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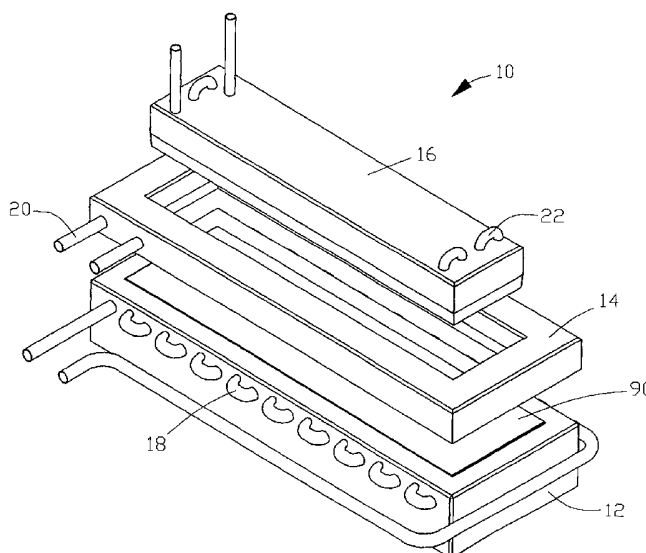
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: BONDING OF MATERIALS WITH INDUCTION HEATING



(57) Abstract: An apparatus (10) and process are provided for bonding materials by induction heating of an electrically conductive material (90) upon which a second material is bonded. The conductive material (90) is induction heated between a first induction heating plate (12) and the combination of a frame (14) and a second induction heating plate (16) that is disposed within the frame (14). The second induction heating plate (16) is removed from the surface of the conductive sheet (90), while the frame (14) continues to hold the conductive sheet (90) flat, and the second material, in liquid form, is poured into the interior opening of the frame (14) in which the second heating plate (16) was originally placed. The liquid material solidifies and bonds to the conductive sheet (90) to produce a bonded product. A continuous sheet of an electrically conductive material may be bonded to a continuous sheet of a second material by pressing them together and moving the pressed together materials through an induction coil.

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INTERNATIONAL SEARCH REPORT

International Application No.
PCT/US03/21296**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) :H05B 6/10, 6/44; B29C 43/20

US CL :Please See Extra Sheet.

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)

U.S. : 219/603, 633, 653, 659, 672, 676, 635, 675,645, 646, 615; 156/274.2, 380.2; 425/174.8R; 266/129;; 228/227, 228, 230

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 practicable, search terms used)

EAST, search terms: induction, bond, press, mold, frame

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3,941,643 A (BALLA) 02 March 1976, see the Figure and col. 1, line 7 - col. 4, line 20	14-17
Y		18-23
Y	US 4,101,356 A (SAVELKOULS) 18 July 1978, see Figures 1 and 2 and col. 3, line 46 - col. 5, line 17.	14-23
Y	US 2,777,929 A (BRENNAN) 15 January 1957, see Figures 1-4 and col. 1, line 50 - col. 3, line 70.	14-23
Y	US 5,919,517 A (LEVENDUSKY et al) 06 July 1999, see Figures 1-3, col. 5, line 12 - col. 6, line 60 and col. 12, lines 18-34.	15, 17, 19 and 22

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
"E" earlier document published on or after the international filing date	"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
"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)	"&"	document member of the same patent family
"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		

Date of the actual completion of the international search

05 NOVEMBER 2003

Date of mailing of the international search report

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,001,319 A (HOLMSTROM) 19 March 1991, see Figures 1 and 2.	14 and 16
A	US 5,483,043 A (STURMAN, JR. et al) 09 January 1996, see Figures 1, 4 and 5.	1-13
A	US 5,139,407 A (KIM et al) 18 August 1992, see Figures 1a - 2g.	1-13

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A. CLASSIFICATION OF SUBJECT MATTER:

US CL :

219/603, 633, 653, 659, 672, 676; 425/174.8R; 266/129, 156/274.2, 380.2