

Weldasearch® aims to be a comprehensive record of worldwide literature in welding, joining, and allied technologies. Every aspect of welding and allied processes is covered including design, materials science, fatigue and fracture mechanics, equipment for joining and cutting processes, corrosion, surfacing, microjoining, metallurgy and materials science, quality control, inspection, non-destructive testing, health and safety, commercial applications, market statistics, and news of the industry.

Weldasearch has comprehensive coverage of all key industry sectors including aerospace, automotive, electronics, shipbuilding, fabrication of bridges, pipelines, offshore structures and pressure vessels, fabrication of power generation, nuclear and process plant, robotics and automation, repair and maintenance. Processes of welding, brazing and soldering, microjoining, diffusion bonding, thermal cutting, surfacing and hardfacing, thermal spraying are covered.

- Brazing
- Commercial applications of welding and allied processes
- Corrosion
- Diffusion bonding
- Equipment for joining and cutting processes
- Fatigue and fracture mechanics
- Hardfacing and microjoining
- Non-destructive testing
- Quality control
- Safety and health
- Soldering
- Thermal cutting
- Thermal spraying
- Welding

The database is indexed with terms from the International Welding Thesaurus, which can be found at: <http://www.iiwelding.org>.

Date Coverage

1966 - 2020

Update Frequency

Closed

Geographic Coverage

International

Document Types

Journal Articles, Conference Proceedings, Standards, Books, Reports, Theses (Dissertations)

Publisher

Weldasearch is produced by TWI Ltd.

TWI Ltd.

Weldasearch Manager

Granta Part

Great Abington, Cambridge CB21 6AL

United Kingdom

TI

AU,AUFN,AULN

AB

SU

ID

TI

AU,AUFN,AULN

AF

LA

SL

DTX

DTYPE

DF

Weldasearch®

Citation/Abstract [◀ Back to results](#)

☐ Add to selected items

Order full text

Save to My Research

En

Hot cracking in pulsed laser processing of a nickel based superalloy up by electrospark deposition

EBRAHIMNIA, M; MALEK, GHAINI F; Shahverdi, H R. **Science and Technology of Welding and Joining** 19.1: .25-29. (Jan 2014)

Highlighting: Off | Single | Multi

☐ Abstract (summary) [Translate](#)

The susceptibility to hot cracking of precipitation hardened Inconel 738 LC (IN738LC) (Ni, 0.10%C, 15.50%Cr, 9.8%Co, 3.04%W, 2.27%Mo, 0.70%Nb, 0.09%Fe, 4.36%Al, 3.15%Ti, 1.81%Ta, 0.04%Zr, 0.01%B) fabricated via electrospark deposition (ESD) on substrate of the same material and subjected to pulse laser welding was investigated. A rectangle (10 x 10 x 0.5 mm) was machined out of IN738LC plates (100 x 50 x 5 mm) and filled by means of ESD (deposition time ca. 150 min; shielding gas coaxial argon; shielding gas flow rate 15 l/min; electrode rotation speed 2500 rev/min; voltage 100 V; pulse frequency 250 Hz; duty cycle 3.5%; current 3.5 A) using IN738LC electrodes. Several ESD build-up samples underwent pulsed laser remelt processing using a pulsed Nd:YAG laser (max. beam power 400 W; shielding gas flow rate 0.16 l/s; focal length 75 mm; spot diameter 1 mm; pulse frequency 20 Hz; pulse duration 7 ms; energy per pulse 7 J; overlap factor 0% to ca. 40%). Specimens were obtained from the welded samples, and the microstructures of the ESD, laser remelted and parent metals were characterised, focusing on liquation and solidification cracking behaviour. The results are discussed with regard to the microstructural features produced by ESD that influence liquation and solidification cracking.

☐ Indexing (details) Cite

Subject

WELDABILITY AND METALLURGY;
Technical;
REFERENCE LISTS;
NICKEL ALLOYS;
RADIATION WELDING;
PHOTON BEAM WELDING;
LASER WELDING;
PULSED LASER WELDING;
DEPOSITION;
DEPOSITED METAL;
DEFECTS;
CRACKING;
HOT CRACKING;
HEAT AFFECTED ZONE;
MICROSTRUCTURE;
MELTING;
WELDABILITY;
MATERIALS WELDABILITY;
METALLURGICAL WELDABILITY

Identifier (keyword)

ELECTROSPARK DEPOSITION

Title

Hot cracking in pulsed laser processing of a nickel based superalloy up by electrospark deposition

Author

EBRAHIMNIA, M; MALEK, GHAINI F; Shahverdi, H R

Author affiliation

TARBIAT MODARES UNIVERSITY

Language

English

Language of abstract

ENG

Document treatment

Experimental

Document type

Article

Document feature

42 references, 4 figures

2

© 2026 Clarivate. Clarivate and its logo, as well as all other trademarks used herein are trademarks of their respective owners and used under license.

PUB SRC	Publication title	Science and Technology of Welding and Joining
	Source details	Science and Technology of Welding and Joining, vol.19, no.1. Jan.2014. pp.25-29. 4 fig., 42 ref.
VO	Volume	19
ISS	Issue	1
PG	Pagination	pp.25-29
ISSN	ISSN	1362-1718, 1743-2936
PSTYPE	Publication type	Scholarly Journals
NT	Notes	Photocopy available from TWI
DOI	DOI	http://dx.doi.org/10.1179/1362171813Y.0000000157
	URL	http://www.maneyonline.com/doi/pdfplus/10.1179/1362171813Y.0000000157
PD,YR	Publication date	Jan 2014
	Source attribution	Weldasearch, © Publisher specific
AN	Accession number	259767
	Document URL	http://search.proquest.com/professional/docview/1528863604?accountid=166878
FAV	First available	2014-05-28
UD	Updates	2014-05-28
	Database	Weldasearch® (1966 - current)

Search fields

Field Name	Field Code	Example	Description and Notes
Abstract	AB	ab("laser remelt processing")	Use adjacency and/or Boolean operators to narrow search results.
Abstract present	ABANY	"IN738LC electrodes" AND abany(yes)	Add: <i>AND ABANY(YES)</i> to a query to limit retrieval to records with abstracts.
Accession number	AN	an(259767)	A unique document identification number assigned by the information provider.
All fields	ALL	all("resistance spot welding")	Searches all fields in bibliographic files.
All fields + text	--	"resistance spot welding"	Same as ALL field code: searches all fields.
Author ¹ Author First Name Author Last Name	AU AUFN AULN	au(malek, ghaini f) aufn(ghaini) aun(malek)	Includes all authors. Also searchable via the Look Up Citation tool.
First author	FAU	fau(ebrahimnia, m)	Use FAU to find only the first author of a document. Additional authors will not be searched. Displayed within Author.
Author affiliation	AF	af(tarbiat modares university)	Displays in Author field. Not available in all documents. Includes as much data as is available in the original document, such as department, organization, address, city, state, country, author email, etc.
Company/ organization ¹	CO	co(hypertherm)	
Conference information	CF	cf(International Symposium N/3 belgium)	Displays as part of Conference title field. May contain Conference name, location, year, etc.
Conference event start date	ESDT	esdt(1986-11-12)	Event Start date also searchable with CDT. All conference information searchable with CF.
Conference event end date	EVDT	evdt(1986-11-13)	Also searchable with CF.

¹ A Lookup/Browse feature is available for this field in the Advanced Search dropdown or in Browse Fields.

Field Name	Field Code	Example	Description and Notes
Conference title	CFTI	cfti(International Thermal Spray Conference)	
DOI	DOI	doi(10.1179/1362171813Y.0000000157)	Digital Object Identifier. Search the portion of the DOI that comes after http://dx.doi.org/ .
Document feature	DF	df(42 references)	Numbers of tables, references, figures, etc.
Document title	TI	ti("Hot cracking in pulsed laser processing of a nickel based superalloy")	Includes alternate title (OTI) and subtitle, but not Publication Title (PUB).
Document treatment	DTX	dtx(experimental)	
Document type	DTYPE	dtype(article)	
First available	FAV	fav(2014-05-28)	Indicates the first time a document was loaded in a specific database on Dialog. It will not change however many times the record is subsequently reloaded, as long as the accession number does not change.
From database ²	FDB	composites AND fdb(weldasearch) composites AND fbd(1008483)	Useful in multi-file searches to isolate records from a single file. FDB cannot be searched on its own; specify at least one search term then AND it with FDB.
Identifiers	IF	if("electrospark deposition")	Uncontrolled vocabulary terms.
ISBN	ISBN	isbn(0-912035-82-X)	
ISSN	ISSN	issn(1362-1718) issn(13621718)	
Issue	ISS	iss(1)	Also searchable via the Look Up Citation tool.
Journal name	JN	jn("science and technology" PRE/4 welding)	Journal names only. For complete Publication name types, use PUB. Also searchable via the Look Up Citation tool for Publication name.
Language	LA	la(english)	
Language of abstract	SL	sl(English)	
Notes	NT	nt(photocopy available from TWI) nt("See also Weldasearch 171534")	
Pagination	PG	pg(25-29)	
Patent application date	APD	apd(1997-04-15)	
Patent application number	APN	apn(9371096)	
Patent assignee	PA	pa(matsushita)	
Patent number	PN	pn(1190808)	
Patent publication date	PDA	pda(20020327)	

² Click the "Field codes" hyperlink at the top right of the Advanced Search page. Click "Search syntax and field codes", then click on "FDB command" to get a list of database names and codes that can be searched with FDB.

Field Name	Field Code	Example	Description and Notes
Patent publication country	PBC	pbc(ep)	
Publication date	PD	pd(201401) pd(201401-201403)	Also searchable via the Look Up Citation tool.
Publication title ¹	PUB	pub("science and technology of welding and joining")	Title of publication where document originally appeared. Also searchable via the Look Up Citation tool.
Publication type	PSTYP E	pstype(books)	
Publication year	YR	yr(2011)	Single year or a range of years may be searched.
Source information	SRC	src("brazing and soldering today")	Includes Publication title, Volume, Issue, ISSN, Publication date, and Pagination. Also searchable via the Look Up Citation tool.
Start page	PAGE	page(25)	First page number - displayed within Pagination. Searchable on the Look Up Citation tool.
Subject ¹	SU	su("liquation cracking")	
URL	URL	url(http://www.ingentaconnect.com/content/maney/stwj)	
Updates	UD	ud(2014-05-28)	The date(s) the record was loaded as a result of an update provided by the supplier.
Volume	VO	vo(19)	Also searchable via the Look Up Citation tool.

Search tools

Field codes are used to search document fields, as shown in the sample document. Field codes may be used in searches entered on the **Basic Search**, **Advanced Search**, and **Command Line** search pages. **Limit options**, **Look up** lists, and **"Narrow results by" filters** tools are available for searching. Some data can be searched using more than one tool.

Limit options

Limit options are quick and easy ways of searching certain common concepts. Short lists of choices are available for:

Source, type, Document type and Language

Date limiters are available in which you can select single dates or ranges for date of **publication** and **updated**.

Look up lists

You can browse the contents of certain fields by using Look Up lists. These are particularly useful to validate spellings or the presence of specific data. Terms found in the course of browsing may be selected and automatically added to the Advanced Search form. Look Up lists are available in the fields drop-down only for:

Author, Company/organization, Publication title, Subject

“Narrow Results By” filters

When results of a search are presented, the results display is accompanied by a list of “Narrow results by” options shown on the right-hand panel. Click on any of these options and you will see a ranked list showing the most frequently occurring terms in your results. Click on the term to apply it to (“narrow”) your search results. Narrow results by filters in Weldasearch include:

Source type, Publication title, Document type, Subject, Classification, Company/organization, Location, Language, Publication date

Look up citation

If you need to trace a particular bibliographic reference, use the Look Up Citation feature. Find a link to this toward the top left of the Advanced Search page, or in the drop list under Advanced on any search form; click this and you will go to a page where you can enter any known details of the citation, including: Document title, Author, Publication title, ISSN, ISBN, Volume, Issue, Page, Publication date, DOI.

Document formats

Pre-defined document formats are available for viewing and download. Search results can be downloaded with the Download all results, Email, Print and Export/Save options, and when creating an alert. To design your own download format, choose the “Custom” format option and check the fields to be displayed.

Document Format	Fields	Online	Export/Download
Brief view	Title and Publication date.	✓	
Detailed view	Brief view plus a 3-line KWIC window.	✓	
KWIC (Keyword in Context)	Detailed view plus all occurrences of your search term highlighted in the field(s) where the terms occur.	✓	✓
Preview	Detailed view plus Author, Publication title, Volume, Issue, Pagination, Subject, and the portion of the Abstract with the search term highlighted. Available online only.	✓	
Brief citation	Complete record minus the Abstract and indexing.	✓	✓
Citation/Abstract	Complete record with Abstract.	✓ ³	✓
Custom	Choose the fields you want. ✓		✓ ⁴

³ In Online-view mode, Dialog gives access to two Document Formats only: *Brief citation*, and the ‘most complete’ format available. Depending on the database, or the amount of data available for a record, the most complete format may be any one of *Citation*, *Citation/Abstract*, *Full text*, or *Full text - PDF*.

⁴ Custom export/download format is available in the following mediums only: HTML, PDF, RefWorks, RTF, Text only, XLS.

Terms and conditions

Dialog standard terms and conditions apply.

Contact: **Dialog Global Customer Support**

Email: Customer@dialog.com

Within North America **1 800 334 2564**

Outside North America **00 800 33 34 2564**