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(54) Title: EXPANDABLE THERMOPLASTIC GEL COMPOSITION

(57) Abstract: The invention concerns an expandable thermoplastic gel composition comprising (a) a block copolymer comprising at least one polymer block A derived from a monovinyl aromatic compound and at least one polymer block B derived from a conjugated diene; (b) a liquid component selected from the group consisting of extending oils, plasticizers and solvents which are compatible with the aforementioned block copolymer (a); (c) heat expandable thermoplastic particles encapsulating heat expandable gas or liquefied gas; and (d) optionally a photo-initiator; characterized in that the block copolymer (a) is a block copolymer that may be cross-linked by exposure to radiation and that has a monovinyl aromatic compound content from 7 to 35% by weight based on total polymer, a total apparent molecular weight of from 50 to 1,500 kg/mole and a vinyl content in block B of from 10 to 80 mole%, wherein the B blocks have optionally been hydrogenated up to a degree that at least 25% of the original ethylenical unsaturation is left. According to another aspect of the present invention, there are provided two processes for producing the expanded flexible gel composition. The invention also relates to the use of an expanded flexible gel composition in automotive appliances, but also in applications such as cable filling, re-enterable sealing of electrical connections, vibration damping, pressure relief, toys, cushioning, grips, therapeutic and orthopaedic devices, and even flexographic printing plates.

INTERNATIONAL SEARCH REPORT

International application No

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A. CLASSIFICATION OF SUBJECT MATTER
INV. C08J9/32

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)
C08J C08F

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 99/23144 A (SHELL INTERNATIONALE RESEARCH MAATSCHAPPIJ B.V.) 14 May 1999 (1999-05-14) page 11, lines 25-28 page 19, lines 5-18 page 19; examples 1,2 claims	1-5
A	WO 93/24547 A (SHELL CANADA LIMITED; SHELL INTERNATIONALE RESEARCH MAATSCHAPPIJ B.V.) 9 December 1993 (1993-12-09) cited in the application page 12, lines 23-35 claims 1-3,13	1-15
A	US 2002/049276 A1 (ZWICK PAUL D) 25 April 2002 (2002-04-25) page 3, paragraph 0037 claims	1-15

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

☒ See patent family annex.

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Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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