TEMA® (Technology and Management)

Subject Coverage

- Aerospace
- Automotive research
- Ceramics and plastics
- Civil engineering
- Electrical engineering and electronics
- Energy
- Information technology
- Instrumentation
- Machinery and plants
- Management and organization
- Manufacturing
- Materials, metals, paints
- Mechanical engineering
- Medical engineering
- Mining
- Textile engineering
- Transportation

File Type

Bibliographic

Features

Thesaurus	None		
Alerts (SDIs)	Not available		
CAS Registry Number® Identifiers	☐		
Keep & Share	☑	SLART	☑
Learning Database	☐	Structures	☐

Record Content

Bibliographic information, indexing, and an abstract, either in German, or English, partly also in both languages.

File Size

7,424,316 records (10/2023)

Coverage

1968 – 2021

Updates

Static file

Language

English, German

Database Producer

WTI AG
Weidbrunnenstraße 2
8135 Langnau am Albis
Schweiz
Phone: +41 44 559 04 95

Sources

- Reports
- Conferences
- Journals
- Dissertations
- Patents
- Standards
- Translations
- Books

User Aids

- WTI-Classification *
- Online Helps (HELP DIRECTORY lists all help messages available)
- STNGUIDE

* Available from producer

Cluster

- AEROTECH
- ALLBIB
- AUTHORS
- COMPUTER
- CONSTRUCTION
- CORPSOURCE
- ELECTRICAL
- ENGINEERING
- MATERIALS
- METALS
- NPS

STN Database Cluster information:
https://www.cas.org/support/training/stn/database-clusters

Search and Display Field Codes

Fields that allow left truncation are indicated by an asterisk (*).

Search Fields

Search Field Name	Search Code	Search Examples	Display Codes
Basic Index* (contains single words from abstract (AB), controlled term (CT), controlled term in German (CTDE), title (TI), supplementary term (ST), and uncontrolled term (UT) fields)	None or /BI	S ORGANISATIONSSTRUKTUREN(L) AUFTRAG? S MAPPING ALGORITHM# S SAFETY REGULATIONS S ?FILTRATION?	AB, CT, CTDE, ST, TI, UT
Abstract*	/AB	S FORMALDEHYDE/AB	AB
Accession Number	/AN	S 20030100009/AN	AN
Author	/AU	S MAN C H/AU S MAN, C H/AU	AU
Classification Code **(1)** (code and text)	/CC	S 3AAP/CC S PROJECT MANAGEMENT/CC	CC
Classification Code in German **(1)** (code and text)	/CCDE	S 3AAP/CCDE S PROJEKTMANAGEMENT/CCDE	CCDE
Corporate Source (1)	/CS	S MAN DIESEL AUGSBURG/CS	CS
Controlled Term	/CT	S SAFETY-RELAYS/CT	CT
Controlled Term in German	/CTDE	S MAC-OS/CTDE	CTDE
Controlled Word	/CW	S KNIT/CW	CT, CTDE
Document Number	/DN	S 20191222689/DN	DN
Document Type (code and text)	/DT (or /TC)	S BOOK/DT S B/DT	DT
Entry Date **(2)**	/ED (or /UP)	S ED=JUL 2020 AND PY=2020	ED
Digital Object Identifier	/FTDOI (or /DOI)	S HTTPS://DX.DOI.ORG/0.1557/OPL.2013.111/FTDOI	FTDOI, SO
International Standard (Document) Number (contains ISSN and ISBN)	/ISN	S 953-97026-6-6/ISN S 1090-8471/ISN	ISN, SO
Journal Title (contains full and abbreviated journal titles)	/JT	S JOURNAL OF ADHESION/JT	JT, JTA, JTF, SO
Language (ISO code and text)	/LA	S L1 AND ENGLISH/LA	LA
Meeting Date **(1)**	/MD	S MD=11 FEB 2020	MD
Meeting Location **(2)**	/ML	S DUESSELDORF/ML	ML
Meeting Title **(2)**	/MT	S SPRITZGIESSEN/MT	MT
Meeting Year **(1)**	/MY	S 2020/MY	MY
Publication Year **(2)**	/PY	S 1998-1999/PY	PY, SO
Publisher **(1)**	/PB	S SPRINGER BERLIN/PB	PB, SO
Source (contains journal titles, and other higher-level titles, serial titles, ISSN, ISBN, publisher, DOIs, URLs, and pagination)	/SO	S (ROENTGENSTRAHLEN AND 2001)/SO S 1438 9029/SO S DAS ECHO/SO	SO
Supplementary Term	/ST	S ANLAGENBAU/ST	ST
Title*	/TI	S ROUTE PLANNING/TI	TI
Update Date **(1)**	/UP	S ED>JUL 2020	UP
Uniform Resource Locator	/URL	S SPRINGERONLINE/URL	URL, SO

(1) Search with implied (S) proximity is available in this field.
(2) Numeric search field that may be searched with numeric operators or ranges.

Property Fields[1]

In TEMA a numeric search for a specific set of physical properties (/PHP) is available within the text fields (TI, AB, BI). The numeric values are not displayed as single fields but highlighted within the hit displays.

EXPAND in the PHP field (e.g., = > E A/PHP) to see all available physical properties. Use EXPAND/PHP to search for all available physical properties. A search with the respective field codes will be carried out in all database fields with English text. The /PHP index contains a complete list of codes and related text for all physical properties available for numeric search.

Field Code	Property	Unit	Symbol	Search Examples
/AOS	Amount of substance	Mol	mol	S 10 /AOS
/BIR	Bit Rate	Bit/Second	bit/s	S 8000-10000/BIR
/BIT	Stored Information	Bit	Bit	S BIT > 3 MEGABIT
/CAP	Capacitance	Farad	F	S 1-10 MF/CAP
/CATA	Catalytic Activity	Katal	kat	S 1-10/CATA
/CDN	Current Density	Ampere/Square Meter	A/m^2	S CDN>10 A/M**2
/CMOL	Molarity, Molar Concentration	Mol/Liter	mol/L	S UREA/BI (S) 8/CMOL
/CON	Conductance	Siemens	S	S 1S-3/CON
/DB	Decibel	Decibel	dB	S DB>50
/DEG	Degree	Degree	°	S CYLINDER/BI (S) 45/DEG
/DEN (/C)	Density (Mass Concentration	Kilogram/Cubic Meter	kg/m^3	S 5E-3-10E-3/DEN
/DEQ	Dose Equivalent	Sievert	Sv	S 100/DEQ
/DOA	Dosage	Milligram/Kilogram/Day	mg/day	S 100-300/DOA
/DOS (/LD50)	Dose	Milligram/Kilogram	mg/kg	S DOS>0.8
/DV	Viscosity, dynamic	Pascal * Second	Pa * s	S DV>5000
/ECH (/CHA)	Electric Charge	Coulomb	C	S 0.0001-0.001/ECH
/ECO (/ECND)	Electrical Conductivity	Siemens/Meter	S/m	S ECO>800 S/M (15A) AQUEOUS
/ELC (/ECC)	Electric Current	Ampere	A	S 1-10/ELC
/ELF (/ECF)	Electric Field	Volt/Meter	V/m	S 200/ELF
/ENE	Energy	Joule	J	S DROPLETS (10A) 40 JOULE - 70 JOULE /ENE
/ERE (/ERES)	Electrical Resistivity	Ohm * Meter	Ohm * m	S ERE>0.1
/FOR	Force	Newton	N	S 50 N /FOR
/FRE (/F)	Frequency	Hertz	Hz	S OSCILLAT?/BI (S) 1- 3/FRE
/IU	International Unit	none	IU	S IU>1000 (P) VITAMIN A
/KV	Viscosity, kinematic	Square Meter/Second	m^2/s	S METHYLPOLYSILOXANES/BI (10A) 200-300 CST /KV
/LEN (/SIZ)	Length, Size	Meter	m	S 1-4/LEN
/LUME	Luminous Emittance, Illuminance	Lux	lx	S 10-50/LUME
/LUMF	Luminous Flux	Lumen	Lm	S LUMF>1000
/LUMI	Luminous Intensity	Candela	cd	S LUMI<4
/M	Mass	Kilogram	kg	S ALLOY/BI (30A) 1E-10-1E-5/M
/MCH	Mass to Charge Ratio	none	m/z	S MCH=1
/MFD (/MFS)	Magnetic Flux Density	Tesla	T	S MFD>102
/MFR (/MFL)	Mass Flow Rate	Kilogram/Second	kg/s	S MFR<0.1
/MFST	Magnetic Field Strength	Ampere/Meter	A/m	

Property Fields (cont'd)

Field Code	Property	Unit	Symbol	Search Examples
/MM (/MW, /MOM)	Molar Mass	Gram/Mol	g/mol	S 2000-3000 G/MOL/MM
/MOLS	Molality of Substance	Mol/Kilogram	mol/kg	S 01.-10 MOL/KG/MOLS
/MVR	Melt Volume Rate, Melt Flow Rate	none	g/10 min	S 3/MVR
/PER	Percent (Proportionality)	none	%	S POLYMER?/AB (5A) 4/PER
/PHV (/PH)	pH Value	pH	pH	S 7.4-7.6/PHV
/POW (/PW)	Power	Watt	W	S "HG-XE-?"/BI (S) 100-200 WATT/POW
/PPM	Parts per million	Ppm	ppm	S 100 PPM /PPM (10A) ADDITIVE/BI
/PRES (/P)	Pressure	Pascal	Pa	S (VACUUM (5A) DISTILL?)/BI (S) 1000-1100/PRES
/RAD	Radioactivity	Becquerel	Bq	S RAD/PHP
/RES	Electrical Resistance	Ohm	Ohm	S SENSOR /BI (S) 10- 100/RES
/RI	Refractive Index	none		S 3-4/RI
/RSP	Rotational Speed	Revolution/Minute	rpm	S 2 RPM - 100 RPM /RSP (S) ENGINE/BI
/SAR	Area /Surface Area	Square Meter	m^2	S PLATE/BI (S) 10 M**2 - 100 M**2 /SAR
/SOL (/SLB)	Solubility	Gram/100 gram	g/100 g	S SOL>20 G/100G (5A) WATER
/SSAM	Specific Surface Area, Mass	Square Meter/Kilogram	M^2/kg	S 1-10/SSAM
/STSC (/ST)	Surface Tension	Joule /Square Meter	J/m^2	S 60 J/M**2/STSC
/TCO (/TCND)	Thermal Conductivity	Watt/Meter * Kelvin	W/m * K	S 1/TCO (S) HEAT?
/TEMP (/T)	Temperature	Kelvin	K	S 20-25/TEMP
/TEX	Tex	Gram/Kilometer	g/km	
/TIM	Time	Second	s	S ?INCUB?/BI (10A) 50 S - 150 S /TIM
/VEL (/V)	Velocity	Meter per Second	m/s	S REDUC?/BI (S) 1E-3-5E-3/VEL
/VELA	Velocity, angular	Radian/Second	rad/s	S VELA>10
/VLR	Volumetric Flow Rate	Cubic Meter/Second	m^3/s	S 1 M**3/S - 2 M**3/S /VLR (S) ABRASIVE
/VOL	Volume	Cubic Meter	m^3	S 1E-8-2E-8/VOL.EX
/VOLT	Voltage	Volt	V	S TENSION/BI (10A) 5E-3 V <VOLT<7E-3 V

(1) Exponential format is recommended for the search of particularly high or low values, e.g., 1.8E+7 or 1.8E7 (for 18000000) or 9.2E-8 (for 0.000000092).

DISPLAY and PRINT Formats

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 AB
AN	Accession Number	D AN
AU	Author	D AU TI
CC **(1)**	Classification Code	D CC
CCDE **(1)**	Classification Code in German	D CCDE
CS	Corporate Source	D CS
CT	Controlled Term	D CT
CTDE	Controlled Term in German	D CTDE
DN	Document Number	D DN
DT (TC)	Document Type	D DT
FTDOI	Digital Object Identifier	D FTDOI
ISN **(1)**	International Standard (Document) Number	D ISN
JT **(1)**	Journal Title	D JT
JTF **(1)**	Journal Title, Full	D JTF
LA	Language	D LA
MD **(1)**	Meeting Date	D MD
ML **(1)**	Meeting Location	D ML
MT **(1)**	Meeting Title	D MT
MY **(1)**	Meeting Year	D MY
PB **(1)**	Publisher	D PB
PY **(1)**	Publication Year	D PY
SO	Source	D SO
ST	Supplementary Term	D ST
TI	Title	D TI
UP (ED) **(1)**	Update Date	D UP
URL	Uniform Resource Locator	D URL
UT	Uncontrolled Term	D UT
ABS	AN, AB	D ABS
ALL	AN, DN, TI, AU, CS, SO, DT, AV, LA, ED, AB, CC, CT, ST, UT	D ALL
ALLDE	AN, DN, TI, AU, CS, SO, DT, AV, LA, ED, AB, CCDE, CTDE, ST, UT	
DALL	ALL, delimited for post-processing	D DALL
IALL	ALL, indented with text labels	D IALL
BIB (STD)	AN, DN, TI, AU, CS, SO, DT, AV, LA, ED (BIB is default)	D BIB
IBIB	BIB, indented with text labels	D IBIB
IND	AN, CC, CT, ST, UT	D IND
INDDE	AN, CCDE, CTDE, ST, UT	D INDDE
SCAN **(2)**	TI, CT (random display without answer numbers)	D SCAN
TRIAL (FREE, TRI, SAMPLE, SAM)	TI, CC, CT, ST, UT	D TRIAL
HIT	Hit term(s) and field(s)	HIT
KWIC	Up to 50 words before and after hit term(s) (KeyWord-In-Context)	KWIC
OCC	Number of occurrences of hit term(s) and field(s) in which they occur	OCC

(1) Custom display only.
(2) SCAN must be specified on the command line, i.e., D SCAN or DISPLAY SCAN

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
Author	AU	Y	Y
Classification Code	CC	Y	Y
Classification Code in German	CCDE	Y	Y
Citation	CIT	Y **(3,4)**	N
Controlled Term	CT	Y	N
Controlled Term in German	CTDE	Y	Y
Corporate Source	CS	Y	Y
Digital Object Identifier	FTDOI (DOI)	Y	Y
Document Number	DN	Y	Y
Document Type	DT (TC)	Y	Y
Entry Date	ED	Y	Y
International Standard Book Number	ISBN	N	Y
International Standard (Document) Number	ISN	Y **(5)**	Y
Journal Title	JT	Y	Y
Language	LA	Y	Y
Meeting Date	MD	Y	Y
Meeting Location	ML	Y	Y
Meeting Title	MT	Y	Y
Meeting Year	MY	Y	Y
Occurrence Count of Hit Terms	OCC	N	Y
Publisher	PB	Y	Y
Publication Year	PY	Y	Y
Source	SO	Y **(6)**	Y
Supplementary Term	ST	Y	Y
Title	TI	Y (default)	Y
Update Date	UP	Y	Y
Uniform Resource Locator	URL	Y	Y
Uncontrolled Term	UT	Y (2,4)	Y

(1) Hit may be used to restrict extracted terms 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) SELECT or ANALYZE CIT allows you to extract the reference from the source documents in this file and have them automatically converted to a citation format for searching in the SCISEARCH file. SEL or ANALYZE CIT extracts first author, publication year, volume, first page, with a truncation symbol and with /RE appended to the terms created by SELECT.
(4) SELECT HIT or ANALYZE HIT is not valid with this field.
(5) Selects ISBN and ISN with /SO appended to the terms created by SELECT.
(6) Selects ISBN and ISSN with /SO appended to the terms created by SELECT.

Sample Records

DISPLAY BIB OF CONFERENCE

AN 20200175262 TEMA
DN 20200700099
TI Rolling into the Future - Bearing Solutions for Electric Mobility
Waelzlagerloesungen fuer die E-Mobilitaet
AU Voelkel, Franz; Tietz, Manfred; Schamin, Alexander; Giehl, Sebastian
CS Schaeffler Technologies, Herzogenaurach, DE
SO Dritev, International VDI Congress Dritev - Drivetrain for Vehicles, 20; VDI-Berichte (2020), Volume 2373, pp. 103-117, 15 Seiten, 6 Quellen
ISSN: 0083-5560 ISBN: 978-3-18-092373-4
Published by: VDI-Verlag, Duesseldorf, http://www.vdi-verlag.de
Conference: International VDI Congress Dritev - Drivetrain for Vehicles, 20th, Bonn, DE, 24 Jun 2020 - 25 Jun 2020
DT Conference; Conference Article
LA English
ED Entered STN: 23 Jul 2020
Last updated on STN: 23 Jul 2020

DISPLAY ALL OF JOURNAL

AN 20200175396 TEMA
DN 20200700233
TI Development of a Resistance Spot Welding Process Using Additive Manufacturing
AU Batista, Marcio; Furlanetto, Valdir; Brandi, Sergio Duarte
CS Universidade de Sao Paulo (USP), BR; Welding Science, Sao Paulo, BR
SO Metals (2020), Volume 10, Number 5, pp. 555/1-555/12, 12 Seiten, 22 Quellen
ISSN: 2075-4701
DOI: https://dx.doi.org/10.3390/met10050555
Published by: MDPI AG, Basel, http://www.mdpi.com
URL (Document): https://www.mdpi.com/2075-4701/10/5
DT Journal
LA English
ED Entered STN: 23 Jul 2020
Last updated on STN: 23 Jul 2020
AB For several decades, the electrical resistance spot welding process has been widely used in the manufacturing of sheet metal structures, especially in automotive bodies. During this period there was no significant development for this welding process. However, in recent years, in order to meet the demand for lighter, economical, and low-cost vehicles, the automotive manufacturing industry is undergoing a revolution in the use of high strength steel sheet combinations, chemical compositions, and of different thicknesses. In this context, the present work focuses on the study and development of a new resistant spot welding technology using additive manufacturing (AMSW) in zinc-coated steel sheets, used in the automotive industry. As a comparison, spot welding was also performed by the conventional resistance spot welding process (RSW). The results showed that the spot welding process using additive manufacturing (AMSW), through the optimized parameters, compared to the conventional resistance spot welding process (RSW), was 34.47% higher in relation to the shear tensile stress, as well as 28.57% higher tensile stress with a perpendicular load to the weld spot. The indentation or thermomechanical mark on the surface of the sheet was imperceptible to the visual inspection, producing a smooth face in the spot region.
CC 3LNB Welding, soldering; 3KEB Steels, cast steel; 3KX Materials properties

CT SPOT-WELDING; ADDITIVE-MANUFACTURING; AUTOMOBILE-INDUSTRY; PRESSING-IN; PRESSING-IN; ASSESSING; TENSILE-STRESS; WELDING-TECHNIQUE; WELD-POINT; VALUE-OF-ELECTRIC-RESISTANCE; SHEET-METALS; HIGH-STRENGTH-STEEL; CHEMICAL-COMPOSITION; ZINC; COATED-STEEL; OPTIMIZATION-PARAMETER; BODY:VEHICLE

ST Punktschweissen; additive Fertigung; Automobilindustrie; Schweissverfahren; Eindrueckung; visuelle Inspektion; Zugspannung; Schweisstechnologie; Schweisspunkt; elektrischer Widerstand (Wert); Blech; hochfester Stahl; chemische Zusammensetzung; Zink; beschichteter Stahl; Optimierungsparameter; Karosserie

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