



Commission XIII - Fatigue of welded components and structures

Draft Agenda for the 74th IIW On-line Annual Assembly 2021

7th – 21st July 2021

Overview of C-XIII online meeting schedule

Wednesday, 7 th July	Friday, 9 th July	Monday, 12 th July	Tuesday, 13 th July	Wednesday, 14 th July
C-XIII working group meetings	C-XIII working group meetings	C-XIII main Commission meetings	C-XIII main Commission meetings	C-XIII main Commission meetings
13:00 - 15:00 CET	13:00 - 16:00 CET	13:00 - 16:10 CET	13:00 - 16:10 CET	13:00 - 16:10 CET



COMMISSION XIII WORKING GROUP MEETINGS

Wednesday, 7th July

13:00 – 15:00

Session 0

Working Group	Chair	Time
Welcome	K.A. Macdonald	13:00
JWG XIII/XV Fatigue design rules	A. Hobbacher	13:00-14:00
WG2 Fatigue Strength Improvement and Life Extension	M. Farajian and Z. Barsoum	14:00-15:00
Close		15:00



COMMISSION XIII WORKING GROUP MEETINGS

Friday, 9th July

13:00 – 16:00

Session 1

Working Group	Chair	Time
WG3 Stress analysis	J. Baumgartner	13:00- 14:30
Short break		
WG4 Effects of weld imperfections on fatigue strength	H. Remes	14:30- 16:00
Close		16:00



MAIN COMMISSION XIII MEETINGS

Monday, 12th July

13:00 – 16:10

Session 2

Welcome, opening remarks and Commission business			13:00-13:20
XIII-2885-2021	Fatigue Improvement of Welds by means of Deep Rolling	J. Schubnell, M. Farajian	13:20-13:40
XIII-2883-2021	On the interaction of axial and bending loads in the weld root fatigue strength assessment of load-carrying cruciform joints	A. Ahola, H. R.Raftar, T. Björk, O. Kukkonen	13:40-14:00
XIII-2884-2021	On the geometrical notch and quality effects on the fatigue strength of ultra-high-strength steel cut edges	K. Lipiäinen, S. Afkhami, A. Ahola, T. Björk	14:00-14:20
XIII-2882-2021	Fatigue properties of steel to aluminum transition joints produced by explosion welding	N. Beckera, D. Gauthierb, E. E. Vidal	14:20-14:40
Break			14:40-14:50
XIII-2888-2021	The effect of sub-zero temperatures on fatigue strength of welded joints	M. Braun	14:50-15:10
XIII-2889-2021	Fatigue strength of partial penetration butt welds of mild steel	Schiller, R., Oswald, M. , Löschner, D., Neuhäusler, J., Rother, K., Engelhardt, I.	15:10-15:30
XIII-2890-2021	Sequence effect of as welded and HFMI treated transverse attachments under variable loading with linear spectrum	Löschner, D., Schiller, R., Diekhoff, P., Engelhardt, I., Nitschke-Pagel, T., Dilger, K.	15:30-15:50
XIII-2891-2021	Study of defect characteristics and their effect on the fatigue performance of metal additive manufactured components using X-ray computed tomography	J. N. Dastgerdi, O. Jaber, H. Remes	15:50-16:10
WITW update		Thomas Böllinghaus	16:10
Close			16:30



MAIN COMMISSION XIII MEETINGS

Tuesday, 13th July

13:00 – 16:10

Session 3

Welcome			13:00
XIII-2892-2021	Fatigue strength assessment of as-welded and HFMI treated welded joints according to structural and local approaches	A. Campagnolo, F. Belluzzo, H.C. Yildirim and G. Meneghetti	13:00-13:20
XIII-2893-2021	Fatigue strength assessment of TIG-dressed high-strength steel cruciform joints by nominal and local approaches	Brunnhofer P., Buzzi C., Pertoll T., Leitner M., Mössler W.	13:20-13:40
XIII-2894-2021	Surface quality parameters for structural components manufactured by DED-arc processes	J.Hensel, A. Przyklenk, J.Müller, M.Köhler, K.Dilger	13:40-14:00
XIII-2895-2021	Laser welding of 16MnCr5 butt welds with gap: Resulting weld quality and fatigue strength	J.Hensel, M.Köhler, L.Uhlenberg, J.D.Castro, K.Dilger, M.Faß, J.Baumgartner	14:00-14:20
XIII-2896-2021	Determination of notch factors for transverse non-load carrying stiffeners based on numerical analysis and metamodeling	j. Neuhäusler, K. Rother	14:20-14:40
Break			14:40-14:50
XIII-2897-2021	Digital Scanning of Welds and Influence of Sampling Resolution on the Predicted Fatigue Performance: Modelling, Experiment and Simulation	G. Hultgren, L. Myrén, Z. Barsoum, R. Mansour	14:50-15:10
XIII-2898-2021	Numerical investigation of crack opening-closing behavior on pre-fatigued welded joints repaired by HFMI	Y. Banno, K. Kinoshita, Z. Barsoum	15:10-15:30
XIII-2899-2021	Fatigue probability model for AWJ-cut steel including surface roughness and residual stress	G. Hultgren, R. Mansour, Z. Barsoum, M. Olsson	15:30-15:50
XIII-2900-2021	Fatigue Assessment of Welded Joints in Bending	X. Sun, M. J. Doré	15:50-16:10
Close			16:10



MAIN COMMISSION XIII MEETINGS

Wednesday, 14th July

13:00 – 16:10

Session 4

Welcome			13:00
XIII-2901-2021	Comparison on mixed -mode stress intensity factors of as-welded joint and HFMI-treated welded joint	Phyo Myat Kyaw et al.	13:00-13:20
XIII-2902-2021	Fatigue strength of shot peened welding joints of steel bridges	Koji KINOSHITA et al.	13:20-13:40
XIII-2903-2021	Fatigue strength and residual stress of longitudinal attachment joints improved by HFMI treatment under static load	Takeshi HANJI, Kazuo TATEISHI, Suguru KANO, Masaru SHIMIZU	13:40-14:00
XIII-2904-2021	Prediction of residual stress induced by high-frequency mechanical impact treatment	Takeshi HANJI, Kazuo TATEISHI, Suguru KANO, Masaru SHIMIZU	14:00-14:20
XIII-2905-2021	New vertical stiffener-to-deck connection details with high fatigue resistance in orthotropic steel decks	Atsushi TANABE et al.	14:20-14:40
Break			14:40-14:50
XIII-2906-2021	Fatigue-fracture characteristics of a T-shaped CHS joint with two surface cracks	Satoyuki TANAKA et al.	14:50-15:10
XIII-2907-2021	Fatigue life extension by additional weld and its assessment by high performance SCF formula considering spline bead profile	Yixun Wang, Seiichiro Tsutsumi	15:10-15:30
XIII-2886-2021	Fatigue assessment of weld seams considering elastic-plastic material behaviour	W. Beisheim, M. Wächter, A. Esderts, F. Dittmann, I. Varfolomeev	15:30-15:50
Closing remarks and Commission business (a) Commission XIII WITW paper recommendations (b) 2022 Annual Assembly (c) 2022 Spring Intermediate meetings of Working Groups (d) Any other business			15:50-16:10
Close			16:10