

Report on Meeting of Commission IX
“Behaviour of Metals Subjected to Welding”,
held in Dubrovnik, Croatia, July 2-4, 2007

By: John Bowker, Delegate to Commission IX

Monday, 14:00 – 18:00, July 2, 2007

1. Opening of the Session:
 - The meeting was opened by the Chairman Th. Boellinghaus (Germany)
2. Approval of the Agenda IX-2242-07:
 - The agenda was approved:
3. Annual Report of Commission IX
 - The Annual Report covered the time after the last Annual Assembly 2006 in Quebec until the Annual Assembly 2007 in Dubrovnik. Commission IX proceeded with its work according to the resolutions taken at the Annual Assembly 2006 in Quebec and also described the activities of the sub-Commissions as well as the technical contributions made at the assembly in Quebec city.
4. Strategic Plan for Commission IX:
 - The strategic plan for 2007 to 2012 was presented for Commission IX describing the key strategies for four objectives pertaining to IIW’s goals. Subject areas to be addressed within each of the sub-Commissions were also documented.

The remainder of the report provides a list of documents that were presented within each of the sub-Commissions in addition to information pertaining to the Granjon Paper presentation.

5. Sub-Commission on Low-Alloyed Steel Welds (IX-L):
 - IX-L-1011-07 : Annual Report of Sub-Commission IX-L (T.Koseki)
 - IX-2235-07 : The Influence of Hot Straining of Austenite in Solid-State Welding Process of High Carbon Steel (M. Maalekian, E. Kozeschnik and H. Cerjak)
 - IX-2236-07 : Hydrogen Embrittlement of Multi Pass Weld Metal for HT780 Steel (Y. Kitagawa, K. Ikeuchi, and T. Kuroda, Y. Matsushita, K. Suenaga, T. Hidaka and H. Takeuchi)
 - IX-2237-07 : Reheat Cracking Susceptibility and Toughness & Ductility Behaviour of Multipass Welds and Simulated HAZs In Modified 2%CrMo(W)V P23 Steel (Pekka Nevasmaa)
 - IX-2238-07 : Development of In-situ Microstructure Observation Technique in Welding (Y. Komizo and H. Terasaki, M Yonemura and T. Osuki)
 - IX-2238-07 : Ferrite Transformation from Oxide/Steel Interfaces in HAZ-simulated C-Mn Steel (T. Koseki, H. Kato, M. Tsutsumi and J. Inoue)

- IX-2239-07 : Effects of Preheating and Interpass Temperature on Stresses in S1100QL Multi-Pass Butt-Welds (P. Wongpanya, Th. Boellinghaus and Th. Kannengiesser)
- IX-2240-07 : Cold Cracking Tests (Revised II-A-111-06) (Th. Boellinghaus and Th. Kannengiesser)

Tuesday, 14:00 – 18:00, July 3, 2007

6. Sub-Commission on Creep and Heat-Resistant Welds (IX-C):

- IX-C-1001-07 : Annual Report of Sub-Commission IX-C (J. Hald)
- IX-2244-07 : Influence of composition partitioning on creep strength and type IV failure of ASME grade 122 type steels (K.Kimura, K.Sawada, H.Kushima and Y.Toda).
- IX-2245-07 : Suppression of type IV failure in high Cr heat resistant steel welded joint (S. Tsukamoto, M. Kondo, T. Shirane, M. Tabuchi and F. Abe).
- IX-2246-07 : Ferrite to austenite reverse transformation process in B containing 9% Cr heat resistant steel HAZ (T. Shirane, S. Tsukamoto, T. Tsuzaki, Y. Adachi, T. Hanamura, M. Shimizu and F. Abe).
- IX-2247-07 : Creep rupture strength of dissimilar joints by friction joining (M. Yamazaki, T. Watanabe and H. Hongo).

7. Presentation of the Granjon Paper:

- IX-2231-07 : The development of a compressive residual stress field around a weld toe by means of phase transformations (Martinez Diez).

8. Sub-Commission on Non-Ferrous Metals (IX-NF):

- IX-NF-16-07 : Annual Report of Sub-Commission IX-NF (J.F. dos Santos).
- IX-2248-07 : Cracking and Local Melting in Mg-alloy and Al-alloy during Friction Stir Spot Welding (M. Yamamoto, A. Gerlich, T. North and K. Shinozaki)
- IX-2249-07 : Microstructure and Properties of Friction Stir Processed Investment Cast Ti-6Al-4V (A.Pilchak, M. Juhas and J. Williams).
- IX-2250-07 : Surface modification of AA5083-0 and AA7022-0 Cast Aluminium Alloys by Friction Stir Processing – A Preliminary Study (F. Nascimento, P. Vilaça, R. Miranda and L. Quintino).
- IX-2251-07 : Metallurgical Aspects of Friction Welds in a AE42 Magnesium Alloy (G. Pinheiro, C. Olea, J. F. dos Santos and K. U. Kainer).

Wednesday, 14:00 – 18:00, July 4, 2007

- IX-NF-16-07 : Annual Report of Sub-Commission IX-NF (J.F. dos Santos).
- IX-2228-07 : Weldable 12Cr ferritic stainless steel with expanded field of application (E. Deleu and A. Dhooge)

- IX-2229-07 : FN by DeLong vs WRC-92 (D. Kotecki).
- IX-2230-07 : Suitable corrosion testing methods for welded joints (B. Holmberg and A. Bergqvist).
- IX-2232-07 : Effect of post-weld straining on temper-rolled austenitic stainless steel welds (E. Westin).
- IX-2233-07 : The influence of interstitial diffusion across the fusion line on the HAZ microstructure and properties in 12% chromium type 1.4003 steels (M. du Toit and A.M. Meyer)
- IX-2234-07 : Debonding of austenitic stainless steel cladding following high temperature hydrogen service (M. Gittos)
- IX-2243-07 : Crystal Growth in Laser Surface Melting and Cladding of Ni-Base Single Crystal Superalloy (K. Nishimoto, K. Saida and Y. Fujita)