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DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
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MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ,
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SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM,
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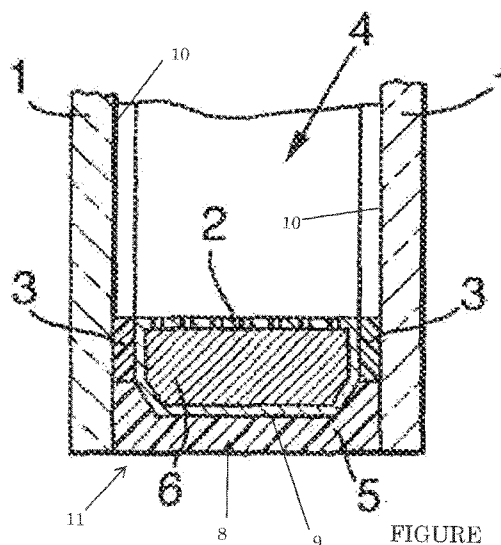
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(54) Title: NON-ISOCYANATE SEALANT FOR GLASS SEALING



FIGURE

(57) **Abstract:** Elastomeric sealants for sealing glass to a substrate are prepared by applying a curable reaction mixture between glass and substrate, and curing the mixture. The curable reaction mixture contains a polyene compound, an epoxy resin, a thiol curing agent and a basic catalyst. The polyene compound has an average of at least two groups containing aliphatic carbon-carbon double bonds capable of reaction with a thiol group. At least one of said aliphatic carbon-carbon double bonds is separated from each other said aliphatic carbon-carbon double bond by an aliphatic spacer group having a weight of at least 500 atomic mass units.



INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

INV. C03C27/10 C08G59/66 C08G59/68 C09J163/00
ADD.

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)
C03C C08G C09J

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)

EP0-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	GB 1 460 571 A (CIBA GEIGY AG) 6 January 1977 (1977-01-06) claims 59-62 page 8, paragraph 5-32 tables I, II	1-14
Y	----- EP 1 970 408 A1 (KANEKA CORP [JP]) 17 September 2008 (2008-09-17) claims 1-20 page 42, paragraph 249 examples 2-4	1-14
A	----- DE 10 2007 050579 A1 (DRACOWO FORSCHUNGS UND ENTWICK [DE]) 30 April 2009 (2009-04-30) the whole document -----	1-14

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB 1460571	A	06-01-1977	CA 1056538 A1 12-06-1979
			DE 2453874 A1 28-05-1975
			FR 2251599 A1 13-06-1975
			GB 1460571 A 06-01-1977
			JP S5083432 A 05-07-1975
			NL 7414951 A 21-05-1975

EP 1970408	A1	17-09-2008	EP 1970408 A1 17-09-2008
			JP 5317258 B2 16-10-2013
			US 2010227949 A1 09-09-2010
			WO 2007077888 A1 12-07-2007

DE 102007050579	A1	30-04-2009	NONE
