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Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

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29 October 2009



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(54) **Title:** PROTECTIVE TEXTILE SLEEVE HAVING HIGH EDGE ABRASION RESISTANCE AND METHOD OF CONSTRUCTION

(57) **Abstract:** A textile sleeve for protecting elongate members and method of construction thereof is provided. The sleeve includes both monofilament and multifilament yarns woven in both warp and fill directions. The warp yarns are woven in a warp-faced pattern with the fill yarns. As such, the warp yarns float over 2 or more of fill yarns. The warp monofilaments provide the sleeve with increased abrasion resistance, while the warp multifilaments provide the sleeve with increased flexibility and coverage protection to protect elongate members within a cavity of the sleeve. The fill monofilaments provide the sleeve with increased abrasion resistance and the fill multifilaments provide the sleeve with increased flexibility and coverage protection. The method includes weaving the warp and fill yarns in one of an open or closed wall construction. The method can include heat-setting the monofilament fill yarns to bias the open wall into a self-closing tubular configuration.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/035213**A. CLASSIFICATION OF SUBJECT MATTER***D03D 15/00(2006.01)i, D07B 1/14(2006.01)i*

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)

IPC : D03D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Utility models and applications for Utility models since 1975
Japanese Utility models and applications for Utility models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO Internal) & Keyword : sleeve, multifilament, monofilament

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2005/0124249 A1 (PETER V. URIBARRI) 09 JUNE 2005. see Column 14 - Column 16 and Figure 1	8
Y		1, 5-7
Y	KR 10-2001-0015801 A (FEDERAL-MOGUL POWERTRAIN, INC.) 26 FEBRUARY 2001 see Page 3 Line 15 - Line 23 and Page 5 Line 4 - Page 6 Line 53	1, 5-7
A	KR 10-0322737 B1 (FEDERAL-MOGUL POWERTRAIN, INC.) 20 JUNE 2002. see Abstract and Figures 1-4	1-15
A	WO 2007/084971 A2 (EDERAL-MOGUL CORPORATION) 26 JULY 2007 see Abstract and Figure 1-9	1-15
A	WO 2007/103779 A2 (EDERAL-MOGUL CORPORATION) 13 SEPTEMBER 2007 see Abstract and Figures 1-10	1-15

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:

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

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

28 AUGUST 2009 (28.08.2009)

Date of mailing of the international search report

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Name and mailing address of the ISA/KR

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2009/035213**Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.: 16
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

Claim 16 is too unclear to make meaningful search possible because the definitions of the subject matter of this claim is vague and unclear by referring to claim 16.

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

- Remark on Protest**
- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
 - The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
 - No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2009/035213

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