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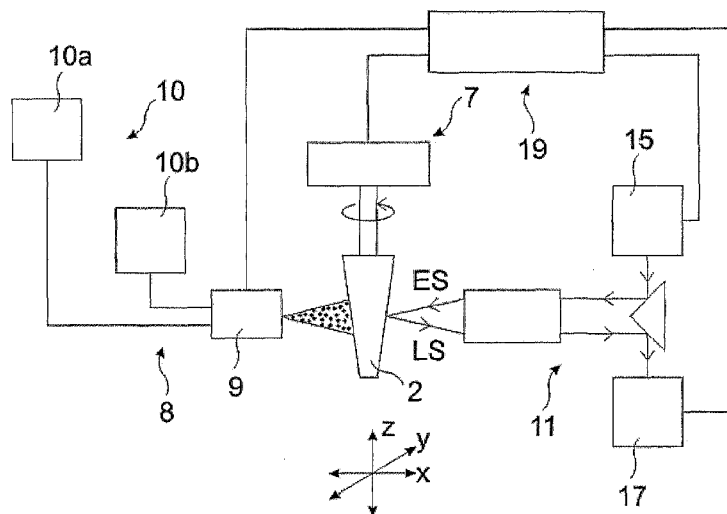
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[Continued on next page]

(54) Title: MEASUREMENT, COATING AND MONITORING SYSTEM AND METHOD



(57) Abstract: A measurement system for and method of measuring thicknesses of coatings as applied to objects and a coating system and method for coating objects, in particular three-dimensional objects, with coatings, in particular thermal barrier coatings (TBCs), and a monitoring system for and method of monitoring a state of a thermal barrier coating (TBC) as applied to an object which is exposed to a high-temperature environment, and a TBC for use with the same.

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INTERNATIONAL SEARCH REPORT

International application No
PCT/GB2006/003176

A. CLASSIFICATION OF SUBJECT MATTER INV. G01B11/06 G01K11/20 C23C30/00 G01N21/64 F01D5/28 G01J5/00		
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) G01B G01K C23C G01N F01D G01J		
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		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 95/30890 A (SPECTRA GROUP LTD INC [US]) 16 November 1995 (1995-11-16) page 2, line 30 - page 3, line 5 page 4, line 25 - page 5, line 6 page 9, line 15 - line 19 page 10, line 10 - line 25 page 11, line 29 - line 35 page 12, line 29 - line 31 page 20, line 7 - line 33 abstract; claims 14,15; figures 2-4	1-58
X	EP 1 318 211 A (INFINEON TECHNOLOGIES SC300 GM [DE]) 11 June 2003 (2003-06-11) cited in the application paragraph [0047] abstract; claims 1,4; figure 5	1-58
-/--		
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.	<input checked="" type="checkbox"/> 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 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	Date of mailing of the International search report	
26 January 2007	26/02/2007	
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 Passier, Martinus	

INTERNATIONAL SEARCH REPORT

International application No

PCT/GB2006/003176

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 774 150 A (AMANO KAGETAKA [JP] ET AL) 27 September 1988 (1988-09-27) column 2, line 24 - column 4, line 2 abstract	1-58
X A	GB 1 191 476 A (FOSECO INT) 13 May 1970 (1970-05-13) the whole document	25-58 1-24
X	EP 0 863 396 A2 (HOWMET RES CORP [US]) 9 September 1998 (1998-09-09) column 3, line 14 - column 4, line 55 abstract; figure 2	117-140
X	WO 2005/019784 A (SIEMENS AG [DE]; BAST ULRICH [DE]; ROSSNER WOLFGANG [DE]) 3 March 2005 (2005-03-03) page 1, line 6 - line 15 page 10, line 16 - page 12, line 2 abstract; figure	117-140
X	EP 1 105 550 B1 (IMPERIAL COLLEGE [GB]) 12 March 2003 (2003-03-12) column 4, lines 35-52 column 8, lines 44-58	59-116
A	ELDRIDGE J I ET AL: "DEPTH-PENETRATING TEMPERATURE MEASUREMENTS OF THERMAL BARRIER COATINGS INCORPORATING THERMOGRAPHIC PHOSPHORS" JOURNAL OF THERMAL SPRAY TECHNOLOGY, ASM INTERNATIONAL, MATERIALS PARK, US, vol. 13, no. 1, March 2004 (2004-03), pages 44-50, XP008049050 ISSN: 1059-9630 paragraph [0001]	59-116
A	US 2004/179575 A1 (MARKHAM JAMES R [US]) 16 September 2004 (2004-09-16) paragraphs [0012] - [0014], [0017], [0021], [0040]	141-152
A	US 5 183 338 A (WICKERSHEIM KENNETH A [US] ET AL) 2 February 1993 (1993-02-02) column 6, lines 8-45 abstract	141-152

INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB2006/003176

Box 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.:
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:

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 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:

see additional sheet

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.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-58

Intensity of a luminescence signal is used to determine coating thickness.

2. claims: 59-116

Luminescence signal is used to detect a characteristic representative of a location of raised or reduced temperature in a thermal barrier coating.

3. claims: 117-140

Thickness relation between the luminescent and the main coatings of a thermal barrier coating.

4. claims: 141-152

A pyrometer for detecting a radiation signal from an object coated with a thermal barrier coating in order to use it together with a luminescence signal so that the temperature of the object can be determined.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/GB2006/003176

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