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INTERNATIONAL INSTITUTE OF WELDING
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IX-2790-2023

COMMISSION IX

BEHAVIOR OF METALS SUBJECTED TO WELDING

IX-2790-2023

**DRAFT AGENDA FOR 2023 MEETINGS OF COMMISSION IX,
76TH ANNUAL ASSEMBLY, SINGAPORE, JULY 17~19, 2023**

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DRAFT AGENDA FOR 2023 MEETINGS OF COMMISSION IX, 76TH ANNUAL ASSEMBLY, SINGAPORE, JULY 17~19, 2023

Program Summary

July 17, 2023 (Monday)	08:30 - 08:45 08:45 - 12:30	Opening of C-IX meetings Sub-Commission IX-L meeting
July 18, 2023 (Tuesday)	08:30 - 12:30	Sub-Commission IX-H meeting
July 21, 2022 (Wednesday)	08:30 - 12:00	Sub-Commission IX-Hmeeting Sub-Commission IX-NF meeting WitW & IIW Secretariat Sub-Commission IX-C meeting Summary of meetings & Closing

IIW Antitrust policy

IIW activities are based on a close, voluntary cooperation of its worldwide members with the overall target to improve the knowledge and skills in joining. To maintain these fruitful activities, it is strictly necessary to meet the obligatory terms of antitrust laws during IIW working sessions, meetings and other events. Thus, any commercial oriented discussion (including, but not limited to market shares, prices, turnovers, production quantities, costs, suppliers and/or customers) is strictly banished.

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Monday, July 17, 2023

I. Opening Session

- I-1. Opening and welcome by Chair
- I-2. Approval of Agenda (IX- 2790-2023)
- I-3. Approval of Minutes of AA meeting 2022 (IX-2786-2022)
- I-4. Approval of Minutes of Intermediate meeting 2023 (IX-2789-2023)

II. Subcommittee IX-L: Low alloy steel welds

Chair: Prof. Nobert Enzinger

II-1. Administration matters of IX-L

II-2. Technical Presentation of documents (11 papers)

IX-2791-2023 (IX-L-1278-2023)

Influence of the heat treatment on the properties of TMCP and Q&T steels evaluated by thermo-physical simulation, M. Neumann, A. Hälsig, J. Hensel

IX-2792-2023 (IX-L-1268-2023)

Influence of classified pore contents on the dynamic strength properties of the welded joint in gas metal arc welding of galvanized advanced high-strength steels, M. Sarpe, V. Wesling, K. Treutler

IX-2793-2023 (IX-L-1269-2023)

Thermal history due to plasma wire arc additive manufacturing and its influence on high carbon steel substrate, M. Moschinger, T. Vauderwange, N. Enzinger

IX-2794-2023 (IX-L-1272-2023)

Adapted to generate compressive residual stress and retained austenite in a steel surface layer by friction stir processing with the WC tool, Hajime Yamamoto, Yuji Yamamoto, Kazuhiro Ito, Yoshiki Mikami

IX-2795-2023 (IX-L-1274-2023)

Enhancement of tensile properties and overcoming underfill according to gap alignment of laser beam welds in 800–1000 MPa ultra-high strength steels using filler wire, Y. Lee, S. Park, J. Seon, H. Han, K. Lee, and N. Kang

IX-2796-2023 (IX-L-1267-2023)

Properties oriented WAAM - Microstructural and geometrical control in WAAM of low alloy steel, K. Treutler, T. Gehling, M. Scheck, A. Richter, C. Bohn, R. Ehlers, C. Rembe, V. Wesling

IX-2797-2023 (IX-L-1270-2023)

Evaluation of Microstructure and Toughness of SAW weld metals with an Optimum Al/O ratio, K. Seo, Y. Kang, H. J. Kim, B. Kim, N. Kang

IX-2798-2023 (IX-L-1271-2023)

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Effects of carbon and chromium on nucleation of intragranular acicular ferrite in weld metal of low-alloy steels, H. Matsuo, T. Kamo, S. Daimaru

IX-2819-2023 (IX-L-1273-2023)

Comparative study about the results of HAZ physical simulations on different high strength steel grades, J. Kovacs, M. Gaspar, J. Lukacs

IX-2799-2023 (IX-L-1275-2023)

Joining of additive and conventional manufactured HSLA steel components, J. Arnhold, F. Probst, T.-E. Adams, P. Mayr, J. de Freese

IX-2820-2023 (IX-L-1276-2023)

Formation of acicular ferrite in 690 MPa high-strength low alloy steel welds, V. Hosseini, E.-L. Bergquist

Tuesday, July 18, 2023

III. Subcommittee IX-H: Welding of stainless Steels and Nickel-base Alloys (1st)

Chair: Dr. Elin Westin

II-1. Administration matters of IX-H

II-2. Technical Presentation of documents (13 papers)

IX-2800-2023 (IX-H-959-2023)

Granjon Price Winner Grain growth and precipitation behaviour of AISI 430 ferritic stainless steel subjected to pulsed laser beam welding using free-form pulse shaping. N. Sommer, F. Stredak, M. Wiegand, S. Böhm (Germany)

IX-2801-2023 (IX-H-953-2023)

Laser metal deposition of modified PH 13-8 Mo powder: from bead-on-plate to 3D geometry. Gökçe Aydın, Aydın Şelte, Joel Andersson, Maria Asuncion Valiente Bermejo (Sweden)

IX-2802-2023 (IX-H-945-2023)

Pulse modulated TIG welding to influence the material properties of UNS S32205. Julia Wichmann, Stefan Ulrich, Simon Jahn (Germany)

IX-2803-2023 (IX-H-950-2023)

Evaluation of methods for simulation of heat-affected zones in duplex stainless steels. Elin Westin, Lars-Göran Westerberg (Austria)

IX-2804-2023 (IX-H-951-2023)

Morphology of the high-temperature heat-affected zone in duplex stainless steels. Elin Westin, Sten Wessman, Lars-Göran Westerberg (Austria)

IX-2805-2023 (IX-H-952-2023)

475°C Embrittlement in wire laser metal deposition additive manufacturing of duplex stainless steel components. Amir Baghdadchi, Mattias Thuvander, Sten Wessman, Joel Andersson (Sweden)

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IX-2806-2023 (IX-H-949-2023)

Influence of hyperbaric ambient pressures on the microstructure formation in laser beam welding of duplex stainless steels. Tamás Tóth, Ann-Christin Hesse, Klaus Dilger (Germany)

IX-2807-2023 (IX-H-958-2023)

Microstructural study of Keyhole TIG welded new nickel-based superalloy VDM Alloy 780. Achmad Ariaseto, Joel Andersson (Sweden)

IX-2808-2023 (IX-H-961-2023)

New approaches for the deformation ability assessing of typical welded joint zones difficult to weld nickel-based superalloys. O. Yarovytsyn, K. Yushchenko, M. Chervyakov, I Volosatov, G. Khrushchov (Ukraine)

IX-2809-2023 (IX-H-962-2023)

Assessment of structural features of single-crystal nickel-based superalloy welds according to EBSD analysis results. I.S. Hakh, B.A. Zandery, A.B. Zavodveev, A.V. Zviahintseva (Ukraine)

Wednesday, July 19, 2023

III. Subcommission IX-H: Welding of stainless Steels and Nickel-base Alloys (2nd)

IX-2810-2023 (IX-H-946-2023)

Development of evaluation method for solidification cracking susceptibility during additive manufacturing process. Kota Kadoi, Yukiya Matsumoto, Hiroyuki Chiba, Hiroshige Inoue (Japan)

IX-2811-2023 (IX-H-947-2023)

The correct interpretation of the Vrestraint test based on augmented strain measured by in-situ observation. Shotaro Yamashita, Hiroyuki Hirata, Kazuyoshi Saida (Japan)

IX-2812-2023 (IX-H-960-2023)

An alloy agnostic solidification cracking susceptibility criteria. Antonio Ramirez, Rafael Giorjao, Henry Henao (USA)

IV. Subcommission IX-NF: Non-ferrous materials

Chair: Prof. Jean Pierre Bergman

III-1. Administration matters of IX-NF

III-2. Technical Presentation of documents (5 papers)

IX-2815-2023 (IX-NF-53-2023)

Effect of In-situ liquid nitrogen cryogenic cooling during wire arc direct energy deposition of nickel aluminum bronze, Kuprienko, A.; Stickle, J.; Carney, M.; Harwig, D. and Fink, C.

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IX-2816-2023 (IX-NF-54-2023)

Microstructure and mechanical properties of wire arc additive manufactured AlSi1MgMn (EN-AW 6082), Schneider-Bröskamp, Chr.; Magner, F.; Klein, Th.

IX-2818-2023 (IX-NF-55-2023)

Evaluation of the quality of welded joints of D16 aluminum structural alloy obtained using the adapted process of automatic pulse-arc welding with a fusible electrode, Valerij Koval, Tetyana Labur, Yavorska Maria (Ukraine)

IX-2817-2023 (IX-NF-56-2023)

Effect of TIG welding on microstructure and mechanical properties of high-temperature titanium alloy Ti-6.5Al-5.3Zr-2.2Sn-0.6Mo-0.5Nb-0.75Si welded joints, Roman Selin, Serhiy Akhonin, Valeriy Bilous (Ukraine)

IX-2814-2023 (IX-NF-57-2023)

Element distribution at diffusion bonding interface of FeAlSi thermoelectric material and Cu, Meguro S.

- Presentation from Welding in the Word (15 min)

- Visit of IIW Secretariat (5~8 min)

V. Subcommission IX-C: Creep and Heat resistant welds

Chair: Prof. Peter Mayr

III-1. Administration matters of IX-C

III-2. Technical Presentation of documents (1 paper)

IX-2813-2023 (IX-C-1105-2023)

A critical understanding on the creep failure of super304H/T92 dissimilar welds, Nandha Kumar E, Ravi Sankar Kottada, G D Janaki Ram

VI. Meeting Summary and Others

IV-1. Summary of WitW recommendation

IV-2. Administrative matters

IV-3. Plan for Next meetings

- Intermediate Meeting of 2023

- AA meeting 2023

IV-4. Adjournment of C-IX meeting

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