

13.00	
	»Ontvangst en registratie
13.30	
	»Opening door voorzitter VKRT
13.40	New electrically conductive CARBONX grades for applications in elastomers »Laure Hannebicque; Carbon X
Lecture	<p>CarbonX is a new porous carbon material consisting of chemically interconnected (nano)-structures, which provides narrowly controlled conductive properties, without affecting process-ability and retaining good mechanical properties.</p> <p>With CarbonX, customers obtain tight control over ESD properties, therewith limiting product damages, avoiding large (product replacement) costs. Moreover, CarbonX at high loading provides high electrical conductivity and EMI shielding solutions without compromising processability and mechanical properties when compared with highly conductive fillers.</p> <p>Studies of CarbonX in elastomer matrices, such as SBR and NR, show improvement of mechanic properties, such as tensile strength and abrasion resistance, and dynamic properties, such as heat built-up. Hardness and process-ability (Mooney viscosity) are not affected.</p> <p>Moreover, the conductive properties are uniform and tightly controlled, with a wider percolation curve compared to usual fillers.</p> <p>CarbonX provides freedom of shape and can be processed with standard equipment. The porous network allows polymer chains to deeply penetrate into the structure. As a result, a perfect embedding is ensured, while 3D-hindrance prevents agglomeration by decreasing the ?-stacking driven inter-particle interactions.</p> <p>CarbonX is produced by a low-cost scalable process. Four grades are currently commercially available, each with different pore sizes, precisely controlled in the process.</p> <p>During the presentation tailored for VKRT conference, the performances and the benefits of our new electrically conductive CarbonX grades will be further highlighted, which sets the basis for exploring potential applications.</p>
14.20	Precipitated Silica: Technology, Production, Compounding & Applications »Jared Rueby; PPG

Lecture	An overview of precipitated silica and its application in rubber is provided, including the manufacturing process, physicochemical characterization, and factors that influence reinforcement. Surface area, mixing considerations, dispersion, comparison to carbon black, and the use of silane coupling agents are covered in-depth.
15.00	Sidistar® a different kind of silica »Richard van Sprang; Elkem
Lecture	Sidistar® is een heel ander type silica dan men doorgaans gebruikt in de rubber industrie. Door z'n specifieke morfologie werkt het niet versterkend maar heeft daardoor hele bijzondere andere eigenschappen. In deze presentatie gaan we in op de verschillen met de zogenaamde "normale" silica's en Sidistar®. Er wordt een overzicht gegeven van toepassingen waar deze eigenschappen kunnen worden gebruikt. Toepassingen als: Verbetering van rheologie; verbeterde dynamische veroudering, verbeterde vlamvertraging en het inmengen van Kevlar vezels worden nader belicht.
15.40	»Pauze
16.00	TUBALL™ graphene nanotubes, the new gamechanger for the Tyre industry »Jean-Nicolas Helt; Ocsial
Lecture	Recent studies show that TUBALL™ graphene nanotubes from OCSiAl can significantly expand the performance space of tyres and other elastomers in the areas of mechanical and electrical properties. At ultra-low concentrations of 0.1 to 0.2 wt.%, adding TUBALL™ graphene nanotubes to rubber compounds simultaneously maximises modulus, electrical conductivity and resistance to tear and abrasion, while maintaining or improving hysteresis losses. Due to this powerful effect, TUBALL™ graphene nanotubes represent the next great step change in performance for rubber products, opening new perspectives towards design and performance. Ongoing developments with our customers have observed the most advanced tyre performance of any technology to date. OCSiAl is the first company to develop the breakthrough technology with unlimited scaling potential for the mass production of graphene nanotubes, together with various optimised masterbatch and concentrate solutions based on carriers familiar to tyre and rubber industry, removing the barriers associated to working with carbon nanotubes in powder form and allowing for easier incorporation and dispersion into a polymer material. The author will present the latest data on experimental and industrial trials in the scope of next generation tyre development that will bring us towards a more high performing fuel efficient world.
16.40	Mineral use in light coloured rubber »Flavio Catozzo: Imerys

Lecture	A presentation on the use of inorganic minerals as semi-reinforcing fillers for light coloured rubber applications. It will focus on hydrous clays; calcined clays; and surface treated clays as well as ball clays for specific applications. Discussions around development grades for improved performance will be covered including the use of engineered ultrafine calcined clay for better reinforcement; tailored kaolins as char promoters in EVA HFFR cables; hyper platey minerals for reduced permeability and the next generation of surface treated grades for better electrical performance in cables
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17.20	
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