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(74) Agent: **ROSENBAUM, David, G.**; Rosenbaum & Associates, P.C., Suite #3653, 875 North Michigan Avenue, Chicago, IL 60611 (US).

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(71) Applicant (for all designated States except US): **ADVANCED BIO PROSTHETIC SURFACES, LTD.**
[US/US]; 4778 Research Drive, San Antonio, TX 78240 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **MARTON, Denes**
[US/US]; 11015 Whisper Hollow, San Antonio, TX 78230 (US).

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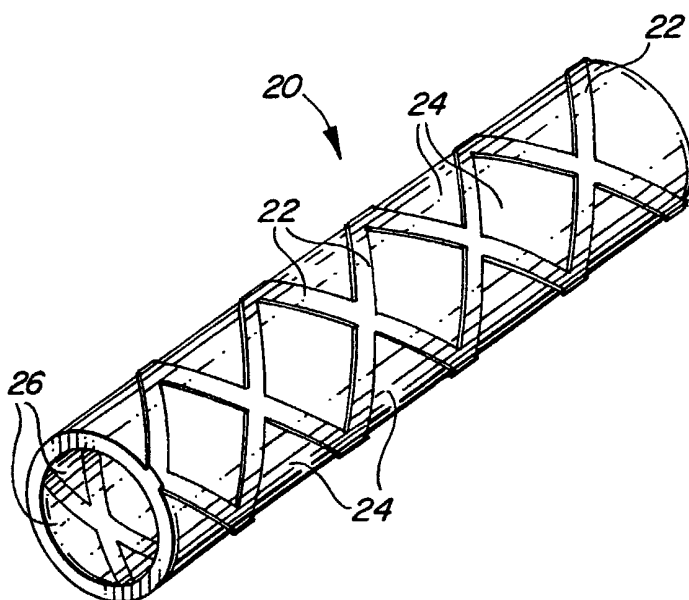
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(54) Title: SELF-SUPPORTING LAMINATED FILMS, STRUCTURAL MATERIALS AND MEDICAL DEVICES



(57) Abstract: Metal foils, wires, and seamless tubes with increased mechanical strength are provided. As opposed to wrought materials that are made of a single metal or alloy, these materials are made of two or more layers forming a laminate structure. Laminate structures are known to increase mechanical strength of sheet materials such as wood and paper products and are used in the area of thin films to increase film hardness, as well as toughness. Laminate metal foils have not been used or developed because the standard metal forming technologies, such as rolling and extrusion, for example, do not lend themselves to the production of laminate structures. Vacuum deposition technologies can be developed to yield laminate metal structures with improved mechanical properties. In addition, laminate structures can be designed to provide special qualities by including layers that have special properties such as superelasticity, shape memory, radio-opacity, corrosion resistance etc. Examples of articles

which may be made by the inventive laminate structures include implantable medical devices that are fabricated from the laminated deposited films and which present a blood or body fluid and tissue contact surface that has controlled heterogeneities in material constitution. An endoluminal stent-graft and web-stent that is made of a laminated film material deposited and etched into regions of structural members and web regions subtending interstitial regions between the structural members. An endoluminal graft is also provided which is made of a biocompatible metal or metal-like material. The endoluminal stent-graft is characterized by having controlled heterogeneities in the stent material along the blood flow surface of the stent and the method of fabricating the stent using vacuum deposition methods.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61L27/42 A61L31/12 A61L27/04 A61L27/06 A61L27/40

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)

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

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

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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X	US 5 649 951 A (DAVIDSON JAMES A) 22 July 1997 (1997-07-22) cited in the application column 1, line 19-67 column 3, line 18-31 column 5, line 6-12 ---	1-7, 9-13
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Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

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Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Böhm, I

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