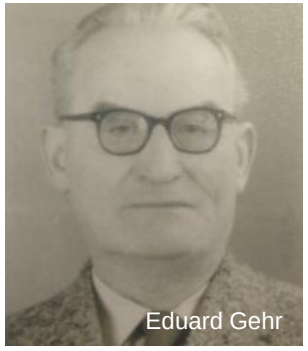
HIGH PERFORMANCE MATERIALS

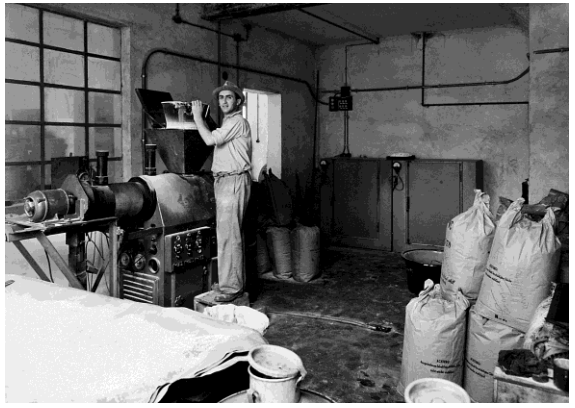
NEW DEVELOPMENTS

PLASTICS ENGINEERED BY GEHR®

Mai 2024

FAMILY OWNED AND OPERATED COMPANY WITH TRADITION SINCE 1932

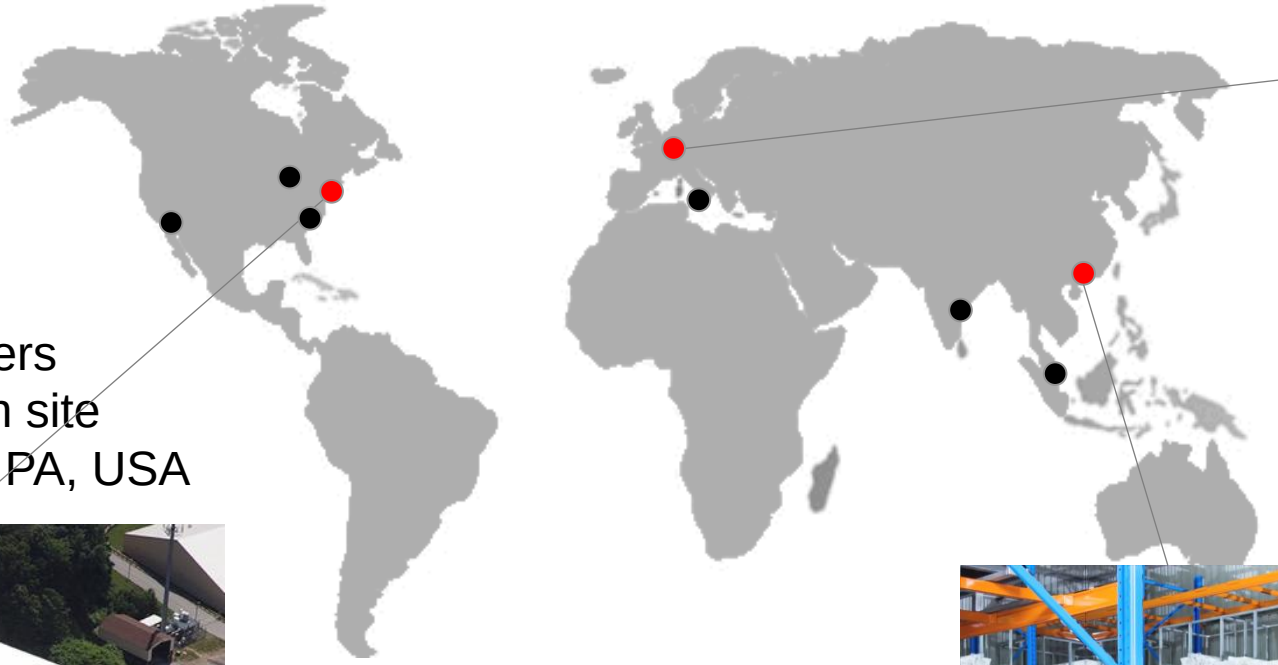

Eduard Gehr




Werner Gehr


Annette and Helmut Gehr

GEHR – AN INTERNATIONAL COMPANY



- World headquarters and production site **Mannheim**, Germany

- US headquarters and production site **Philadelphia**, PA, USA

- Asia headquarters and warehouse **Hong Kong**

QUALITY AND INNOVATION

TÜV SÜD ISO 14001

TÜV SÜD ISO 45001

TÜV SÜD ISO 9001

TÜV SÜD EN ISO 13485

TÜV SÜD ISO 50001

ISCC
International Sustainability & Carbon Certification


FOCUS TOP ARBEITGEBER MITTELSTAND 2024
FOCUS-BUSINESS.DE IN KOOPERATION MIT FACTFIELD

URKUNDE

GEHR GMBH

wurde von FOCUS-Business in Kooperation mit dem Recherchepartner FactField als Top-Arbeitgeber Mittelstand identifiziert.

Folgende Kriterien* lagen der Empfehlung u. a. zugrunde:

- Mindestens 10 Bewertungen von Arbeitnehmern über alle Datenquellen hinweg
- Bewertungsdurchschnitt von mindestens 3,5 von 5 möglichen Punkten
- Mitarbeiteranzahl zwischen 11 und 500
- Unternehmensstandort in Deutschland

Andrea Key
Geschäftsführung

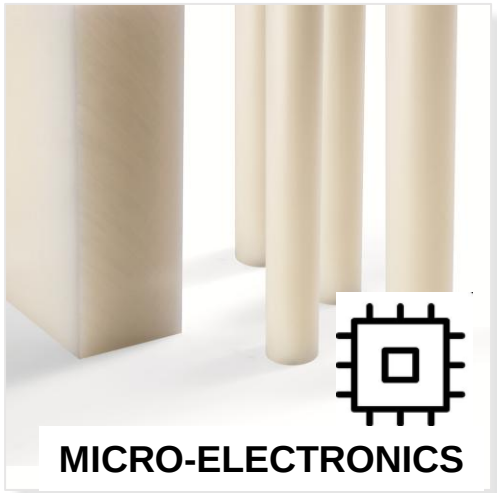
FOCUS BUSINESS

*FOCUS-Business vergibt ein Siegel an Unternehmen der größten Empfehlungsgruppe für Top-Arbeitgeber Mittelstand. Die Auswahl erfolgt anhand von Recherchen durch den Recherchepartner FactField GmbH. Die Empfehlungsliste erhebt keinen Anspruch auf Vollständigkeit. Die Ergebnisse sind nicht repräsentativ. Der kaufliche Erwerb eines Listenplatzes ist ausgeschlossen. Eine werbliche Nutzung der FOCUS-Business-Urkunde ist nicht gestattet.

OUR COMPETENCES

STOCK SHAPES

INDUSTRIAL



MICRO-ELECTRONICS

MEDIGEHR®

MEDICAL

FIL-A-GEHR®

ADDITIVE MANUFACTURING

CUSTOMER SOLUTIONS

CONSUMER GOODS

ECOGEHR®

SUSTAINABLE MATERIALS

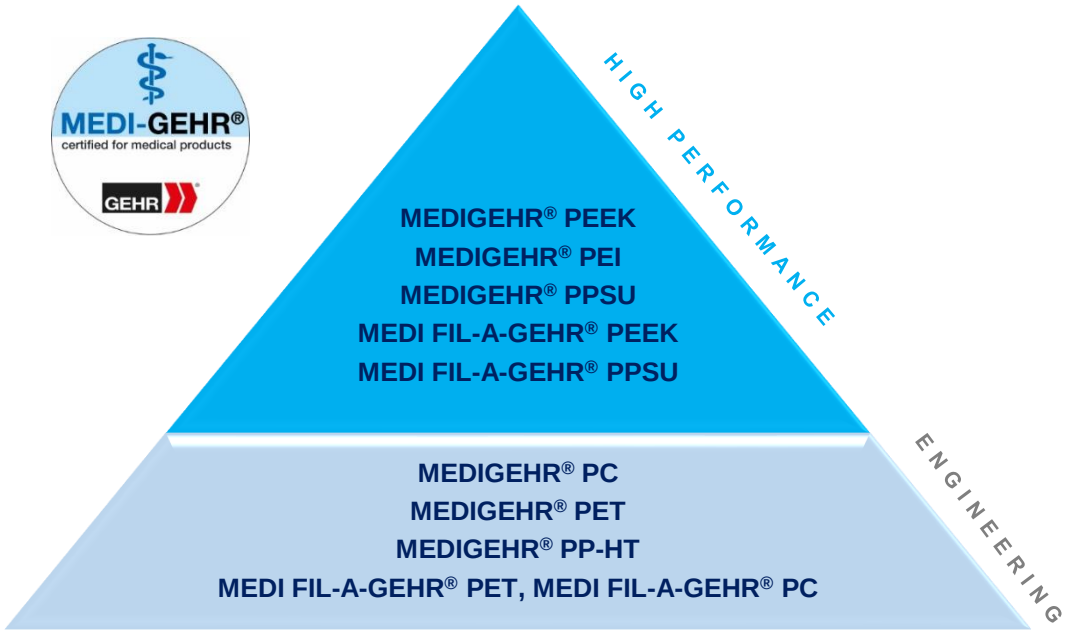
MULTI-LAYER TUBES

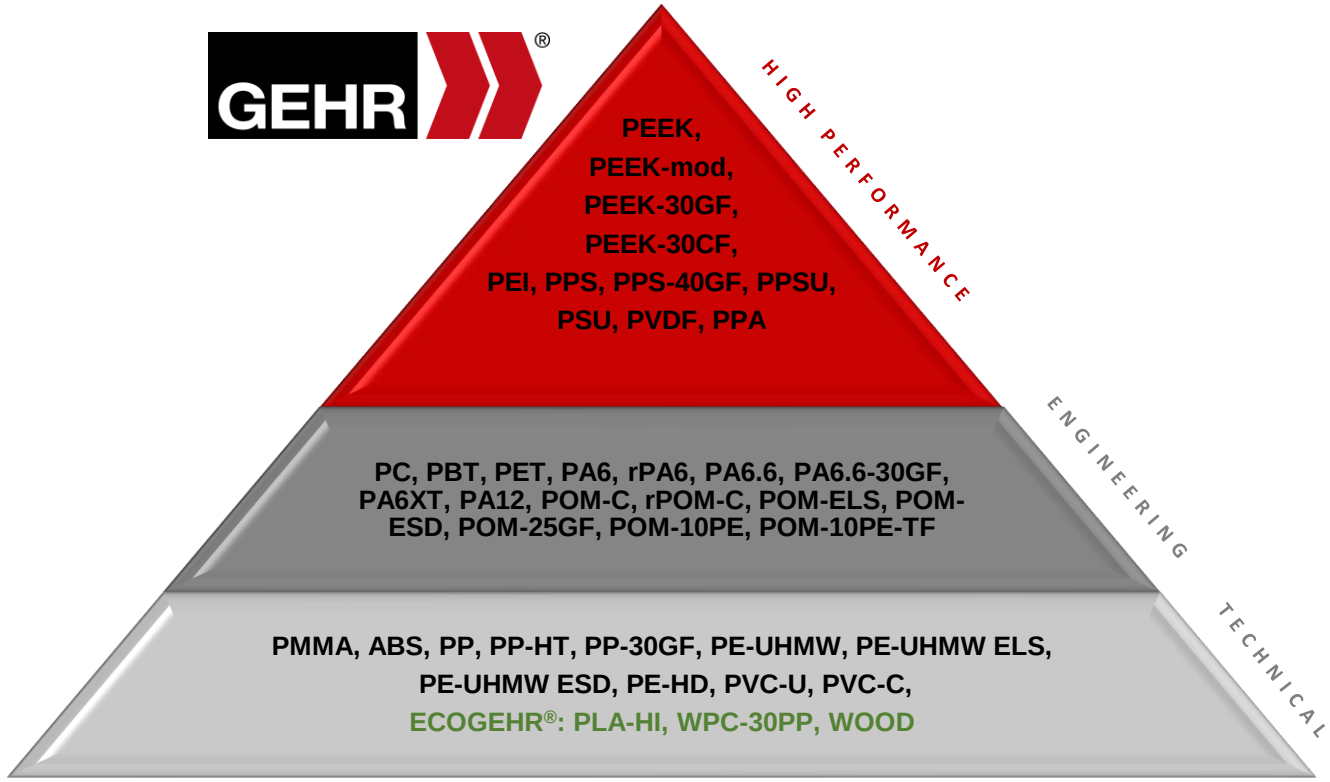
MADE TO ORDER

GEHR EXPERTISE

EXTRUDED RODS, SHEETS, TUBES, PROFILES AND FILAMENTS

- Rods up to 700 mm diameter
- Thick plates up to 300 mm thickness
- Calendered sheets from 1 mm
- Decorative precision tubes
- Semi-finished products for medical applications
- Filaments for professional 3D printing





ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

CO_2-NEUTRAL PRODUCTION

- Conversion to green electricity and green gas in Mannheim and Philadelphia.
- Achievement of the implementation packages of Katowice Scope1 and Katowice Scope1 and 2

SINCE 2016: 100% RENEWABLE ELECTRICITY

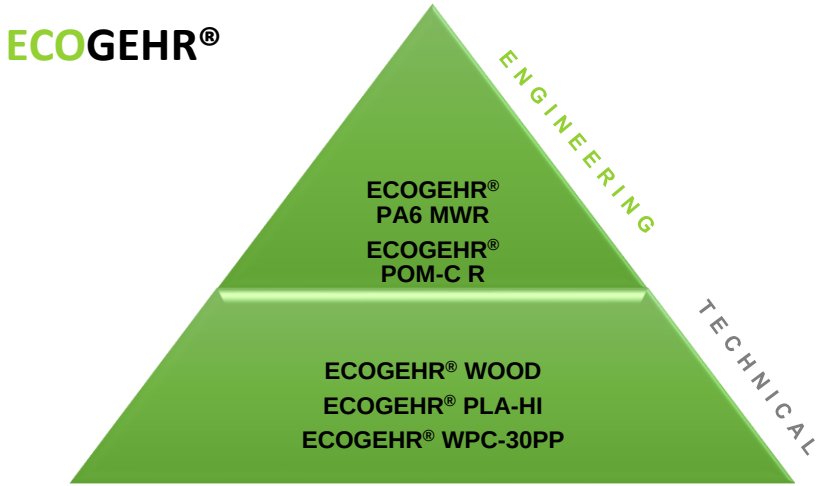
Since 2016, total electricity requirements covered by renewable energies - mainly from hydropower in Norway.

COOLING PROCESS OPTIMIZED

In order to sustainably conserve water as a resource, we have also made mechanical adjustments to our plants. This has enabled us to significantly reduce the amount of water required in the cooling system as well as the supply of fresh water.

RECYCLING CONCEPT FOR THE AVOIDANCE OF PRODUCTION WASTE

The returned material is sorted, ground, recycled and reused in production wherever possible and permitted.



SUSTAINABILITY REPORT 2024

CERTIFICATIONS
» ISO 9001, ISO 13485, ISO 14001, ISO 50001, ISO 45001
» ISCC Plus
» ECOVADIS Rating 2023: Silver

CORPORATE PHILOSOPHY
» Long-term independence
» Extensive sustainable portfolio
» Quality leadership
» Innovation
» Corporate social responsibility in terms of sustainable management, CSR responsibility

REDUCTION OF ENERGY CONSUMPTION
Since 2013 10% reduction of eneregy per kg extruded material thru:
» new efficient extruders
» optimized annealing processes
» new compressed air systems
» energetic refurbishment of buildings
» new photovoltaic system to be installed in 2023 that will cover approx. 15% of demand

SOCIAL RESPONSIBILITY
» Below industry average for „1000-man quota“ (accident rate per 1000 full-time workers)
» Cooperation with the University of Mannheim
» Flexible working hours / mobile working stations
» Sponsoring local sport events / teams

RECYCLING
» Recycling rate increased to 7,8%
» Reduced scrap rate by 2%
» Strategic partnership with plastic recovery company

LIFECYCLE ASSESMENT
» Status Quo carbon footprint analysis based on GHG protocol
» Currently emissions are 2145t CO_2 eq.

GREENHOUSE GAS EMISSIONS
» Scope 1: 7% Scope 2: 1% Scope 3: 92%
» **Reduction of 30% in 2024** (compared to 2023)

ACCOMPLISHED ACTIONS
» ECOGEHR® & ECO FIL-A-GEHR®
» Since 2016: green electricity
» Since 2020: green gas
» ECOVADIS Rating 2022/2023/2024: Silver
» ISCC+ biocircular PP for writing instruments
» Member of Mannheim climate protection alliance

CORPORATE GOVERNANCE
» Corporate Environment, culture, leadership
» Dealing with business partners, customers, suppliers
» Supply chains
» Anti Trust, compliance, confidentiality
» Whistleblowing

MOBILITY OF THE FUTURE

TUM HYPERLOOP

In collaboration with TU Munich and Evonik, we are ensuring that the Hyperloop project moves into the next phase. Hyperloop - originally developed as the Space X Hyperloop concept by Elon Musk- is a new concept for transporting goods and people at almost the speed of sound. The train travels like a maglev train in a low-pressure tube above the earth's surface.

In this team, we produced sheets made of VESTAMID® (PA12 filled with glass fibers + special additive) for a 24-m-long test track. After extrusion, these sheets are machined before installation to hold the magnetic coils in position for the train.

SOLUTIONS ENGINEERED BY GEHR®

EVONIK Leading Beyond Chemistry

STOCK SHAPE – NEW IN STOCK

GEHR® PE UHMW ELS

» electrically conductive (ELS)
» reduced surface and volume resistance
» Colour: black
» Rods in Ø 30, 40, 50, 60, 70 mm

GEHR® PE UHMW ESD

» anti static (ESD)
» reduced surface and volume resistance
» Colour: black
» Rods in Ø 30, 40, 50, 60, 70 mm

GEHR® PEEK

» Colour: black
» Sheets 20, 25, 30, 35, 40 mm

GEHR® PEEK-30GF

» Colour: natural
» Rods 20, 30, 40, 60, 80mm

GEHR® PPA

» Colour: natural
» Rods (20-80mm) and sheets (10-60mm) on request
» Alternative for PA4.6

STOCK SHAPE – COMING SOON

GEHR® PPS

» Colour: natural
» Rods: 10-100mm
» Sheets: In progress
» Application: Semicon industry

GEHR® PPS-40GF

» Colour: dark grey
» Rods: 12-60mm
» Sheets: In progress
» Application: Oil and gas industry

GEHR® PVDF cal. 2F

» Colour: natural
» Sheets: 4-6 mm
» Foiled on both sides
» Application: Semicon industry

GEHR® PVDF

» PFOA and PFOS free materials
» Rods, sheets and cal. Sheets
» Application: Chemical industry, semicon industry

SUSTAINABLE PRODUCTS

ECO FIL-A-GEHR® Wood

ECO FIL-A-GEHR® Wood consists of recycled wood fibers mixed with a biopolymer. The raw material is made by Sulapac®.The printed material is haptic, visual and odor like wood. Nevertheless, it can be used to print extremely robust / stable parts.

APPLICATION:
Cosmetic jar, decorative components, sustainable Displays

ECO FIL-A-GEHR® PA6 MWR

» **ECO FIL-A-GEHR® PA6 MWR** is made from marine waste recyclates (MWR). This is mainly obtained from fishing nets.
» The remaining properties can be considered as equivalent to virgin PA6 XT

APPLICATION:
Automotive industry, gear wheels, sliding rails

PRODUCT RANGE:
» 1,75 and 2,85mm in 1kg spool
» You can find all our FIL-A-GEHR® products at: www.filagehr.com

SUSTAINABLE PRODUCTS

ECOGEHR® POM-C R

» **ECOGEHR® POM-C R** is made from 100% recycled POM-C.
» The remaining properties can be considered as equivalent to virgin POM-C

PRODUCT RANGE:
» Colours: black
» Rods: 25mm – other sizes on demand (10-80mm)
» Sheets: 30mm – other sizes on demand (20-50mm)

CO_2 savings compared to virgin material: 72%

Recycled material: 1,29kg CO_2-eq.

Virgin material: 4,61kg CO_2-eq.

ECOGEHR® PA6 MWR

» **ECOGEHR® PA6 MWR** is made from marine waste recyclates (MWR). This is mainly obtained from fishing nets.
» The remaining properties can be considered as equivalent to virgin PA6 XT

PRODUCT RANGE:
» Colours: black
» Rods: 40mm – other sizes on demand (10-80mm)
» Sheets: sizes on demand (20-50mm)

APPLICATION:
Automotive industry, gear wheels, sliding rails

CO_2 Footprint:

Raw material: 0,009kg CO_2-eq.

Virgin material: 6,58kg CO2-eq.

AEROSPACE & DEFENCE INDUSTRY

ULTEM™ 9085 FILAMENT (PEI)

ULTEM™ 9085 FILAMENT (PEI) is a high-performance filament based on the well-known raw material ULTEM™ 9085.

» Resistant to high-energy radiation
» Inherently flame retardant (UL94-V0)
» Print nozzle temperature 360°C;
» Pressure chamber temperature 90°C; Pressure plate temperature 160°C
» Aerospace FAR25.853 and OSU55/55
» Rail EN45545 R6-HL3

APPLICATIONS:
» Rail, Aerospace, Automotive

PRODUCT RANGE:
» Colour: Natural and black
» Diameter: 1,75 mm
» 1 kg Spools

GEHR® PA6 FR

PRODUCT RANGE:
» Colours: Natural and black
» Rods (6-200mm) and sheets (10-100mm) on request

APPROVALS:
» Aerospace FAR 25.853 (on request)
» Railway EN45545-2:2013+A1:2015

MEDICAL TECHNOLOGY

PROTECT GEHR®

»The aim was to develop an inorganic antibiotic metal in order to then use it in semi-finished products. These semi-finished products can then be processed into dental products.

» Patented solution

» Can be added to all our products (rods, sheets, filaments, etc.)

» Designation of these new product range is:

PROTECT GEHR® **PROTECT FIL-A-GEHR®**

These products are in the pre-launch phase. Tests/approvals on semi-finished products upon first delivery.

MEDIGEHR® PET MG

» Colours: white and transparent

» Rods: Ø56mm – other sizes on demand (10-100mm)

» Sheets: 20mm – other sizes on demand (15-50mm)

MEDIGEHR® PEI MG

» Colours: natural

» Rods: 10-100mm on demand

MEDIGEHR® PPSU and PEEK MG COLORED

» Your benefit: All dimensions are made-to-order; customization with fast delivery and minimum order quantity of 25 kg

» Available colors:

- red (~RAL 3001)
- blue (~RAL 5005)
- yellow (~RAL 1006)
- green (~RAL 3262)
- purple (~RAL 7668 C)

» More colors are available on request

» Material: Solvay Radel® PPSU and Solvay Ketaspire® PEEK

» Diameter Ranging: 10 to 100mm

APPLICATIONS:

» Instrument handles

» Sizers and spacers

» Surgical instruments

The products are in the pre-launch phase. Tests/approvals on semi-finished products upon first delivery.

MEDIGEHR® meets ECOGEHR®

» Started as a customer project
» Application: Suction tube

Requirements:

» Biobased or recycled material
» All medical approvals
» Transparent tube

Our solution:

» ECO MEDIGEHR® PP Tubes
» Material: PPH made of used fry grease
» Approvals on the raw material:
» ISO 10993
» USP <88> Class VI
» Food Contact: EU 10/2011, FDA 177.1520

The product is in the pre-launch phase. Tests/approvals on semi-finished products upon first delivery.

MEDI FIL-A-GEHR®

MEDI FIL-A-GEHR® products are suitable for medical and pharmaceutical applications with direct body contact with tissue, bone, skin and mucosa for up to 24 hours. All materials meet the same requirements as the semi-finished products. Especially for our certificates and approvals:

FDA*, EU 10/2011*, ISO 10993-1, -5, -12, -18 and USP Class VI

* only for raw material

MATERIALS:

» MEDI FIL-A-GEHR® PET MG (white and transparent)*
» MEDI FIL-A-GEHR® PC MG
» MEDI FIL-A-GEHR® PPSU MG
» MEDI FIL-A-GEHR® PEEK MG

MEDI FIL-A-GEHR® PPSU MG
Arthroscope prototype

MEDI FIL-A-GEHR® PEEK MG
Instrument holder prototype

** The product is in the pre-launch phase. Tests/approvals on semi-finished products upon first delivery.*

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