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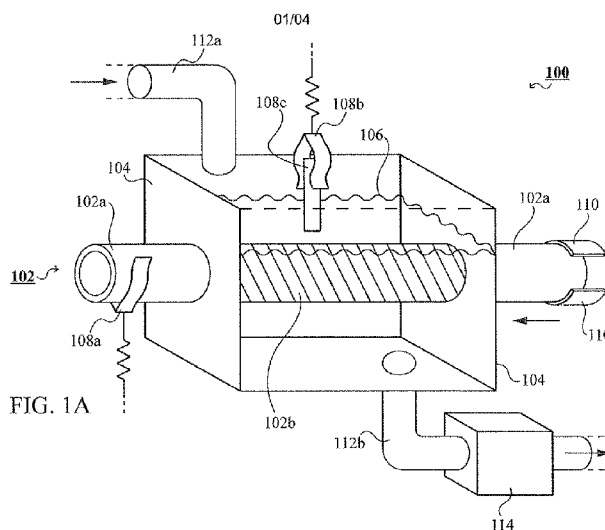
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(54) Title: ARTICLES FROM MICROARC PROCESSES AND METHODS OF MANUFACTURING SAME



(57) Abstract: A microarc oxidation process which are not limited by certain dimensions of their size. Different sections or surfaces of articles of the invention may be subjected to a microarc oxidation process at any given time, such as by gradually subjecting or such as by sequentially subjecting different sections of an articles to a microarc oxidation process. Furthermore, disclosed are methods for manufacturing of articles of the invention, or otherwise for subjecting articles of the invention to a microarc oxidation process, or plurality thereof. In some examples, tubes of above 6 meter in length may be coated according to methods of the invention. The coating of said tubes may be beneficial for desalination applications. In other examples, only grooves of pulleys are coated. Further disclosed are articles which underwent a microarc oxidation process, or plurality thereof, which included different solution optionally by utilizing a solution modulator.



INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB 11/52997

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - C25D 5/00 (2011.01)

USPC - 205/80

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC(8)- C25D 5/00 (2011.01);

USPC- 205/80

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

USPC- 205/538, 333, 401, 560, 704;

Patents and NPL (classification, keyword; search terms below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

PubWest (US Pat, PgPub, EPO, JPO), GoogleScholar (PL, NPL), FreePatentsOnline (US Pat, PgPub, EPO, JPO, WIPO, NPL);

search terms: plasma, metal, electrolyte, oxide, coat, local, surface, tube, tubing

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2009/0138077 A1 (WEBER et al.) 28 May 2009 (28.05.2009), para [0003], [0018], [0021], [0024], [0049], [0058], [0079]	10-17
Y	US 5,616,229 A (SAMSONOV et al.) 01 April 1997 (01.04.1997), Figs. 3, 4; col 2, ln 21-38; col 3, ln 39-50; col 4, ln 4-16; col 5, ln 61 to col 6, ln 17; col 6, ln 42-60	1, 2, 6
Y	US 5,720,866 A (EROKHINE et al.) 24 February 1998 (24.02.1998), Fig. 2; col 1, ln 8-15; col 1, ln 55 to col 2, ln 27; col 2, ln 64-67; col 6, ln 56-67;	1, 2
Y	CA 2 474 367 A1 (ZHANG) 26 January 2001 (26.01.2001), Figs. 1-4; pg 3, para 5-7; pg 4, para 3-4 pg.5, para 4	6
Y	US 2010/0087914 A1 (BAYER et al.) 08 April 2010 (08.04.2010), para [0023]-[0070]	1, 2, 6, 10-17
Y	US 2008/0086195 A1 (ATANASOKA et al.) 10 April 2008 (10.04.2008), para [0018]-[0050]	1, 2, 6, 10-17
Y	US 5,480,497 A (ZALUZEC et al.) 02 January 1996 (02.01.1996), Fig. 1; col 2-3	1, 2, 6, 10-17

 Further documents are listed in the continuation of Box C.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

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INTERNATIONAL SEARCH REPORTInternational application No.
PCT/IB 11/52997**Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.: 3-5, 7-9, 18
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.