



Bond voor Materialenkennis



Vereniging voor Warmtebehandelingstechniek

[www.vwt.myweb.nl](http://www.vwt.myweb.nl)

## ***Uitnodiging***

De Vereniging voor Warmtebehandelingstechniek organiseert op:

**Donderdag 5 februari 2015**

Middag-avond bijeenkomst in het Van der Valk Hotel Princeville te Breda met als thema:

**Cleaning in the heat treatment: actual status**

Ontvangst en registratie  
Sluiting

13.30 uur  
20.15 uur

# Programma

**13.30 uur**      **Ontvangst-Registratie**

**13.50 uur**      **Opening door de voorzitter van de Vereniging voor  
Warmtebehandelingsstechniek**  
*B. Vandewiele, BVDW Consultancy vof*

**14.00 uur**      **Effect of surface cleaning on heat treatment results**  
*Brigitte Haase, Hochschule Bremerhaven en AWT*

A cleaning process is not only required subsequent to quenching of heat-treated parts for the removal of quenching medium residues from the components' surfaces, but also prior to heat treatment, for the removal of residues from metal working, anti-corrosives or soil from storage and transport. Surface condition and cleanliness affect the heat treatment result, especially in thermochemical processes which require active surfaces, free from passive films or diffusion barriers.

Lubricants used in metalworking, water-based cleaning agents and their chemical components have been researched for their ability to hinder or prevent the formation of hard layers in a thermochemical diffusion process like gas nitriding. Specimens were gas nitrided after applying a layer of contaminants. Analytical tools were hardness measurement, microscopy, and surface analysis, combined to reveal kinds of interaction between manufacturing residues and heat treatment processes.

Based on general demands on workpieces' cleanliness and on specifications by heat treatment, cleaning processes, agents and components of cleaning plants are discussed. General demands refer to the residue-free removal of contaminants, even from complex geometries. In addition, the cleaning agent itself must not leave any residues on the surfaces after the cleaning process is finished. Tools for process control comprise both surface condition and cleaning media monitoring.

**14.45 uur**      **Modern industrial water-based cleaners**  
*Dr. Florian Treptow, Petrofer*

Today's focus on washing is not just on the pure cleanliness of parts but also on the healthiness of the used washing fluids, i.e. bactericide free formulations. Within the talk modern formulations will be described and the different base stocks and additives will be discussed. European regulations like REACH and waste water treatment are also on focus as possible treatment solutions. Part cleanliness is split into organic layers and particles. Both need to be removed but corrosion protection needs to be provided during and after cleaning. The talk will be closed with the comparison between water and solvent based agents. Furthermore praxis examples will be given for machining and cleaners.

**15.30 uur**      **Koffiepauze**

16.15 uur

**Modern solvent cleaners**

*Marc Quentin, Safechem*

The presentation will handle the application areas where solvent cleaning is preferred. Also the different solvent types for metal cleaning will be highlighted. Solvents for metal cleaning are today used in closed machines due to environmental and safety issues. In these closed loop systems, the solvent needs to be recovered by distillation and thus needs to be stabilised, waste is highly reduced to a minimum. This is the Safetainer system.

17.00 uur

**Innovative cleaning solutions in Heat Treatment using solvent water or both in the same machine**

*Thomas Weiss, EMO*

The presentation contains basic rules of washing, requirements in heat treatment washing machines, general washing equipment in the heat treatment and description of EMO washing machines (e.g. Hybrid).

17.45 uur

**Aperatief/Diner**

19.30 uur

**Cleaning technology at Bosch Transmission Technology**

*Jaap Terpstra, Bosch Transmission Technology BV*

Bosch Transmission Technology is part of the Bosch Group and is the market leader in the field of development and mass production of pushbelts for the Continuously Variable Transmission (CVT). Since 1972 the company continuously invested in the further development of the pushbelt. Over decennia Bosch Transmission Technology is accountable for numerous innovations in the field of CVT technology.

The innovative transmission, originally a Dutch idea, has become an international success. Total pushbelt production for example exceeded 6.3 million units in 2014. Also the prospects are positive.

The push-belt is an advanced high-tech product with extreme demands on accuracy and material properties. Due to the combination of these high demands and the large production volume, production of these pushbelts is very complex and challenging. The total process chain consists of up to 35 different processes. Heat treatment of the semi-finished products of the pushbelt components are key processes, essential for the durability of the transmission. Prior to the heat treatment processes, advanced cleaning processes are performed to get the right surface properties.

In the presentation, the different manufacturing process steps will be explained briefly, with a strong focus on the cleaning processes. The manufacturing plant of Bosch Transmission Technology in Tilburg has more than 20 cleaning machines using different cleaning methods. The following cleaning methods are in use and will be described in the presentation: aqueous spray cleaning, aqueous ultrasonic cleaning, hybrid cleaning, vapor degreasing, thermal cleaning and CO2 cleaning.

20.15 uur

**Afsluiting**

**Deelnamekosten:**

	<i>Nederlandse bedrijven</i>	<i>Buitenlandse bedrijven</i>	<i>Deelnemers zonder BTW nummer</i>
Leden VWT	€ 65,00 (incl. 21% BTW)	€ 55,00 (BTW verlegd)	€ 65,00 (incl. 21% BTW)
Leden BvM	€ 85,00 (incl. 21% BTW)	€ 70,00 (BTW verlegd)	€ 85,00 (incl. 21% BTW)
Niet leden	€ 105,00 (incl. 21% BTW)	€ 90,00 (BTW verlegd)	€ 105,00 (incl. 21% BTW)

**Aanmelding:**

U kunt zich uiterlijk tot dinsdag 3 februari 2015 aanmelden per e-mail:  
info@materialenkennis.nl

**Annulering:**

Bij afwezigheid op de bijeenkomst zonder voorafgaande schriftelijke afmelding uiterlijk 24 uur voor de bijeenkomst, zijn de volledige deelnamekosten verschuldigd.

**Adres:**

Van der VALK Hotel Princeville Breda, Princenhagelaan 5, 4813 DA BREDA

**Agenda:**

05-02-2015

28-05-2015

24-09-2015

10-12-2015

**Het bestuur van de VWT hoopt u te begroeten op 05-02-2015!**

B. Vandewiele, voorzitter  
H. Veltrop, vice-voorzitter  
R. de Vries, penningmeester  
R.C. Jongbloed  
F.A. van Dartel  
G. Claus  
K. Bonny  
R. Devos  
M. Derks

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