EMA (Engineering Materials Abstracts)

Subject Coverage

- Atomic properties
- Casting, molding, working, and forming
- Chemical analysis
- Chemical and electrochemical properties
- Constitution and structure hardening
- Corrosion
- Electrical, electronic, optical properties
- Engineering components and structures
- Heat treatment
- Irradiation
- Machining and joining
- Materials development
- Mechanical properties
- Microstructure
- Physical, electrical, and magnetic properties
- Powder technology
- Raw materials
- Structural analysis
- Surface finishing
- Testing and quality control

File Type

Bibliographic

Features

Thesaurus	None				
Alerts (SDIs)	Monthly				
CAS Registry Numbers®	☐	Page Images	☐	STN AnaVist	☐
Keep & Share	☑	SLART	☐	STN Easy	☑
Learning Database	☐	Structures	☐	STN Viewer	☐

Record Content

- Bibliographic information, indexing, and abstracts.

File Size

- 845,254 citations (03/2011)

Coverage

1986-present

Updates

Monthly

Language

English

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Search and Display Field Codes

There are no fields that allow left truncation in this file.

General Search Fields

Search Field Name	Search Code	Search Examples	Display Codes
Basic Index (contains single words from the title (TI), abstract (AB), controlled term (CT), corporate name (CO) **(2)**, and chemical name (CN) fields)	None or /BI	S MICROWAVE S PLASMA ETCH? S NYLON(S)66 S LEXAN	TI, AB, CT CO, CN
Accession Number	/AN	S 98(7):A1-C-100/AN	AN
Application Date **(1)**	/AD	S SEP 1995-SEP 1996/AD	AD
Author (patent inventor)	/AU	S ANDERSEN, H?/AU	AU
Chemical Name (trade name)	/CN	S MYLAR/CN S DARTEL/CN(L)PAJA/TNC	CN
Classification Code (code and text)	/CC	S (SURFACE(W)FINISHING)/CC S G2/CC	CC
Controlled Term **(3)**	/CT	S SILICONE RESINS/CT S (INSULATORS(S)IRRADIATION)/CT	CT
Corporate Name **(2)**	/CO	S ICI ADVANCED MATERIALS/CO	CO
Corporate Source (patent assignee)	/CS	S WACKER-CHEMIE/CS S (ECOLE POLYTECH?(L)SCIENCES)/CS	AU, CS
Country of Publication (code and text)	/CY	S GB/CY S UNITED KINGDOM/CY	CY
Document Number	/DN	S "2005(8):F1-D-14767"/DN	DN
Document Type (code and text)	/DT (or /TC)	S JOURNAL/DT S C/DT	DT
Element Terms (contains chem. elements and formulas, compounds (CP), materials (SY: >=2 metals), dopings, ions neg. (IN), ions pos. (IP) isotopes (IS), nuclear reactions (target T, reaction R, final nucleus F)) **(4)**	/ET	S C*SI/ET S SI/ET S C CP/ET S SY 2/ET S C IS/ET S SI:H/ET	ET
E-mail Address **(6,7)**	/EML	S MALLAK/EML	EML, SO
Entry Date **(1)**	/ED (or /UP)	S ED>=2009	not displayed
International Standard (Document) Number **(7)**	/ISN	S 1000-5382/ISN	ISN, SO
Journal Title	/JT	S PLASMA CHEM. PLASMA PROCESS./JT	JT, SO. JTA, JTF
Language (code and text)	/LA	S RUSSIAN/LA S B/DT AND DE/LA	LA
Meeting Date **(1)**	/MD	S MD=SEP 1997	SO
Meeting Location **(6,7)**	/ML	S SAN FRANCISCO/ML	ML, SO
Meeting Title	/MT	S RUBBER EXPO/MT	MT, SO
Meeting Year **(1)**	/MY	S MY>=1995	MY, SO
Number of Report	/NR	S DMAA169/NR S AT86-715/NR	NR
Patent Country	/PC	S EP/PC	PI
Patent Information	/PN	S EP261517/PN	PI
Publication Date **(1)**	/PD	S 880330/PD	PD, PI, SO
Publication Year **(1)**	/PY	S 1988-1989/PY	PI, SO
Publisher **(6,7)**	/PB	S VCH VERLAG/PB	PB, SO
Reference Count **(1,7)**	/REC (or /RE.CNT)	S REC=5	REC, SO

Search and Display Field Codes (cont'd)

Search Field Name	Search Code	Search Examples	Display Codes
Source (contains journal titles, other higher level titles, publisher and place of publication, meeting information, collation information, ISSN, ISBN, publication year, URL, and e-mail addresses)	/SO	S (DEKKER(L)NEW YORK)/SO S (EUR?(W)PATENTANMELD?)/SO S 0272-4324/SO	SO
Title	/TI	S (HANDBOOK(2W)OPTICAL(W)FIBER#)/TI S ELASTOMER#/TI	TI
Trade Name Classification **(8)**	/TNC	S PAJA/TNC S NYLONS/TNC	CN, TNC
Uniform Resource Locator **(6,7)**	/URL	S ASME.ORG/URL	URL, SO

(1) Numeric search field that may be searched with numeric operators or ranges.
(2) Field available until 2001.
(3) Pairs of controlled terms (main term/qualifier) are searchable with (S) operator.
(4) Search with special characters.
(5) Elements cited in Hill System order with asterisk (*) between element terms.
(6) Search with implied (S) proximity is available in this field.
(7) Field available since June 2005.
(8) Field available until 1994.

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Any combination of formats may be used to display or print answers. Multiple codes must be separated by spaces or commas, e.g., D L1 1-5 TI AU. The fields are displayed or printed in the order requested.

Hit-term highlighting is available for all fields. Highlighting must be ON during SEARCH to use the HIT, KWIC, and OCC formats.

Format	Content	Examples
AB	Abstract	D TI AB
AD	Application Date	D AD
AN	Accession Number	D AN 1-6
AU	Author (format includes CS)	D AU TI
CC	Classification Code	D CC
CN	Chemical Name	D CN
CO **(1)**	Corporate Name	D CO
CS	Corporate Source	D CS
CT	Controlled Term	D CT
CY	Country of Publication	D CY
DN **(2)**	Document Number	D DN
DT	Document Type	D DT
EML **(2,3)**	E-mail Address	D EML
ET	Element Term	D ET, ALI
ISN **(2,3)**	International Standard (Document) Number	D ISN
JT **(3)**	Journal Title	D JT
JTA **(2,3)**	Journal Title, Abbreviated	D JTA
JTF **(2,3)**	Journal Title, Full	D JTF
LA	Language	D LA TI
MD **(3)**	Meeting Date	D MD
ML **(2,3)**	Meeting Location	D ML
MT **(2,3)**	Meeting Title	D MT, MD

DISPLAY and PRINT Formats (cont'd)

Format	Content	Examples
MY **(3)**	Meeting Year	D MY
NR	Number of Report	D NR
PB **(3)**	Publisher	D PB
PD **(3)**	Publication Date	D PD
PI	Patent Information	D PI
PY **(3)**	Publication Year	D PY
REC (RE.CNT) **(2,3)**	Reference Count	D REC
SO	Source (format includes NR)	D SO
TI	Title	D TI 1-10
TNC **(4)**	Trade Name Classification	D TNC
URL **(2,3)**	Uniform Resource Locator	D URL
ALL	AN, DN, TI, AU, CS, NR, SO, PI, AD, DT, CY, LA, AB, CC, CT, CO, CN, ET	D 1-3 ALL
DALL	ALL, delimited for post-processing	D DALL
IALL	ALL, indented with text labels	D IALL
BIB	AN, DN, TI, AU, CS, NR, SO, DT, CY, LA Patents: AN, TI, AU, CS, SO, PI, AD, DT, DN, LA (BIB is default)	D 8 BIB
IBIB	BIB, indented with text labels	D IBIB
IND	AN, DN, CC, CT, CO, CN, ET	D IND
TRIAL	TI, CC, CT, CO, CN, ET	D TRI
HIT	Hit term(s) and field(s)	D HIT
KWIC	Up to 50 words before and after hit term(s) (KeyWord-In-Context)	D KWIC
OCC	Number of occurrences of hit term(s) and field(s) in which they occur	D OCC

(1) Field available until 2001.
(2) Field available since June 2005.
(3) Custom display only.
(4) Field available until 1994.

SELECT, ANALYZE, and SORT Fields

The SELECT command is used to create E-numbers containing terms taken from the specified field in an answer set.

The ANALYZE command is used to create an L-number containing terms taken from the specified field in an answer set.

The SORT command is used to rearrange the search results in either alphabetic or numeric order of the specified field(s).

Field Name	Field Code	ANALYZE/ SELECT (1)	SORT
Abstract	AB	Y **(2)**	N
Accession Number	AN	Y	N
Application Date	AD	Y	Y
Author	AU	Y	Y
Chemical Name	CN	Y	N
Classification Code	CC	Y	Y
Controlled Term	CT	Y	N

SELECT, ANALYZE, and SORT Fields

Field Name	Field Code	ANALYZE/ SELECT (1)	SORT
Corporate Name	CO	Y	Y
Corporate Source	CS	Y	Y
Country of Publication	CY	Y	Y
Document Number	DN	Y	N
Document Type	DT (TC)	Y	Y
Element Term	ET	Y	N
E-mail Address	EML	Y	Y
International Standard (Document) Number	ISN	Y **(3)**	N
International Standard Book Number	ISBN	N	Y
International Standard Serial Number	ISSN	N	Y
Journal Title	JT	Y	Y
Journal Title, Abbreviated	JTA	Y **(4)**	N
Journal Title, Full	JTF	Y **(4)**	N
Language	LA	Y	Y
Meeting Location	ML	Y	N
Meeting Title	MT	Y	N
Number of Report	NR	Y	Y
Occurrence Count of Hit Terms	OCC	N	Y
Patent Country	PC	N	Y
Patent Number	PN (PI)	N	Y
Publication Date	PD	Y	Y
Publication Year	PY	Y	Y
Publisher	PB	Y	N
Reference Count	REC (RE.CNT)	Y	N
Source	SO	Y **(5)**	N
Title	TI	Y (default)	Y
Trade Name Classification	TNC	Y	Y
Uniform Resource Locator	URL	Y	Y

(1) HIT may be used to restrict terms extracted to terms that match the search expression used to create the answer set, e.g., SEL HIT TI.
(2) Appends /BI to the terms created by SELECT.
(3) Selects or analyzes ISBN or ISSN with /ISN appended to the terms created by SELECT.
(4) Appends /JT to the terms created by SELECT.
(5) Selects or analyzes ISBN or ISSN with /SO appended to the terms created by SELECT.

Sample Records

DISPLAY ALL OF JOURNAL

```
AN     2009(12):G1-C-096766   EMA
DN     2009(12):G1-D-096766; 2009(12):G1-P-096766
TI     Pressure transmission and distribution under impact load using artificial
       denture teeth made of different materials
AU     Phunthikaphadr, Thitima, (Graduate student, Department of Prosthodontics,
       Faculty of Dentistry, Chulalongkorn University, Bangkok, Thailand);
       Takahashi, Hidekazu; Arksornnukit, Mansuang mailto: mansuang@yahoo.com
SO     Journal of Prosthetic Dentistry (Nov. 2009) 102, (5) p. 319-327, 2009
       Published by: Mosby-Year Book, Inc., 11830 Westline Industrial Dr., St.
       Louis, MO, 63146-3318, USA, URL: http://www.mosby.com/prosdent
       ISSN: 0022-3913
DT     Journal
CY     United States
LA     English
AB      Statement of problem - Pressure transmission and distribution under
        denture bases may be different depending on the material of the artificial
        denture teeth used. Purpose - The purposes of this study were to evaluate
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pressure transmission and distribution under impact load using artificial denture teeth composed of different materials, and to examine the modulus of elasticity of the artificial denture teeth. Material and methods - The denture base specimens with artificial denture teeth made of 4 different materials (acrylic resin, microfilled composite resin, nanocomposite resin, and ceramic) were evaluated. Pressure transmission, distribution, and maximum pressure (n=10) were observed with pressure-sensitive sheets under an impact load. Modulus of elasticity of the artificial denture teeth (n=10) was measured by using an ultramicroindentation system. Data were statistically analyzed with 1-way ANOVA, followed by Tukey HSD and Tamhane's multiple range post hoc tests (a=.05). Results - Maximum pressure transmission observed from ceramic denture teeth was significantly higher than that of other groups (P < .001). Nanocomposite resin denture teeth presented the lowest pressure transmission, whereas a localized stress transmission area was observed in the ceramic denture teeth group. Significant differences in the modulus of elasticity were observed among the 4 types of artificial denture teeth (P < .001). Conclusions - Pressure transmission and distribution varied among the denture tooth materials. Differences in the modulus of elasticity of each type of denture tooth were demonstrated. (J Prosthet Dent 2009;102:319-327)

CC C Ceramics; G1 General and Nonclassified; C-G1

CT Prosthetics; Dentures; Dental materials; Teeth; Nanostructure; Stress concentration; Modulus of elasticity; Impact loads

DISPLAY ALL OF CONFERENCE

AN 2005(8):F1-D-14729 EMA

TI Seismic rehabilitation of cathedral towers in Peru

AU Torrealva, D, (Engineering Department, Pontificia Universidad Catolica del Peru); Blanco, A; Tumialan, G; Nanni, A

SO Structural Studies, Repairs and Maintenance of Heritage Architecture VIII, 3 reference p. 523-532, 2003
Published by: WIT Press, c/o Computational Mechanics Inc., 25 Bridge Street, Billerica, MA, 01821, USA, mailto: marketing@compmech.com, URL: http://www.compmech.com
Conference: 8th International Conference on Structural Studies, Repairs and Maintenance of Heritage Architecture or STREMAH 2003, Halkidiki, Greece, 7-9 May 2003
ISBN: 1853129682

DT Conference Article

CY United States

LA English

AB On June 23, 2001, an earthquake of magnitude 8.3 occurred at 1100 Kms south of Lima and about 250 Kms to the west of Arequipa. The four hundred year-old city of Arequipa, whose historical downtown was declared World Cultural Heritage by UNESCO, is known as the "White City" because most of the city is built with a volcanic stone called "sillar". This kind of stone exhibits a mostly white-gray color. Churches, monasteries and houses are built completely with this stone, which gives the city its characteristic appearance. The cathedral of Arequipa, located in the city's main square, is the most important neo-classical monument of Peru. It has a 100 m-long facade and two towers at the top of the building having a height of 28 m. Due to the effects of the earthquake of 2001, both towers suffered extensive damage. As a consequence, the left tower partially collapsed, whereas, the right tower remained standing but in an unstable equilibrium condition. This paper describes the emergency work performed to stabilize the right tower with an internal steel structure and the process of strengthening and rebuilding of both towers. The left

tower was rebuilt with internal reinforced concrete members. The right tower was strengthened with Carbon Fiber Reinforced Polymer (CFRP) laminates, which were used to provide tensile strength and confinement to the central stone core of the tower. After completing the CFRP installation, carved stones were placed on top of the laminates to keep the original appearance.

CC D Composites; F1 Engineering Components and Structures; D-F1

CT Towers; Seismic phenomena; Carbon fiber reinforced plastics; Laminates; Earthquake construction; Rebuilding; Houses

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STN Europe
P.O. Box 2465
76012 Karlsruhe
Germany
Phone: +49-7247-808-555
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E-mail: helpdesk@fiz-karlsruhe.de
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In Japan
JAICI (Japan Association for
International Chemical Information)
STN Japan
Nakai Building
6-25-4 Honkomagome, Bunkyo-ku
Tokyo 113-0021, Japan
Phone: +81-3-5978-3601 (Technical Service)
+81-3-5978-3621 (Customer Service)
Fax: +81-3-5978-3600
E-mail: support@jaici.or.jp (Technical Service)
customer@jaici.or.jp (Customer Service)
Internet: www.jaici.or.jp