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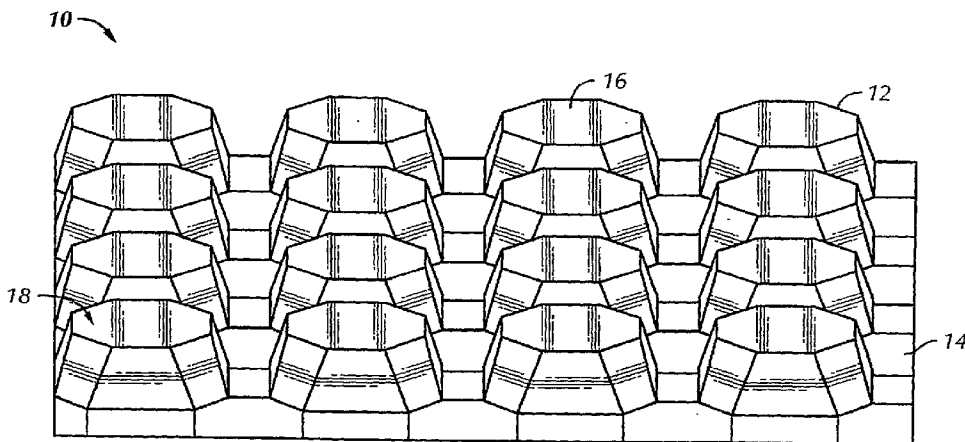
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(54) Title: FORMED METAL CORE SANDWICH STRUCTURE AND METHOD AND SYSTEM FOR MAKING SAME



(57) Abstract: A method and apparatus for producing a metal core sandwich structure that is lightweight and many times stiffer than regular sheet metal, and which is easily formable into curved structures as well as structures having compound curves. In one embodiment, a formed metal core includes a plurality of cells comprising alternating front and rear projections extending outwardly in front of and behind a median plane, with each projection having a bonding surface area or land configured to be brazed or bonded with corresponding external metal sheets on both sides of the formed metal core. A plurality of micro-abrasions or indentations are formed on the bonding lands, allowing stronger brazing or bonding joints to be formed between the metal core and the external metal sheets by facilitating improved capillary action by the metal core during the brazing or bonding process.

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INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(8): B32B 3/00 (2007.01)

USPC: 428/162

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)

USPC: 428/162

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

USPC: 428/73,98,116,118,156,161,162,221,593-595,603,604; 29/17.1,17.2; 219/603,656,85.1,85.14,85.16 (text search)

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

PubWEST (PGPB,USPT,USOC,EPAB,JPAB); DialogPro (General Research); Google Scholar

Search terms: metal, sandwich, layer or sheet, core, abrasion or texture or roughen or salient or sawtooth, cell or honeycomb, deep or depth, press, plate or platen

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2004/0154252 A1 (SYPECK et al.) 12 August 2004 (12.08.2004), para [0063], [0070]-[0074], [0077] and [0130]-[0133] and fig 5, 13A-14B, 15A-17B, 19A and 19B.	20-22
Y		1-19
Y	US 5,316,863 A (JOHNSON et al.) 31 May 1994 (31.05.1994), col 4, ln 55-68; col 8, ln 9-29; col 9, ln 1-28 and fig 2 and 4.	1-19
Y	US 3,071,853 A (PRICE et al.) 08 January 1963 (08.01.1963), col 5, ln 1-17; col 6, ln 19-30 and ln 70-75; col 8, ln 7-20 and ln 55-75 and fig 1, 6 and 8.	2, 3, 9 and 10
A	US 6,419,146 B1 (BULDHAUPT et al.) 16 July 2002 (16.07.2002), entire document.	1-19
A	US 6,689,328 B1 (OTANI et al.) 10 February 2004 (10.02.2004), col 2, ln 53-65; col 6, ln 53-67; col 11, ln 44-54 and fig 11a, 12a, and 17.	1-19
A	US 4,374,886 A (RAGHAVA) 22 February 1983 (22.02.1983), entire document.	20-22

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