

Press release



Pigments and Extenders for E-Mobility – LUM GmbH contributes to standardization

Berlin, 30 October 2024:

In October, a workshop on Pigments and Extenders for E-Mobility took place at DIN e.V. in Berlin.

The DIN Standards Committee Pigments and Extenders (NPF) has the task to carry out the standardization in the field of pigments, dyestuffs (excluding dyestuffs for textiles) and extenders and to assure the representation of national interests at international and European levels. The NPF leads the secretariats of ISO/TC 256 "Pigments, dyestuffs and extenders" and of CEN/TC 298 "Pigments and extenders", which are responsible for the international respectively European standardization of pigments and extenders. [1]. LUM has been actively involved in ISO/TC 256 for years.

E-mobility is a central aspect of the global shift towards sustainability, which highlights the importance of climate protection, circular economy and environmental protection. As raw materials and additives, pigments and fillers play a crucial role in the development of e-mobility solutions and contribute to the creation of sustainable and environmentally friendly transport options. In the field of e-mobility, the development of new pigments and fillers and their standardization is a crucial element on a global level, even if implementation varies in different countries, companies and industries. Academic symposia tend to focus on specific methodologies, but capturing the broader and more diverse facets, particularly with regard to standardization, is essential to re-establishing the fundamental principles of this topic. This workshop aims to provide comprehensive information on various aspects of e-mobility, including the role of standardization, working strategies and characterization. He will address the global trends in e-mobility, as well as ideas for the future work of ISO/TC 256 "Pigments, dyestuffs and extenders" on standardization in this area, with general standardization efforts in the EU/DIN on this topic and with company strategies. Organized by the Association of the Mineral Paint Industry. V. (VdMi), which represents several German, internationally active pigment and filler manufacturers, and the German Institute for Standardization e. V. (DIN), the national standardization organization in Germany, which runs the ISO/TC 256 secretariat, this workshop will also present characterization work that makes a valuable contribution to e-mobility [2].

Prof. Dr. Dr. Dietmar Lerche, Managing Director of LUM GmbH, reported on the topic: Analytical techniques to address optimization and quality assessment along the development and processing of electrodes: A first step for standardization. The focus of his remarks was the STEP-Technology® developed by LUM for characterizing particle properties

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and particle interactions, as well as the CAT-Technology® for determining the mechanical properties of electrode layers. While STEP-Technology in combination with optical detection has been used in fuel cell technology since 2008, its expansion to include X-ray technology in recent years has made a significant contribution to the simple and rapid characterization of battery pastes in the original concentration, thus enabling product and process control, which is not possible with optical analytical methods.

The final highlight of the contribution was the presentation of a first standardization draft within the framework of the International Electrotechnical Commission (IEC), TC 113: Nanomanufacturing - Key control characteristics - Carbon black materials for energy storage devices quantification of Hansen parameters. Carbon black is an important material for electromobility and the energy transition. Customization for other pigments and fillers is possible. In this context, reference is also made to ISO 20427:2023 Pigments and extenders – Dispersion procedure for sedimentation-based particle sizing of suspended pigment or extender with liquid sedimentation methods.

[1] <https://www.din.de/en/getting-involved/standards-committees/npf> 29.10.2024 12:22

[2] <https://www.din.de/de/din-und-seine-partner/termine/workshop-pigmente-und-fuellstoffe-in-der-e-mobilitaet-1120404> 29.10.2024 12:22, google translation

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