Heat Treatment: Best practice for the automotive industry: RQP 1 UPDATE

As reported in IFHTSE Bulletin 2012/4, RQP1 (Recommandations Qualité Processus) originated as a French proposal for an alternative to the American CQI-9 qualitative specifications for heat treatment of components for automotive manufacture. The proposal was developed by a special committee of CETIM (national technical centre of the French engineering industry) located in Senlis, North of Paris. The main objective of this effort is a modified version of CQI-9, better adapted to the French automotive industry and if possible to the European automotive industry. CQI-9 is based on American AMS 2750 D procedures and is seen to be not well adapted to the European manufacturing environment; it also involves additional costs not justified by the minimal qualitative improvement claimed. The work of the CETIM committee was reported at the 2012 Congress of IFHTSE French member A3TS ‘Investissements d’avenir dans le traitement des matériaux’ ‘Future investment in materials processing’ (Grenoble 6-8 June 2012 French language).

RQP 1, now seen to represent best practice in satisfying the everyday heat treatment quality demands of the automotive industry, has been validated by the companies involved in heat treatment (Bodycote, Hacer, Metatherm, Thermi-Lyon) and the OEMs and Tier one suppliers (Delphi, Faurecia, NTN SNR, PSA Peugeot Citroën, Renault, SKF, Valeo). RQP has been integrated into the QA procedures of Renault and PSA Peugeot Citroën which have also recommended that work should begin immediately on standardisation. RQP is believed to be easy to implement. Further, it is not only at least equivalent to CQI-9, it has the advantage of offering qualitative improvements. The way is still open for international standardisation without necessarily imposing one or the other system on suppliers.

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RQP DOCUMENT LAYOUT

- GENERAL ORGANISATION OF A HEAT TREATMENT WORKSHOP
- CONTRACT REVIEW
- TREATMENT
- PREPARATION CYCLE CONTROL MEDIUM CONTROL COOLING
- INSPECTION FINISHING
ATZK 24th National Conference on Heat Treatment with International Participation
27-29 November 2012

IFHTSE Czech member ATZK has put together a highly practical, industrially-oriented programme for the 2012 event in their series which uses Czech, Slovak, and English with interpretation.

**Location:** Hotel Gustav Mahler
Jihlava, Czech Republic
Jihlava is about 130 km South East of Prague

**Accommodation:** Gustav Mahler Hotel or Grand Hotel Jihlava. The hotels are situated in the centre of the town. Accommodation will be booked by organizer at special rates.

**Registration fees (EUR):** discounted rate in first column is available until 15 November
Authors 180 200
Other participants 200 220
Members of ATZK 160 180
PhD students (daily study) 80 100

**Programme Preview**
12. Grumbt Gundis - TU Bergakademie Freiberg (Germany)
Improvement of wear behaviour of high loaded components and tools by multi-
combined surface treatment
1. Altena Herwig - Aichelin Holding GmbH (Germany)
Heat Treatment of Gear Parts – Possibilities of Time and Cost Savings
2. Báta Josef - VÝKOVICE HEAVY MACHINERY a.s. (Czech Republic)
Accelerated cooling of large diameter C-Mn steels in water, quenching or
normalizing?
3. Baumann Jens - Process Elektronic GmbH (Germany)
New measurement and control techniques for predictable results in ferritic
nitrocarburizing
4. Beitz Thorsten - TECHOI s.r.o. (Czech Republic)
Substitution of Quenching Oils by Waterbased Polymer Quenchants – quenching
without Flames and Fumes
5. Benešová Soňa - ZČU Plzeň (Czech Republic)
Using numerical modeling to optimize heating gear with emphasis on the
deformation
6. Brenner Berndt - Fraunhofer-Institut für Werkstoff- und Strahltechnik IWS (Germany)
New technical and materials advances of surface heat treatment by way of high-
power diode lasers
7. Čapek Jaroslav - VŠCHT Praha (Czech Republic)
Influence of the temperature of the short-period heat treatment on mechanical
properties of the NiTi alloy
8. Čížkovský Juda - ECOSOND s.r.o. (Czech Republic)
Experience in polymer immersion bath quenching
9. Dappa Andreas - SCHMETZ GmbH (Germany)
Latest purpose-directed hotzone and cooling-gasstream design of vacuum
furnaces for different hardening applications
10. Egger Helmut - IVA Industrieöfen GmbH (Germany)
Energy efficient central endothermic gas supply system with flow management
controls
11. Grgač Peter - STU Trnava (Slovak Republic)
Preparation and analyse of CrN layers on tool steel

Continued on page 3
The abstract submission system for the 8th Pacific Rim International Conference on Advanced Materials and Processing (PRICM-8), planned for August 4-9, 2013, is now open. PRICM-8 is jointly organized by five international materials societies and will be held in Waikoloa, Hawaii, a venue chosen to provide equally reasonable access to attendees from the various Pacific Rim countries. PRICM is jointly sponsored by The Chinese Society for Metals (CSM), The Japan Institute of Metals (JIM), The Korean Institute of Metals and Materials (KIM), Materials Australia (MA), and The Minerals, Metals & Materials Society (TMS) and rotates among these sponsoring organizations. TMS will host PRICM-8 in 2013.

Topics include:
- Materials for energy and environment
- Advanced high-temperature structural materials; Advanced steels and processing
- Light metals and alloys
- Biomaterials, smart materials, and structures
- Rare Earth, electronic, and magnetic materials
- Thin films and surface engineering
- Materials and processes for enhanced performance
- Solidification, deformation and related processing
- Modelling and simulation

Just published by Swerea/IVF, this 832-page book contains material, contributed by a wide range of experts, covering metallography, steel grades, heat treatment processes, testing, safety and the environment. It is intended for wide use by all involved, whether heat treaters, designers, production managers, operators, teachers and students. In addition to being a general reference work, it can also be used in education and training.

‘Steel and its heat treatment - a Handbook’
Swerea/IVF 12801; EUR 145 (exclusive of tax and shipping charges)
Swerea/IVF, PO Box 104, 431-22 MÖLNDAL Sweden
+46 31-706 60 00
www.swereaivf.se
CONFEREECE DIARY
2012

HK 2012
10-12 October Wiesbaden, Germany
(www.awt-online.org)

BALTMMATTRIB - 21st International Baltic Conference: Engineering materials and tribology
18-19 October - Tallinn, Estonia
(www.ttu.ee/baltmattrib2012)

20th Congress IFHTSE
23-25 October - Beijing, China
(www.20ifhtse.org)

24th National Conference on Heat Treatment with International Participation
27-29 November – Jihlava, Czech Republic
(www.asociacetz.cz)

2013

European Conference on Heat Treatment and Surface Engineering
25-26 April - Luzern, Switzerland

Heat Treat and Surface Engineering Conference and Expo
16-18 May - Chennai, India

2nd Mediterranean Conference on Heat Treatment and Surface Engineering
11-14 June - Dubrovnik-Cavtat, Croatia

ASM Heat Treating Society 27th Conference and Exposition
16-18 September - Indianapolis, Indiana, USA

HK 2013
October - Wiesbaden, Germany
(www.awt-online.org)

2014

21st Congress IFHTSE / combined wih European Conference on Heat Treatment and Surface Engineering
12-15 May - Munich, Germany

2015

ASM Heat Treating Society 28th Conference and Exposition

2016

22nd Congress IFHTSE
?? USA ??

Scott MacKenzie opens 6QCD/4IDE in Chicago 10 September

Lynn Ferguson, Deformation Control Technology Inc at 6QCD/4IDE Chicago