HIGH TEMPERATURE MATERIALS TESTING COMMITTEE

The High Temperature Mechanical Testing Committee (HTMTC) is a UK Registered Charity (800892) whose remit is education and information dissemination in the field of high temperature mechanical testing.

More information on the HTMTC can be found at www.htmtc.com

For details of ESIS, of which the HTMTC is Technical Committee 11, visit www.esisweb.org

SPEAKERS

30 abstracts have been submitted for this two day symposium by presenters from Europe, US, Japan, China and Korea.

Keynote speakers include:

Jonathan Parker
Electrical Power Research Institute (EPRI), US

André Pineau
École des Mines de Paris, France

Ashok Saxena
University of Arkansas, US

Peter Skelton
Consultank, UK

Mike Spindler
EDF Energy, UK

Yukio Takahashi
Central Research Institute of Electrical Power Industry (CRIEPI), Japan

PUBLICATION

Copies of the symposium papers will be provided to participants on a USB stick. Selected papers will be published in refereed journals.
BACKGROUND AND INTRODUCTION

In addition to existing demands in many industry sectors, changes in the operating conditions of high temperature power plant components in particular have determined the need to fully exploit advances in knowledge relating to creep-fatigue crack development. In recent times, there has been an increasing tendency to more flexible operation, with improved performance and efficiency, without compromising reliability.

Also, in recent years, there have been significant advances: i) in the materials available for high temperature duty, ii) in high temperature test machine control capability, iii) in the tools for data processing and modelling, and iv) in the procedures for high temperature component assessment.

For example, it is now recognised that creep-fatigue deformation interactions are just as influential as creep-fatigue damage interactions in the consideration of high temperature component life time predictions, in particular for the advanced 9/12%Cr steels. While long duration creep-fatigue crack initiation endurance data is essential for reliable high temperature design analyses, and long-crack creep-fatigue crack growth rates are invaluable for effective inspection management calculations, a knowledge of short creep-fatigue crack growth behaviour provides an invaluable part of both design and assessment procedures for high temperature components subject to steady and cyclic loading.

It is therefore timely to review the state of knowledge relating to creep-fatigue testing practices, data availability for conventional and advanced high temperature materials, and its application to the assessment of high temperature components.

TOPICS

Papers and presentations will cover one or more of the following or related topics:

– Testing practices and standards for the determination of creep-fatigue deformation, crack initiation endurance, and short and long crack growth
– Long duration creep-fatigue testing under service-like conditions
– Service-cycle TMF testing
– Modelling of creep-fatigue deformation and crack initiation endurance
– Modelling of short and long creep-fatigue crack growth
– Component assessment procedures, and their effectiveness verification through component feature benchmark testing and comparison with service experience
– Environmental creep-fatigue interaction

The Symposium will cover these topics for materials adopted for a wide range of industrial applications, including e.g. cast irons, low and high alloy steels, nickel-base alloys, aluminium alloys, ... (as used in power generation, petro-chem, aerospace, automotive, ...).

REGISTRATION

Registration includes attendance of the Symposium, refreshments, lunches, apero, dinner, and conference papers on a USB-stick.

Speaker: € 350.–
Attendee: € 400.–
Apero/dinner for accompanying guest: € 35.–

For registration, please go to:
www.regonline.co.uk/htmtc-CF2014euro

In case of difficulty, please contact:
stuart.holdsworth@empa.ch

SYMPOSIUM ORGANISING COMMITTEE

Stuart Holdsworth
Empa, CH

Hellmuth Klingelhofer
BAM, GER

Ashok Saxena
Univ. Arkansas, US

Alfred Scholz
IWF TU Darmstadt, GER

Peter Skelton
Consultant, UK

Mike Spindler
EDF Energy, UK

Yukio Takahashi
CRIEPI, JPN

IMPORTANT DEADLINES

Full paper submission by May 30, 2014
Early registration before August 8, 2014

WHO SHOULD ATTEND?

The Symposium is aimed at engineers, scientists and technical staff from industry, laboratories and research institutes who have an interest in all aspects of creep-fatigue deformation and crack initiation and growth, i.e. data generation, constitutive modelling, high temperature component assessment, and an understanding of the mechanics and mechanisms.

VENUE

The symposium will be held in the Akademie of Empa, the Swiss Federal Laboratories for Materials Science and Technology, located in Dübendorf, close to Zürich.

Empa (Dübendorf) is easily reached by excellent public transport connections from Zürich city centre, and also directly from the airport.

There are good overnight accommodation possibilities close to Empa, and in Zürich. Details are available at www.empa.ch/cfcd

For details of Empa, visit www.empa.ch

SPONSORSHIP AND PRODUCT PUBLICITY

For sponsorship and product publicity possibilities (exhibition/wallet service, etc.) please contact:
Stuart Holdsworth at stuart.holdsworth@empa.ch
Tel: +41 58 765 47 32, Fax: +41 58 765 42 52