



**LANXESS**  
Energizing Chemistry

# Quality Works – LANXESS at the K Fair 2022

K 2022 Preview

Frederique van Baarle, Head of High Performance Materials business unit

Düsseldorf, June 21, 2022

# A globally operating specialty chemicals company



## Specialty chemicals company



- Spin-off from Bayer in 2004
- Specialty chemicals portfolio: chemical intermediates, additives, specialty chemicals and plastics

## Global success story



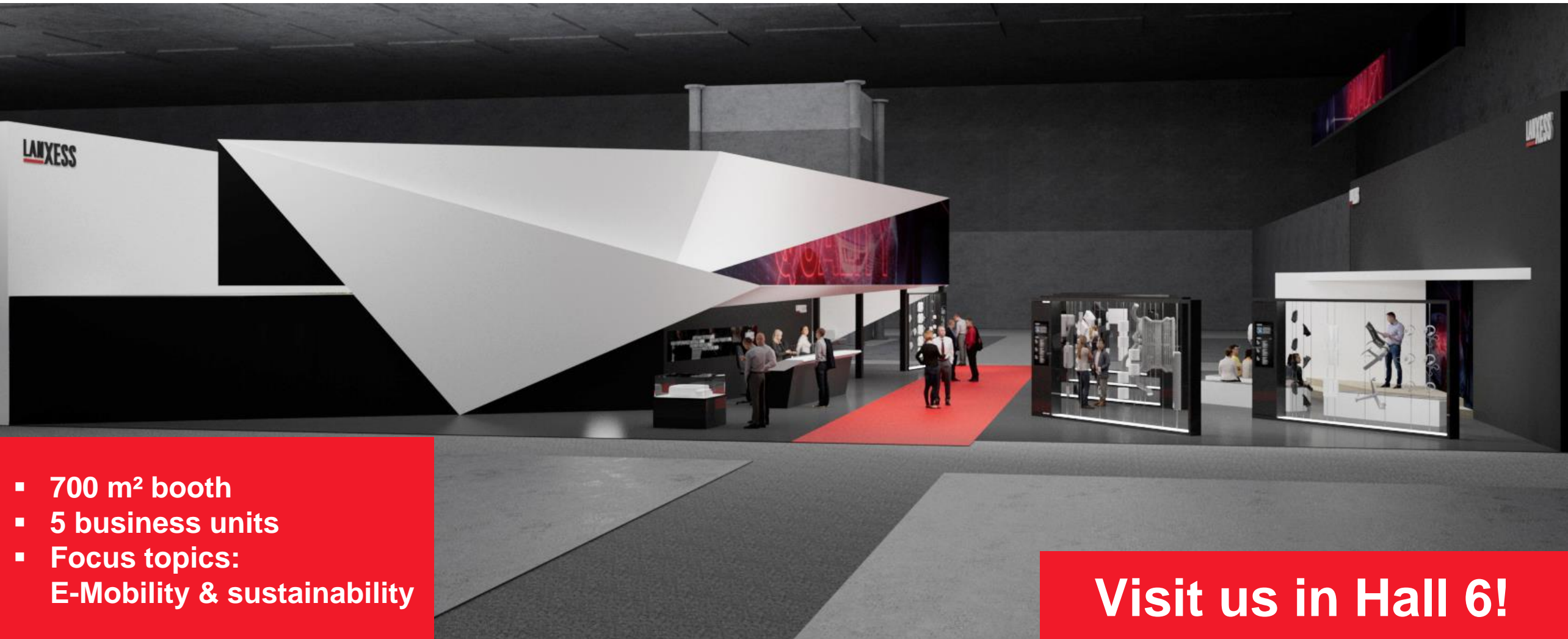
- Approximately 14,900 employees in 33 countries
- Global sales of EUR 7.6 billion in 2021

## Strategy of profitability and resilience



- Strengthening of leading position in medium-sized markets
- Consolidation in Europe, expansion in USA and Asia

# LANXESS at the K Fair 2022



- 700 m<sup>2</sup> booth
- 5 business units
- Focus topics:  
E-Mobility & sustainability

**Visit us in Hall 6!**

# A well diversified product portfolio – also at K 2022

## Advanced Intermediates

Chemical intermediates



- Advanced Industrial Intermediates
- **Inorganic Pigments**

## Specialty Additives

Additives



- **Polymer Additives**
- Lubricant Additives Business
- **Rhein Chemie**

## Consumer Protection

Consumer-oriented protection products



- Material Protection Products
- Flavors & Fragrances
- Liquid Purification Technologies
- Saltigo

## Engineering Materials

High performance plastics and urethanes



- **High Performance Materials**
- **Urethane Systems**

# Latest transaction: Advent and LANXESS establish JV



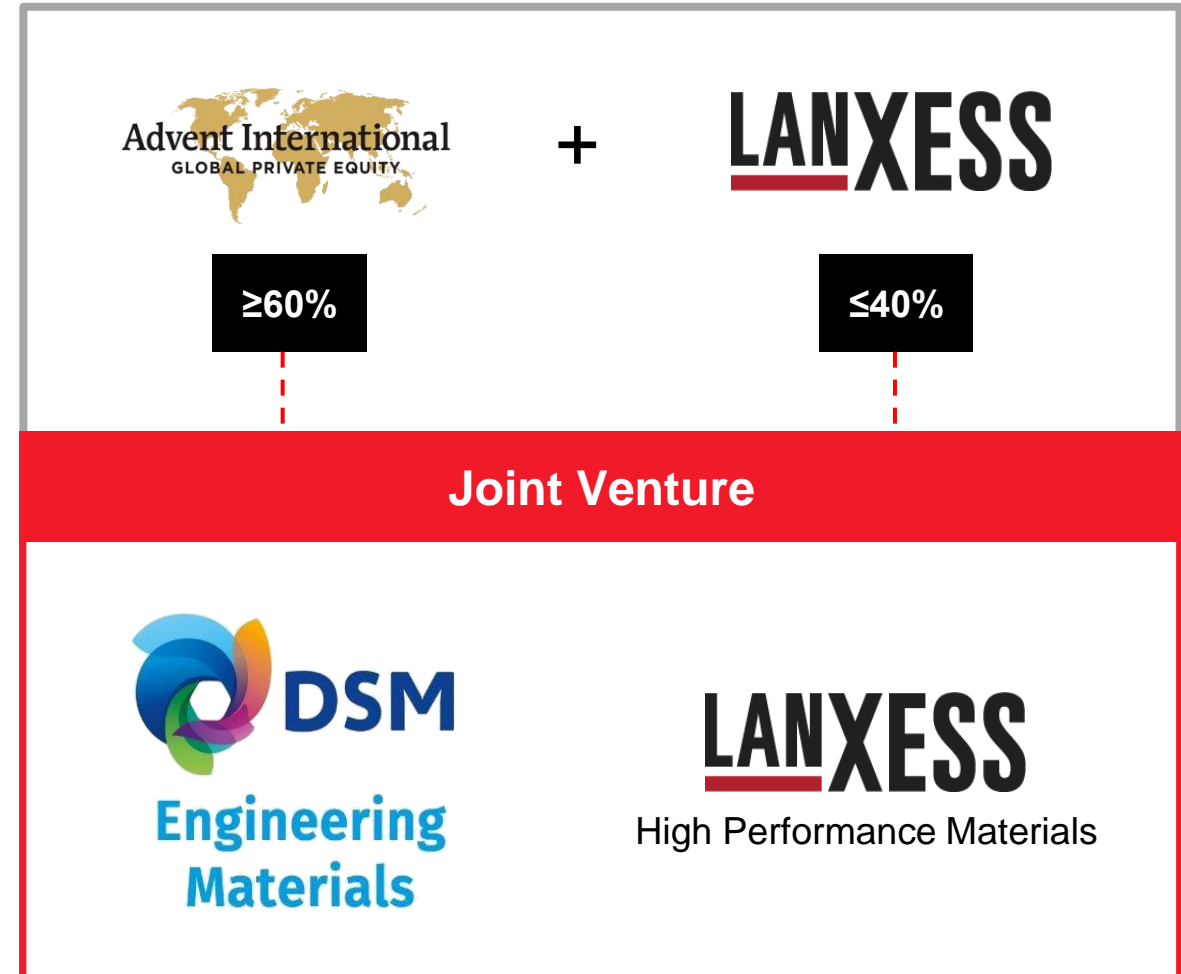
Global powerhouse for engineering polymers

Complementary portfolios, value chains and global positioning

Pioneering and innovative product portfolio

Ability to play a key role in shaping future electromobility

Pioneer in sustainability – bio- and recycled-based alternatives





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**High Performance Materials – Our solutions at K 2022**

# Our topics at K 2022

## Sustainability



## New Mobility

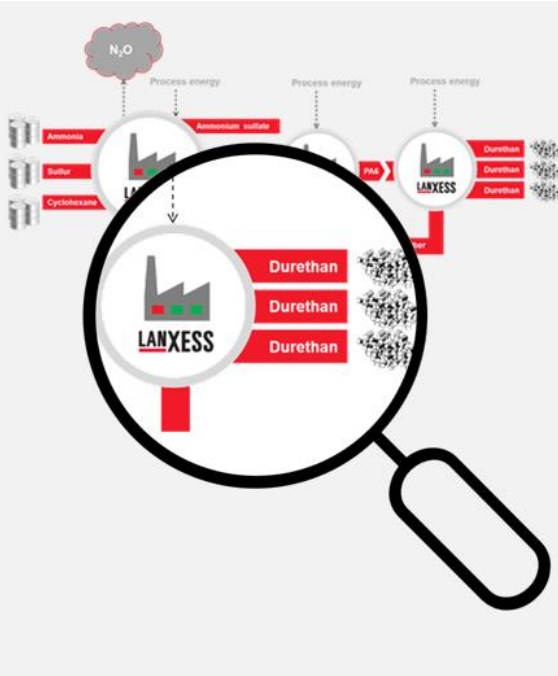


# Reducing emissions and making climate engagement transparent to our stakeholders



## Impact assessment

Analyzing HPMs entire value chain



## Optimization projects

Nitrous oxide reduction  
450.000 t CO<sub>2</sub>-eq

first step implemented in 2021



## Product carbon footprints

Calculation and  
3<sup>rd</sup> party certification



## Climate neutral 2040

Sustainability indices,  
standards and ratings

- SAM** Member DJSI World and Europe
- CDP** DISCLOSURE INSIGHT ACTION Climate score A
- MSCI** ESG RATINGS AA
- FTSE4Good**
- ecovadis** 2021 Sustainability Rating Platinum Level
- ISS ESG** Corporate ESG Performance Prime
- GOVERNANCE QUALITYSCORE** 1 HIGHEST MARKED BY ISS ESG



# HPM offers a continuously extending portfolio of sustainable products

## Qualifying alternative feedstocks ....

- **Mass balance approach** to extend sustainable feedstocks and offer sustainable products at top performance
- **ISCC+ Certification** of PA6 and glass fiber production in Antwerp and Krefeld-Uerdingen
- Strategic partnerships to secure access to **sustainable raw materials**



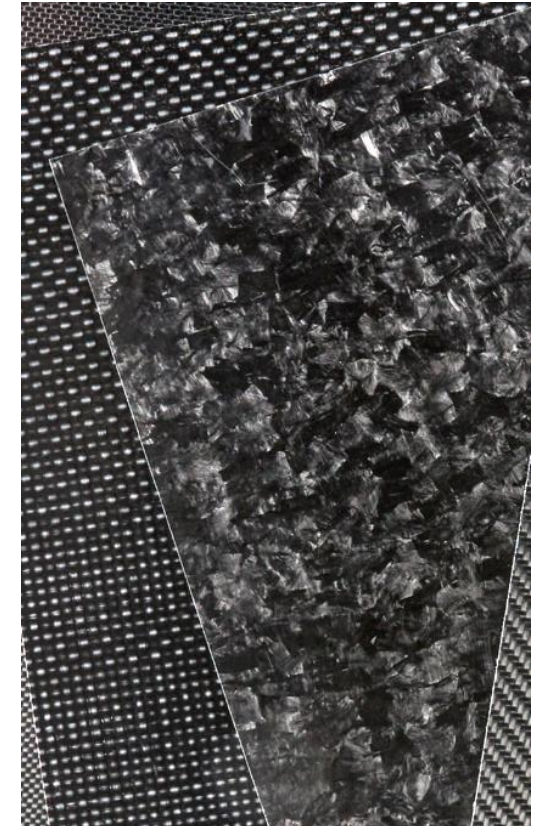
## ... and transferring them into sustainable products

- Wide range of **Durethan®** and **Pocan® ECO** -products using e.g. recycling glass fibers and recycling PET
- Latest generation of **Durethan® BLUE**-products with up to **92% sustainable share** – mass balanced
- **HiAnt® engineering services** to further reduce the CO<sub>2</sub> footprint of our customer's components

# Wide range of TEPEX<sup>®</sup> thermoplastic composite sheets based on sustainable feedstocks

## Frontrunner in sustainable composites

- **Tepex<sup>®</sup> SCOPEBLUE:**  
100% bio-based composite sheet (PLA + flax)  
with weight-specific stiffness equal to glass-fiber composites
- Further **sustainable Tepex<sup>®</sup>:**
  - based on **Durethan<sup>®</sup> BLUE** PA6 matrix materials
  - **Tepex<sup>®</sup> flowcore** with recycled carbon fibers offering high stiffness and „forged carbon look“
- **Upcoming matrix polymers:**  
Recyclate based TPU, PET and bio-based PA10.10 as sustainable alternatives



# Our topics at K 2022

## Sustainability



## New Mobility



# HV battery enclosure entirely made of engineering plastics

## 1<sup>st</sup> fully functional thermoplastic battery enclosure

- **Near-series** demonstrator
- Durethan® PA6 and & Tepex® composite sheets processed by **compression molding**
- **Joint development** with Kautex Textron
- **Benefits of thermoplastic solution**
  - Designed for mass production
  - Cost & weight reduction
  - Sustainable solution due to recyclability, no corrosion protection necessary and lower CO<sub>2</sub> footprint



Durethan® B24CMH2.0 &  
Tepex® dynalite 102-RGUD600

[Picture: Kautex Textron]

## Feasibility of full plastic solution proven

LANXESS was responsible for the material and Kautex Textron for component and process development

# Onboard charger cover for battery electric vehicle (BEV)

## Durethan® PA6GF50 as efficient solution in the cooling system of e-powertrains

- First known **PA6GF50** application in BEV **cooling system**
- **Substitution of Aluminum**
- Establishes PA6 vs. PA66 in **water/glycol** cooling circuits (temperature load upto 110 °C)
- **Copper-free heat stabilization** to avoid contact corrosion in the charging system

Durethan® BKV50H3.0



**PA6 qualified for future thermal management applications**

# Innovative structural component for battery electric vehicle (BEV)

Lightweight design with Durethan® and Tepex®



Durethan® BKV60H2.0EF DUS060  
Tepex® dynalite 102-RG600

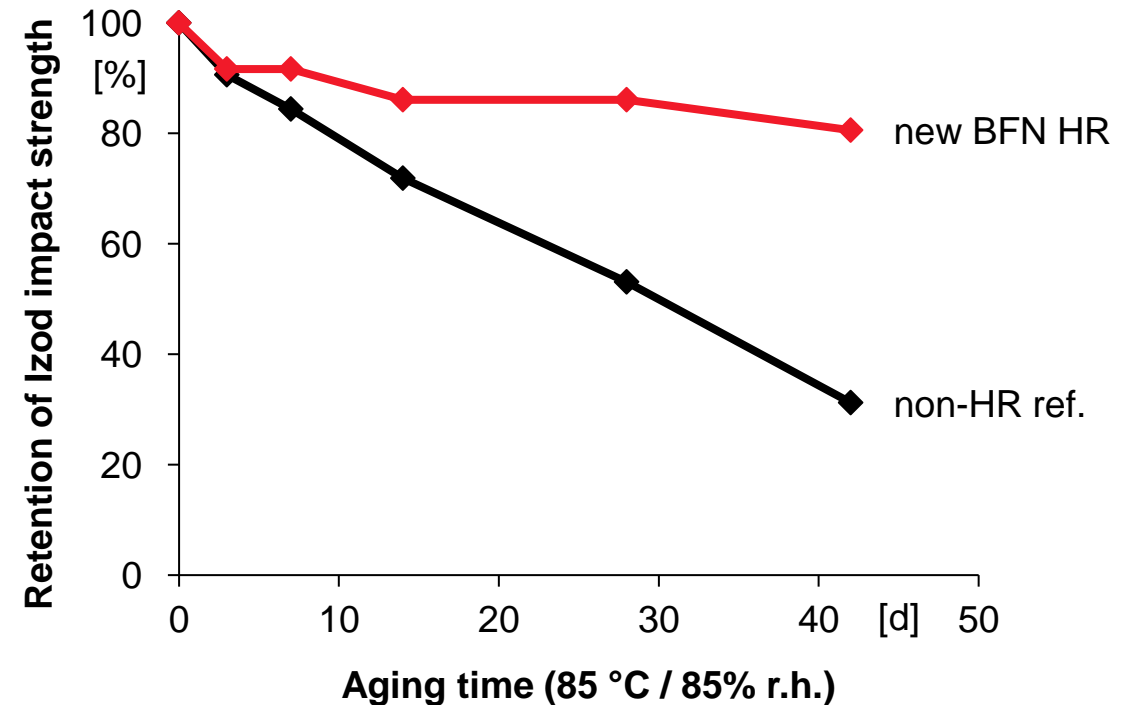
## Battery carrier for luxury sedan (BEV)

- **Functionally integrated component carrier** within high-voltage battery system
- Durethan® PA6GF60 and Tepex® composite sheet
- **Thin wall lightweight design** over wide surface area thanks to Tepex®
- **Cost-efficient** one-shot injection molding process

# Product Innovation – Hydrolysis stabilized halogen-free flame-retardant PBT for high voltage applications

## New Pocan® BFN HR series

- Combination of **halogen-free flame retardancy** and **hydrolysis resistance**
- Excellent **electrical properties**, independent of temperature and humidity
- High **CTI A 600 V** and **UL94 V0** at 0.75 mm for miniaturization potential
- Orange color with **outstanding long-term stability** possible



Innovative material designed for high voltage applications

# Laser welding – key technology for electronic housings

## Upgrade of technical center in Dormagen

- Laser welding – **method of choice** for increasing number of E/E housings e.g. ADAS sensors
- Wide range of **laser transparent** Durethan® and Pocan® LT grades available
- Installation of laser welding machine featuring **latest technology**
  - Emulate customers' **production environment**
  - Acceleration and refinement of **material optimization**

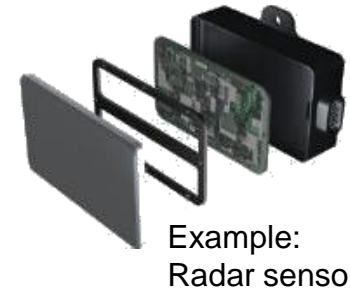


photo: PolyMerge GmbH

**Strong products and comprehensive HiAnt® engineering services**



# Our topics and products at K 2022

## Sustainability

- Reduction and transparency of our CO<sub>2</sub> emissions
- Broadening sustainable raw material base employing mass balance approach
- Extending portfolio of sustainable products
  - Durethan® ECO
  - Pocan® ECO
  - Durethan® BLUE
  - Tepex® SCOPEBLUE



## New Mobility

- HV battery enclosure entirely made of engineering plastics
- Onboard Charger Cover for BEV
- Innovative lightweight design with Durethan® and Tepex®
- New hydrolysis stabilized halogen-free FR Pocan®
- Extension of lab equipment for customer support in laser welding



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