connected at the opposite poles of the grid structure electrode and an adjustable direct current source (07), where (I) is characterized by: a form-stable formation of the grid structure electrode made of a single metal component of the lattice structure; a corrosion-resistant formation of the counter electrode; an arrangement of the grid structure electrode at such a distance range before the surface of the building structure to be protected in such a way that the surface lies in the area of influence of a pH-value-increase caused by the electrolysis of the seawater; an electrical insulation of the grid structure electrode against the surface of the building; and a device for alternative connection of the grid structure electrode either in a continuous operation mode with a circuit of the grid structure electrode as a cathode and with an adjustment of the direct current source, in which an accretion of soft brucite and a pH-value above the pH-value-tolerance limits of fouling organisms to be combated in the seawater occurs due to the production of current density at the grid structure electrode connected as cathode or in a temporary dismantling mode with a circuit of the grid structure electrode as the anode and with the adjustment of the direct current source, in which a reducing oxidation for completing dissolution of the grid structure electrode occurs due to the production of the current density at the grid electrode structure connected as anode. ACTIVITY : Antifouling. MECHANISM OF ACTION : None given.

IPC 8 full level

B08B 17/00 (2006.01); **B63B 59/04** (2006.01); **C23F 13/06** (2006.01); **E02B 17/00** (2006.01)

CPC (source: EP US)

B08B 17/00 (2013.01 - EP US); **B63B 59/04** (2013.01 - EP US); **C23F 13/06** (2013.01 - EP US); **E02B 17/0017** (2013.01 - EP US)

Cited by

CN114774947A; WO2014053107A1; US9434457B2

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

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DOCDB simple family (application)

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