DEUTSCH-NIEDERLÄNDISCHE ELASTISCHE BEZIEHUNGEN

Deventerweg 121 - 08-09-2016

12.30	»Lunch en kennismaking

13.30	»Ontvangst en registratie

13.45	Update on Helvoet's high performance rubber applications. »Hans van der Meer
Lecture	Helvoet Rubber & Plastic Technologies, established in 1939, is internationally active in custom-made development and manufacturing of rubber and plastic components and assemblies. Helvoet's competitive advantage lies in developing and manufacturing complete functional modules for a number of product groups in various application areas. For assembled products, the application of innovative rubber, plastic and assembly technology plays a prominent role. In this presentation we will focus on our rubber competences and will give an update on recent projects & developments. This will include our recent investments in our locations in Hellevoetsluis & Poland. Furthermore we will present our recent development in VAMAC, FVMQ, FKM & LSR for automotive & non-automotive application.

14.20	Dynamic mechanical testing ; specimen self heating control an efficient way of dynamic mechanical lifetime prediction of elastomers ? »Dr. Peter Bailey
Lecture	Composites and various other materials are prone to significant self-heating effects during cyclic loading, but their performance also shows strong temperature dependence. This has traditionally led to fatigue testing at very low frequencies to minimize specimen heating and the resultant degradation in mechanical properties. A test run for a single S/N dataset could mean weeks of machine time. Specimen Self-Heating Control can significantly reduce this, while providing previously unachievable confidence in test temperature. This patented system achieves and maintains a specified test temperature by varying test frequency in response to a specimen temperature input.

14.55	»Koffiepauze

15.30	ERT: Development and analysis for the rubber industry
	»Dr. Ir. Kuno Dijkhuis

16.05	Effect of aromatic oil on phase dynamics of S-SBR/BR blends for passenger car tire treads
	»Akansha Rathi
Lecture	Even though S-SBR/BR blends are commonly used for passenger car tire treads, little is known about the phase dynamics arising from the local morphological heterogeneities. The present study aims at developing the understanding of: (i) the influence of aromatic oil on the dynamics of the individual phases in S-SBR/BR (50/50) blend, and (ii) the preference of the aromatic oil in either phase. S-SBR/BR (50/50) blends with varying concentrations of aromatic oil (0/10/20 phr) were studied. Conventional techniques for the determination of Tg (glass transition temperature or?-relaxation process), such as Differential Scanning Calorimetry (DSC) and Dynamic Mechanical Analysis (DMA) were of limited use for fulfilling the goal of the present study. Therefore, Broadband Dielectric Spectroscopy (BDS), a more sensitive technique to study the ?-relaxation process was employed. It was possible to de-convolute the dielectric loss (?") peak of the vulcanized blends into two super-positioned relaxation processes, ?' and ? (in increasing order of frequency), which were attributed to the S-SBR and BR phases, respectively. The distinct effective Tg?s (Tgeff) of the S-SBR and BR phases varied with the amount of aromatic oil added. Tgeff of the BR phase was close to the Tg of virgin BR, whereas Tgeff of the S-SBR phase was close to the blend average Tg. This is in accordance with the model for phase dynamics of miscible blends by Lodge and McLeish (2000). With this a deeper insight into the dynamic heterogeneity of traditional S-SBR/BR (50/50) blends is obtained.

16.45	Bezichtiging laboratoria
	»ERT BV

19.00	
	»Diner