CMWTEC technologie GmbH

NEWS SPRING 2018

PRODUCT NEWS AND INFORMATIONS

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ELBC VIENNA
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DEAR CUSTOMER AND INTERESTED PARTIES,

with this newsletter we inform you as usual about the latest activities and developments at **CMW**TEC. As you will read, we are working hard to meet the challenges currently facing the battery market. For this reason, **CMW**TEC writes research and development „BIG".

Three contributions deal with this topic, whereby the cooperation with Prof. Lewkowicz and his team from the Beuth University of Applied Berlin is to be particularly emphasized.

In addition, we have expanded our powerful team with 6 highly qualified employees (engineers, programmers, industrial mechanics).
At **CMW**TEC, our priority is always to provide our customers with the latest technologies and developments.

Stay interested, sincerely

I. Wipperfürth

Ingrid Wipperfürth
(Managing Director)

CMWTEC **SEMINARS**

LEADING THROUGH INFORMATION

Our understanding of a good customer relationship does not end with the delivery of our products. We see ourselves as know-how carriers and are happy to share this knowledge with our customers.

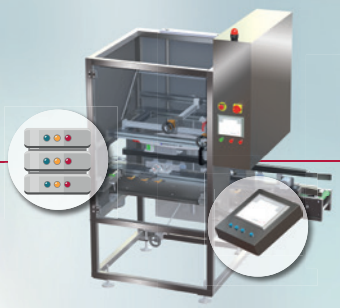
CMWTEC continue to support you with technical seminars so that you always stay up to date with innovative solutions for the battery production.

Call or Email us for next seminar!

PRODUCT LAUNCH

NEW IMPROVED HIGH RATE DISCHARGE PROCESS AND MACHINE DESIGN

CMWTEC present a new approach of a high rate discharge machine in terms of its assembly, programming flexibility and the ability to accurately discriminate between acceptable and unacceptable batteries. The new Software will show how supplemental evaluation criteria's such as DCR, ACR and the CCV discharge curve vs. time can be implemented.



HIGH CURRENT

Current Range 500 to 3000 Ampere, 6-15 Voltage Range testing
Allow graduations in 500 Ampere steps for small and large applications

MODULAR DESIGN

Modular Design – electronic load fully integrated in the HRD test machine
No separate cabinet, no disturbing devices next to the test machine

OPTIONAL FEATURES

Optional features can be selected
Connection to Digatron E-Load
Connection to CMWTEC DataManager for data evaluation with reports

CMWTEC technologie GmbH DATA MANAGER

TOUCH PANEL

Display on touch panel (actual/historical data)
No additional monitor necessary

FLEXIBILITY

High Flexibility for individual Test Profiles Customized test and evaluation profiles to improve the reliability of the results

DATA EVALUATION

Data evaluation on PLC site
No additional PC Software necessary

INTEGRATED FUNCTIONS

Integrated Functions (CCV, DCR, ACR, Temp.- Compensation)
Execution according to industry standards and beyond

NEWS FROM CMWTEC LABORATORY

PREAMBLE

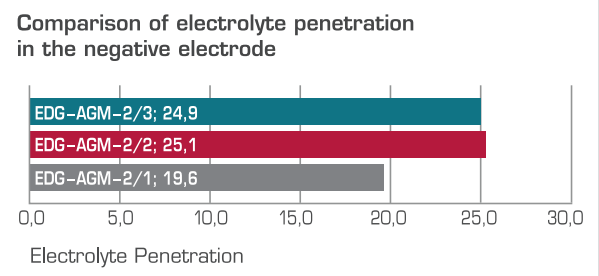
CMWTEC as a supplier of automatic filling machines for batteries in general and AGM and GEL batteries in particular, as well as automatic testing machines is always striving to offer its products at the highest technological level. In this relationship is also the dissertation of the company founder Dipl. Ing. Walter Wipperfürth during his doctorate at the TU Berlin with the topic

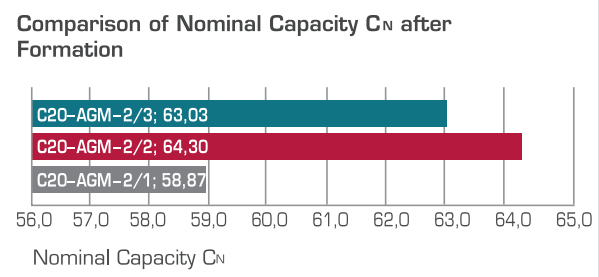
„Importance of electrolyte distribution in battery cells".

In this context, the extent to which intensive and uniform penetration of the electrode mass with H2SO4 electrolyte affects the nominal capacity of AGM batteries after formation was also investigated technical essay Influence of intensive and uniform H2SO4 electrolyte infiltration on the nominal capacity of AGM batteries.

The conclusion of the tests was as follows:

1. Electrolyte penetration and distribution are primarily dependent on the infiltration process used to introduce the electrolyte. The **CMW**TEC Semiautomatic VACBOX SFA-FLS-1H was used for infiltration. The best result was obtained in the AGM-2/2 experiment. Interestingly, not only the best electrolyte penetration but also the shortest infiltration time of 22 s was achieved, which is of great importance for a high economic production process.



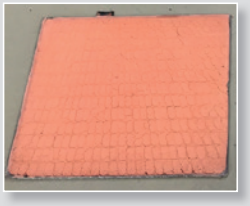


2. As expected, the best formation results were then also obtained in the AGM-2/2 experiment, best nominal capacity CN = 64.3 Ah and most favourable charge factor LF = 1.05 in the charge/discharge cycles after formation and thus the correlation of electrolyte penetration and nominal capacity was confirmed.

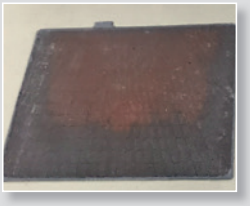
3. The impedance spectroscopy measurements with both the Digatron ElSmeter and the Battery HiTester, which is used in the **CMW**TEC impedance test machine, show a clear dependence of the internal resistance on the electrolyte penetration. This in turn makes it possible to determine sufficient electrolyte infiltration and formation quality on the unopened battery both in the laboratory (with ElSmeter) and in the production process with impedance measurement at 1 kHz (with Battery HiTester).

The test results of the above performed test will be included in the latest engineering and design of the VACBOX & Acid Filler.

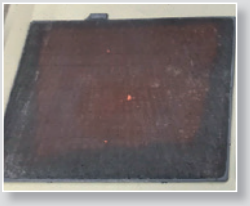
ELEKTROLYTFREI



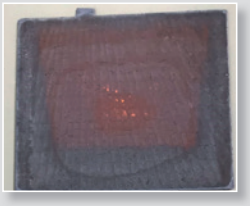
AGM-2/1



AGM-2/2



AGM-2/3



Abstract from a publication by Dipl. Ing. Walter Wipperfürth, the complete publication is available on request from cmwtec.

CELL QUALITY RESEARCH PROGRAMME

COOPERATION WITH BEUTH UNIVERSITY OF APPLIED SCIENCES IS SETTING NEW STANDARDS

CMWTEC has entered into a cooperation project with Beuth University of Applied Sciences Berlin for the purpose of „Development of a system for the measurement of cell quality in series networks without accessible intermediate tap“

BEUTH HOCHSCHULE FÜR TECHNIK BERLIN
University of Applied Sciences

The target is achieved by measuring unopened batteries on the basis of the electrochemical impedance analysis in the manufacturing process to identify defective cells.In a first step, research is limited to lead-acid batteries, after which such a process for battery technologies will also be implemented later.

The research project started on 1.6.2018 and is planned to run for two years. At the cooperation partner Beuth University of Applied Sciences the project is supervised by Prof. Dr. Nicolas Lewkowiez, who covers the research services of the university with his team, while the **CMW**TEC development team covers the test part with implementation in practical applications.

With this project **CMW**TEC sees another milestone in its development to a technologically advanced system provider for the battery industry.

NEW CUSTOMERS 2017/2018

Our customer base continues to expand. CMWTEC is already represented in 35 countries on all 6 continents and the number of customers is growing every year. We look forward to welcome you as another satisfied user of our machines.

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