Bond voor Materialenkennis

Vereniging voor Warmtebehandelingstechniek

Uitnodiging

De Vereniging voor Warmtebehandelingstechniek organiseert op

donderdag 10 december 2026

Avondbijeenkomst in de E-10 Hoeve in Brecht (België)

met als thema:

De toekomst van warmtebehandeling:

Van microstructuur tot duurzaamheid

Aanmelden (uiterlijk 4 december 2026) via deze link

Programma

17.00 uur	Ontvangst en registratie
17.30 uur	Diner
19.10 uur	Opening – Rob Jongbloed (*Chromin BV)*, voorzitter van de Vereniging voor Warmtebehandelingstechniek (VWT)
19.15 uur	Dr.-Ing. Matthias Steinbacher Head of Heat Treatment Leibniz-Institut für Werkstofforientierte Technologien – IWT  *Drivers for the further evolution in heat treatment: tailoring the microstructure of Case-Hardened Components* Carbonitriding extends conventional carburizing by simultaneously enriching the case with nitrogen besides carbon, producing a dual carbon–nitrogen profile. This dual interstitial profile shifts the resulting case microstructure significantly: retained austenite fractions well above 50 vol.% are commonly obtained alongside finely dispersed chromium-(di)nitride precipitates, while martensite recedes to a supporting role — a pattern seen both in carbonitrided gear steels and in through-hardening bearing steels such as 100Cr6 or 32MnCrMo8. Past and recent investigation did reveal a clear benefit of the mechanical properties of bearings and gears by this approach. This talk outlines the metallurgical basis of this shift and the atmosphere-side levers used to control it, focusing on ammonia as the nitrogen source in both atmospheric and low-pressure gas carbonitriding, and on the practical challenges this introduces: temperature-dependent ammonia dissociation, its catalytic decomposition at metallic component surfaces, and the resulting need to correct carbon-potential control for shifted CO content. The talk connects these process-control aspects directly to the stability of the retained austenite obtained, offering heat treaters and designers a route to deliberately engineer — rather than merely tolerate — this microstructural constituent.
20.00 uur	Koffie pauze

20.15 uur	Dr.-Ing. Matthias Steinbacher Head of Heat Treatment Leibniz-Institut für Werkstofforientierte Technologien – IWT *The Future of Sustainable Heat Treatment of Metals* Heat treatment is energy- and emissions-intensive by nature, relying on high-temperature furnaces, protective or reactive atmospheres, and, in many cases, oil or polymer quenchants. As industry moves toward decarbonization, heat treatment faces both pressure and opportunity: electrification of furnace technology, green hydrogen and ammonia as alternative process gases, induction and other localized hardening methods that reduce total energy input. This talk gives an overview of emerging pathways toward more sustainable heat treatment — from alternative atmospheres and their metallurgical implications, to energy-efficient process routes. It discusses the trade-offs between sustainability goals and the metallurgical requirements of case hardening, nitriding, and induction hardening. The aim is to outline a realistic roadmap: which changes are achievable in the near term, which require fundamental process redevelopment, and where materials science and process engineering must work together to keep heat-treated components both high-performing and environmentally responsible and economically feasible.
21:00 uur	**Afsluiting**

Praktische informatie

Deelnamekosten

	Nederlandse bedrijven	Buitenlandse bedrijven	deelnemers zonder btw nr.
Leden VWT	€ 71.00 (incl. 21% BTW)	€ 59.00(BTW verlegd)	€ 71.00 (incl. 21% BTW)
Leden BvM	€ 98.00 (incl. 21% BTW)	€ 76.00(BTW verlegd)	€ 98.00 (incl. 21% BTW)
Niet leden	€ 119.00 (incl. 21% BTW)	€ 103.00(BTW verlegd)	€ 119.00 (incl. 21% BTW)

Registratie

U kunt zich uiterlijk tot 4 december 2026 aanmelden via deze link

Annulering

Bij afwezigheid op de bijeenkomst zonder voorafgaande schriftelijke afmelding uiterlijk 48 uur voor de bijeenkomst, zijn de volledige deelnamekosten verschuldigd.

Adres

eTien, Kapelstraat 8a, 2960 Brecht, België

Volgende bijeenkomst

18-03-2027 Mispelhoef, Eindhoven

Het bestuur van de VWT hoopt u te begroeten op 10-12-2026

Rob Jongbloed, voorzitter
Eric van Bree, penningmeester
Jeroen Jansen, secretaris
René de Vries
Kurt Beghyn
Roxanne Jacops
Michel Derks
Sven Cure
Lili Crebolder-van Vugt

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VWT

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