



EUROPEAN PATENT APPLICATION

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Continuous, ultrahigh modulus carbon fiber.

A high modulus, pitch-based, continuous carbon fiber has a density above about 2.18 g/cc, an electrical resistivity below about 1.6 micro-ohm-meter, and a density greater than 2.18 g/cc. This carbon fiber may be made by a process comprising the steps of:

- (a) melt-spinning a mesophase pitch having a softening point above about 345°C, said melt-spinning being conducted at a temperature above about 395°C, to form a plurality of continuous pitch fibers,
- (b) infusibilizing said pitch fibers by a treatment with aqueous nitric acid; and
- (c) carbonizing the infusibilized pitch fibers by a thermal treatment conducted in a substantially inert gas atmosphere to a final temperature above about 3000°C. After step b) a first heating step in the range of 1000-1600°C may be applied.



European
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EUROPEAN SEARCH REPORT

Application Number

EP 89 31 2718

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X	EP-A-0 163 339 (UNION CARBIDE CORP.) * Claims 1-4,10; page 22, lines 10-17; page 23, lines 23-33; examples 2-4 *	1,8,9	D 01 F 9/145
Y		10	
A		11,12	

X	FR-A-2 296 032 (UNION CARBIDE CORP.) * Claim 1; page 9, lines 21-25; page 10, lines 10-14; page 12, lines 24-30; page 14, lines 9-20; page 15, lines 19-31; page 6, lines 18-35 *	1,4,5	
A		6,10,12,8	

Y	US-A-4 351 816 (D.A. SCHULZ) * Column 3, lines 14-27; column 4, lines 1-18; example 9 *	10	
A		11	

A	EP-A-0 104 639 (UNION CARBIDE CORP.) * Example 1 *	11	

The present search report has been drawn up for all claims			
Place of search		Date of completion of search	Examiner
The Hague		17 July 91	PAMIES OLLE S.
CATEGORY OF CITED DOCUMENTS			
X: particularly relevant if taken alone		E: earlier patent document, but published on, or after the filing date	
Y: particularly relevant if combined with another document of the same category		D: document cited in the application	
A: technological background		L: document cited for other reasons	
O: non-written disclosure		-----	
P: intermediate document		&: member of the same patent family, corresponding document	
T: theory or principle underlying the invention			