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(54) Title: FLUOROPOLYMER MOLDING METHOD AND MOLDED ARTICLE

(57) Abstract: A fluoropolymer molding method and the resulting molded article are disclosed where the fluoropolymer is composed of fluoropolymer particles each having a multi-layer structure that consists of at least two types of fluoropolymers having different melting points, with at least one inner layer made of a fluoropolymer with a melting point higher than that of the outermost fluoropolymer. The fluoropolymer of the at least one inner layer is molded at a temperature higher than the melting point of the lowest melting point of the fluoropolymers that form the outermost layers of the multi-layer-structure fluoropolymer particles, and lower than the melting point of the fluoropolymer having the highest melting point. The resulting articles have excellent chemical liquid resistance and gas impermeability and low linear expansion coefficient.

**INTERNATIONAL SEARCH REPORT**

international application No  
PCT/US2007/012994

**A. CLASSIFICATION OF SUBJECT MATTER**  
INV. C08F259/08 C08L27/12

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)  
C08F C08L

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, WPI Data, CHEM ABS Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 606 493 A (DAIKIN IND LTD [JP]) 20 July 1994 (1994-07-20) page 11, lines 16-18; claims; example 2 page 11, lines 42-47	1-10
X	US 5 506 281 A (MUEHLBAUER HANS P [DE]) 9 April 1996 (1996-04-09) column 7, lines 6-25; claims 1,2	1-10
X	US 5 198 502 A (TATEMOTO MASAYOSHI [JP]) 30 March 1993 (1993-03-30) claims	1-10
P,A	WO 2006/060524 A (DU PONT [US]; MITSUI DU PONT FLUORCHEMICAL [JP]; NISHIO TAKAO [JP]) 8 June 2006 (2006-06-08) the whole document	1-10
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Further documents are listed in the continuation of Box C.       See patent family annex.

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\*A\* document defining the general state of the art which is not considered to be of particular relevance

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Date of the actual completion of the international search  14 December 2007	Date of mailing of the international search report  02/01/2008
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer  Baekelmans, Didier
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# 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	EP 1 340 773 A (DYNEON LLC [US]) 3 September 2003 (2003-09-03) claims; example 5 -----	1-10

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2007/012994

Patent document cited in search report	A	Publication date	Patent family member(s)	Publication date
EP 0606493	A	20-07-1994	DE 69322754 D1	04-02-1999
			DE 69322754 T2	02-06-1999
			JP 3303408 B2	22-07-2002
			JP 6073137 A	15-03-1994
			WO 9401475 A1	20-01-1994
			US 5494752 A	27-02-1996
			<hr/>	
US 5506281	A	09-04-1996	CA 2153622 A1	13-01-1996
			CN 1121929 A	08-05-1996
			DE 4424466 A1	18-01-1996
			EP 0692504 A1	17-01-1996
			JP 8100033 A	16-04-1996
			ZA 9505737 A	21-02-1996
			<hr/>	
US 5198502	A	30-03-1993	NONE	
<hr/>				
WO 2006060524	A	08-06-2006	EP 1838760 A2	03-10-2007
			JP 2006159524 A	22-06-2006
			US 2006122333 A1	08-06-2006
<hr/>				
EP 1340773	A	03-09-2003	NONE	
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