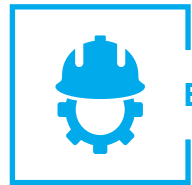




TECHNOLOGY LICENSING



ENGINEERING SERVICES



PLANT CONSTRUCTION

IDEAS INSIDE^{EPC}



EPC variCYCLE Technology

For production of recycled high-quality polycarbonate
out of various waste material sources

CONTACT

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Engineering and technology
for turnkey PC recycling plants by EPC

A MEMBER OF
EPC GROUP



EPC Group is certified per DIN EN ISO 9001

IDEAS INSIDE^{EPC}



Process Description

Economically feasible solution

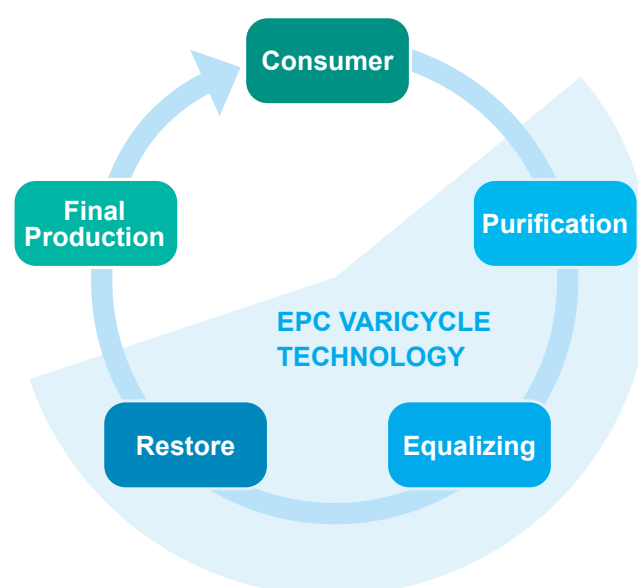
Recycling of polymers like polycarbonate is not technically feasible in an economical scale without downcycling of the recycled product.

EPC's variCYCLE technology is the first worldwide solution for upcycling of a wide range of PC waste sources to high quality products like optical grade applications.

ADVANTAGES

- Product flexibility (different MFRs, heat resistance, optical properties).
- Various Feedstocks (PC/ABS Blends, PC post-consumer waste)
- High efficient compared to virgin material production (Carbon footprint, Consumption of resources)
- Closed loop design possible

GOAL CLOSED LOOP



Steps

The aim of any recycling process is to create a closed loop. Achieving this for polycarbonate requires high quality and versatility. With the upcoming VariCYCLE process from EPC, both are possible.

PURIFICATION Through various special purification steps it is possible to clean polycarbonate from different impurities.

EQUALIZING The PC waste from different applications can then be equalized in terms of their properties using special steps.

RESTORE The old desired product properties can then be restored using a newly developed process.

After restoration, the product has comparable properties and can be processed like Virgin material. With this process, different melt flow ratios are possible for a wide variety of applications with different PC-waste sources after restoration.

ENGINEERING PLASTICS (EP) INDUSTRY +8% CAGR 2022-2027E POLYCARBTEXTONATE



HEALTHCARE

Engineering Plastics sales share 2022: 11 %
CAGR 2022-2027e: 8 %

- Aging population with increasing health-care access in emerging markets
- Trend towards home healthcare devices and wearable monitor devices



AUTOMOTIVE & TRANSPORT

Engineering Plastics sales share 2022: 45 %
CAGR 2022-2027e: 9 %

- Global trends towards BEV boost total LV production
- Number of produced BEV expected to grow strongly, with higher PC content per unit compared to conventional LV



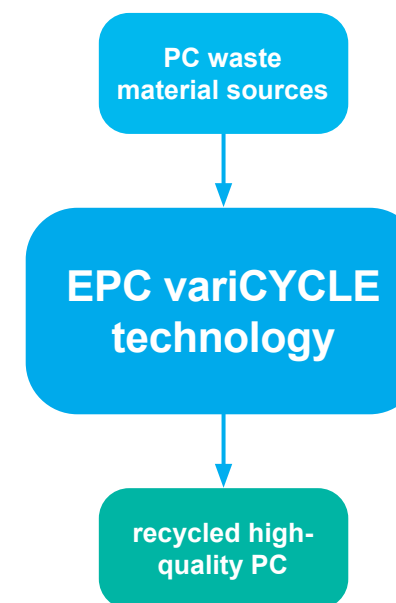
ELECTRICS

Engineering Plastics sales share 2022: 40 %
CAGR 2022-2027e: 7 %

- Strong demand in communication infrastructure, audio, LED, power supply and small appliances
- New opportunities from 5G, intelligent connectivity and electrical integration

How variCYCLE Technology works for PC Recycling

Typical raw material sources



Tailor-made Design

EPC Group works with each client individually to develop a tailor-made concept, based on EPC's basic design that can be optimized for the specific Polycarbonate (PC) feedstock.



CONTACT

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