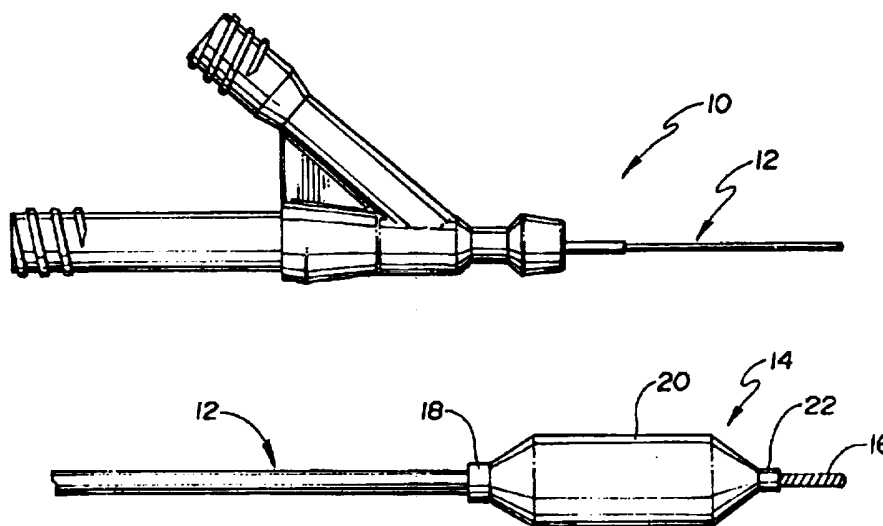




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : A61M 25/00, C08G 73/16	A3	(11) International Publication Number: WO 95/18647 (43) International Publication Date: 13 July 1995 (13.07.95)
(21) International Application Number: PCT/US94/14970 (22) International Filing Date: 27 December 1994 (27.12.94) (30) Priority Data: 08/177,911 6 January 1994 (06.01.94) US (71) Applicant (for all designated States except US): SCIMED LIFE SYSTEMS, INC. [US/US]; One Scimed Place, Maple Grove, MN 55311-1566 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): RAU, Bruce, H. [US/US]; 14186 Grover Avenue N.W., Clearwater, MN 55320 (US). SHOEMAKER, Susan, M. [US/US]; 11106 - 190th Avenue N.W., Elk River, MN 55330 (US). BUSCEMI, Paul, J. [US/US]; 2310 Tamarack Drive, Long Lake, MN 55356 (US). (74) Agents: BRENNAN, Leoniede, M. et al.; Suite 1540, 920 Second Avenue South, Minneapolis, MN 55402 (US).		(81) Designated States: CA, JP, US, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 10 August 1995 (10.08.95)

(54) Title: THERMOPLASTIC POLYIMIDE BALLOON CATHETER

**(57) Abstract**

The present invention discloses the incorporation of thermoplastic polyimide into various parts of balloon catheters such as catheter shafts and balloons. Such catheter construction may be integral or unitary in which the shaft or a portion thereof and balloon are manufactured as a single unit or the construction may be comprised of a separate shaft to which a balloon is attached, as by adhesive or other bonding.

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AT	Austria	GB	United Kingdom	MR	Mauritania
AU	Australia	GE	Georgia	MW	Malawi
BB	Barbados	GN	Guinea	NE	Niger
BE	Belgium	GR	Greece	NL	Netherlands
BF	Burkina Faso	HU	Hungary	NO	Norway
BG	Bulgaria	IE	Ireland	NZ	New Zealand
BJ	Benin	IT	Italy	PL	Poland
BR	Brazil	JP	Japan	PT	Portugal
BY	Belarus	KE	Kenya	RO	Romania
CA	Canada	KG	Kyrgyzstan	RU	Russian Federation
CF	Central African Republic	KP	Democratic People's Republic of Korea	SD	Sudan
CG	Congo	KR	Republic of Korea	SE	Sweden
CH	Switzerland	KZ	Kazakhstan	SI	Slovenia
CI	Côte d'Ivoire	LI	Liechtenstein	SK	Slovakia
CM	Cameroon	LK	Sri Lanka	SN	Senegal
CN	China	LU	Luxembourg	TD	Chad
CS	Czechoslovakia	LV	Latvia	TG	Togo
CZ	Czech Republic	MC	Monaco	TJ	Tajikistan
DE	Germany	MD	Republic of Moldova	TT	Trinidad and Tobago
DK	Denmark	MG	Madagascar	UA	Ukraine
ES	Spain	ML	Mali	US	United States of America
FI	Finland	MN	Mongolia	UZ	Uzbekistan
FR	France			VN	Viet Nam
GA	Gabon				

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 94/14970

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 A61M25/00 C08G73/16

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 6 A61M C08G B29B

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE,A,40 25 346 (BAYER AG) 13 February 1992 see page 10, line 1 - line 20; figure 1	1-3, 18, 22
Y	see page 4, line 10 - line 13 see page 10, line 1 - line 10; figure 1	4-17, 19-21, 23-31
Y	--- WO,A,93 20881 (SCIMED LIFE SYSTEMS, INC) 28 October 1993 see the whole document	6, 10-12, 24-31
Y	--- EP,A,0 380 102 (ADVANCED CARDIOVASCULAR SYSTEM, INC.) 1 August 1990 see page 4, line 43 - page 5, line 20; figures 1-3 --- -/-	4, 5, 7-9, 13-17, 19-21, 23

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in 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 document 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 another 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

9 June 1995

Date of mailing of the international search report

0 5. 07. 95

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

Ehram, F

INTERNATIONAL SEARCH REPORT

Inter. Patent Application No
PCT/US 94/14970

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US,A,4 954 610 (CHEN, SR. ET AL.) 4 September 1990 see column 14, line 26 ---	23
A	EP,A,0 541 055 (CHISSO CORPORATION) 12 May 1993 see abstract ---	1,22
A	EP,A,0 391 633 (MIT) 10 October 1990 see the whole document ---	1
A	CLAIR, T.L.; BURKS, H.D. 'thermoplastic/melt-processable polyimides' 1984, UNIVERSITÄTBIBLIOTHEK, HANNOVER cited in the application see page 337 - page 355 -----	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 94/14970

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE-A-4025346	13-02-92	CA-A- 2048595 DE-D- 59104754 EP-A- 0470464 ES-T- 2069787 JP-A- 4253730	11-02-92 06-04-95 12-02-92 16-05-95 09-09-92
WO-A-9320881	28-10-93	US-A- 5338295 CA-A- 2117807 EP-A- 0634943	16-08-94 28-10-93 25-01-95
EP-A-380102	01-08-90	CA-A- 2007743 JP-A- 2289264	26-07-90 29-11-90
US-A-4954610	04-09-90	CA-A- 2009084 EP-A- 0385305 JP-A- 2269741	27-08-90 05-09-90 05-11-90
EP-A-541055	12-05-93	JP-A- 5177689 US-A- 5290497	20-07-93 01-03-94
EP-A-391633	10-10-90	CA-A- 2013784 DE-D- 69014957 DE-T- 69014957 JP-A- 3042224 KR-B- 9403165 US-A- 5069848 US-A- 5206339	05-10-90 26-01-95 24-05-95 22-02-91 15-04-94 03-12-91 27-04-93