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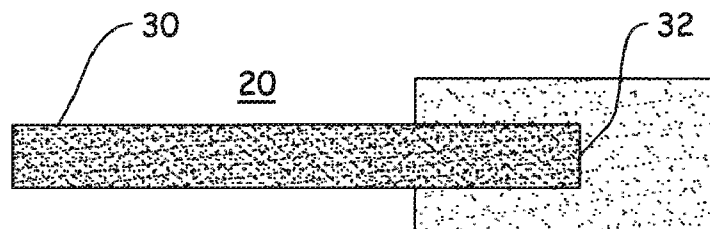


FIG 1

(57) Abstract: The present invention is premised upon an inventive method of producing an over-molded edge portion on a flexible substrate, wherein the edge portion is void of open areas due to support devices in the mold cavity.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

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B. FIELDS SEARCHED

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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)

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 442 152 A1 (TOSHIBA KK [JP]; TOSHIBA MICRO ELECTRONICS [JP]) 21 August 1991 (1991-08-21) figures 2, 4	1-11
A	EP 1 548 846 A2 (SHARP KK [JP]) 29 June 2005 (2005-06-29) figure 3	1-11
A	US 2007/273019 A1 (HUANG CHIEN PING [TW] ET AL) 29 November 2007 (2007-11-29) figure 2C	1-11
A	US 6 300 555 B1 (KONDO MASATAKA [JP] ET AL) 9 October 2001 (2001-10-09) figure 1	1-11
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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	JP 01 056516 A (ASAHI GLASS CO LTD) 3 March 1989 (1989-03-03) abstract -----	1-11
A	JP 63 067131 A (ASAHI GLASS CO LTD) 25 March 1988 (1988-03-25) abstract -----	1-11

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2009/042507

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0442152	A1	21-08-1991	JP 1847575 C 07-06-1994
			JP 3234605 A 18-10-1991
			JP 5058889 B 27-08-1993
			US 5151276 A 29-09-1992
EP 1548846	A2	29-06-2005	CN 1622343 A 01-06-2005
			US 2005115603 A1 02-06-2005
US 2007273019	A1	29-11-2007	NONE
US 6300555	B1	09-10-2001	DE 69833862 T2 12-10-2006
			EP 1009037 A1 14-06-2000
			WO 9907022 A1 11-02-1999
			JP 11103086 A 13-04-1999
JP 1056516	A	03-03-1989	JP 2018543 C 19-02-1996
			JP 7053389 B 07-06-1995
JP 63067131	A	25-03-1988	JP 1882855 C 10-11-1994
			JP 4007982 B 13-02-1992