



## Working unit: C-IX

### Draft Agenda of AA Meeting of Commission IX 'Behavior of Metals subject to Welding'

July 8~10, 2024

**IX-2861-2024**

## Venue

Room JUPITER  
Rodos Palace Hotel:  
Trianton Avenue, Ixia, 85100.  
Rhodes Island, Dodekanesos Complex, Greece

## Meeting Schedule

July 8 (Monday)	9:00 ~ 13:00	Opening session IX-L meeting
July 9 (Tuesday)	9:00 ~ 13:00	IX-AM meeting IX-NF meeting
July 10 (Wednesday)	9:00 ~ 13:00	IX-H meeting Closing

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## Monday, July 8, 2024

### **I. Welcome and Administration** (Chair: Dr. Hee Jin KIM)

1. Opening of the meeting
2. Apologies
3. Approval of Agenda (IX-2861-2024)
4. Approval of MoM
  - 2023 AA meeting (IX-2823-2023re1)
  - 2024 Intermediate meeting (IX-2825-20245)
5. Election
  - Chair of C-IX by IIW Secretary
  - Chair of IX-AM by Commission Chair (Att: List of National delegates)

### **II. Technical meeting of Commission IX-L: *Low alloy steel welds*** (Chair: Prof. Nobert Enzinger)

1. IX-2860-2024 (IX-L-1290-2024) The effect of post weld heat treatment on mechanical properties and the micro- and nanostructure of creep-resistant 2.25Cr-1Mo-0.25V submerged-arc weld metal, *Ronald Schnitzer, H. Fleißner-Rieger, M. Schmitz-Niedererau*
2. IX-2858-2024 (IX-L-1295-2024) Welding of 42SiCr treated by Quenching and Partitioning - Mechanical properties of the HAZ and preheating proposal, *J. Kaars, F. Dittrich, P. Mayr, J. Hensel*
3. IX-2832-2024 (IX-L-1291-2024) Welding Study on Nano-High Strength Steel in Baosteel, *Z. Qu, L. Xia, Q. Zheng*
4. IX-2833-2024 (IX-L-1292-2024) New Methodology for hydrogen-induced cold cracking sensitivity assessment in MAG welding of steel sheets for automotive chassis application, *D. Cornette, J. Haouas, K. Thihay*
5. IX-2833-2024 (IX-L-1293-2024) Investigation of resistance to gaseous hydrogen of a longitudinal weld seam in a X65 pipeline using the hollow specimen technique, *F. Konert, J. Nietzke, T. Freitas, M. Rhode, O. Sobol, Th. Böllinghaus*
6. IX-2829-2023 (IX-L-1284-2023) Continuous Cooling Transformation diagram of a high-strength all-weld metal with a yield strength exceeding 1100 Mpa, *D. Schrittwieser, D.M. Morales, H. Pahr, R. Schnitzer*

7. IX-2830-2024 (IX-L-1285-2024) Effect of silane-doped argon shielding gases for gas metal arc welding, *Kai Treutler, Philipp Neef, Volker Wesling*
8. IX-2831-2024 (IX-L-1286-2024) Effects of cooling rate on microstructural evolution and low temperature impact toughness of inter-critically reheated coarse-grained heat affected zone (ICCGHAZ) in 420 MPa offshore engineering steel, *Savyasachi Nellikode, Siva Prasad Murugan, Jun-Ho Chung, Hyungkwon Park, Yeong-Do Park*
9. IX-2835-2024 (IX-L-1294-2024) Physical simulation-based analysis of multipass welding in S500 shipbuilding steel, *M. Gáspár, J. Kovács J. Sainio, H. Tervo, V. Javaheri, A. Kaijalainen*

## **Tuesday, July 9, 2024**

### **III. Technical meeting of Commission IX-AM: *Metallurgy of AM* (Chair: vacant)**

1. IX-2836-2024 (IX-AM-012-2024): Effect of Substrate Preheating and In-Situ Cooling on Dimensional Accuracy, Microstructure, and Hardness of Wire Arc Additive Manufacturing Components, *T. Reindl, N. Hempel, P. Mayr*
2. IX-2837-2024 (IX-AM-013-2024): Origin of anisotropy in tensile properties in thin wall of martensitic stainless steel fabricated by wire arc additive manufacturing, *Z. Lyu, Y. S. Sato, S. Tokita, Y. Zhao, J. Jia, A. Wu*
3. IX-2859-2024 (IX-AM-014-2024): Specimen design for determination of fatigue strength parameters on WAAM materials, *K. Treutler, M. Wächter, M. Hupka, M. Leicher, A. Esderts, V. Wesling*
4. IX-2838-2024 (IX-AM-015-2024): Influence of machining on residual stresses in additive manufactured high-strength steel components, *K. Wandtke, L. Engelking, D. Schroepfer, R. Scharf-Wildenhain, A. Hälsig, A. Kromm, T. Kannengiesser, J. Hensel*
5. IX-2828-2024 (IX-AM-016-2024): High strength plasma wire arc additive manufacturing (PWAAM) on a high carbon steel – a detailed characterization of the transition zone, *M. Moschinger, R. Hou, J. Inoue, N. Enzinger*
6. IX-2840-2024 (IX-AM-017-2024): Insitu alloying of Al-Cu-Si using dual-wire plasma additive manufacturing, *S. Reinbacher, T. Klein, C. Simson, P. Spörk-Erdely, N. Enzinger*

7. IX-2839-2024 (IX-AM-018-2024): Additive manufacturing of iron aluminides: microstructure, machinability, and surface integrity, *J. Witte, D. Schroepfer, K. Treutler, T. Kannengiesser, V. Wesling*
8. IX-2841-2024 (IX-AM-019-2024): Development of high-efficiency wire and laser additive manufacturing technology for stainless steel, *Y. Banno, S. Tsubota, Y. Fujiya, M. Kimura*
9. IX-2843-2024 (IX-AM-020-2024): Hydrogen embrittlement in additively manufactured 316L – The relationship between surface quality and the influence of hydrogen on mechanical properties, *J. Nietzke, F. Konert, K. Poka, B. Merz, M. Rhode, O. Sobol, T. Böllinghaus*
10. IX-2842-2024 (IX-AM-021-2024): Proposal of IIW working group for performance and quality assessment of large-scale AM products in shipbuilding industry, *S.-B. Shin, S.-W. Song, C.-W. Ji*

**IV. Technical meeting of Commission IX-NF:  
***Non-ferrous materials*** (Chair: Jean P. Bergman)**

1. IX-2847-2024 (IX-NF-62-2024): Process and joint properties of GMA-welded alloy AW6082 with MA-6063 filler metal, *Judith Schenk, Kevin Hofer, Jonas Hensel*

**Wednesday, July 10, 2024**

**V. Technical meeting of Commission IX-H:  
***Weldability of stainless and nickel base alloys*** (Chair: Elin M. Westin)**

1. IX-2849-2024 (IX-H-966-2024): Enhancing duplex stainless steel additive manufacturing with DED-LB/w: Microstructural, analysis and process optimization, *E.M Westin, M.A Valiente Bermejo, B. Axelsson, K. Hurtig, P. Hagqvist, I. Choquet*
2. IX-2850-2024 (IX-H-969-2024): Directed energy deposition-arc of 2205 duplex stainless steel using nitrogen-bearing shielding gas, *Tamás Tóth, E.M Westin, Markus Köhler, Klaus Dilger*
3. IX-2851-2024 (IX-H-968-2024): Effect of solution annealing heat treatment on hot cracking susceptibility of new Ni-based superalloy G27, *Achmad Ariaseta, Joel Andersson, Olanrewaju Ojo*
4. IX-2856-2024 (IX-H-978-2024): Conventional welding of additively Manufactured materials, *Vamadevan Gowreesan, W. Greaves*

5. IX-2852-2024 (IX-H-964-2024): Coupled prediction of weld bead shape and solidification microstructure of austenitic stainless steels using computer simulation, *Naoki Sahara, Shotaro Yamashita, Hiroyuki Hirata, Kazuyoshi Saida*
6. IX-2853-2024 (IX-H-973-2024): On the issue of assessing the probability and preventing the occurrence of "ductility dip cracking" mechanism under conditions of multi-layer welding arc 3D-overlapping process on nickel and cobalt alloys, *Yarovytsyn O.V., Cherviakov M.O., Zviahintseva H.V., Volosatov I.R., Khrushchov H.D., Nykytenko Yu.O.*
7. IX-2857-2024 (IX-H-979-2024): Weldability evaluation of corrosion resistant alloy weld metals for high-temperature service using transvarestraint test, *A.B.F. Sousa, F.E. Cavalcante Neto, J.S. de Souza, M.T. Piza Paes, G. Dalpiaz, R. R. Marinho, R. Gonsiorocki Momburu, É.M. Miná, M.F. Motta, H.C. de Miranda, Cleiton Carvaiho Silva*
8. IX-2826-2024 (IX-H-967-2024): Assessing ferrite content in duplex stainless steel weld metals: WRC '92 predictions vs. practical measurements, *Lukas Quackatz, Elin Westin, Axel Griesche, Arne Kromm, Thomas Kannengiesser, Kai Treutler, Volker Wesling, Sten Wessman*
9. IX-2854-2024 (IX-H-963-2024): Condition of lacy ferrite formation during FA-mode solidification in austenitic stainless steels and the pitting corrosion resistance, *Kota Kadoi, Mari Kogure, Hiroshige Inoue*
10. IX-2855-2024 (IX-H-965-2024): Effect of deformation-induced martensite on the toughness of austenitic weld metal, *Hayato Tachibana, Hajime Matsuo, Takahiro Kamo*

## **VI. Summary and Others**

1. Summary of technical presentation
  - *WitW* recommendation
2. Administrative matters
  - Resolutions
3. Next meetings
  - 2025 Intermediate Meeting
  - 2025 AA meeting

Att :

### List of National delegates of C-IX

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