



# COMBINED REPORT 2020

KRAIBURG TPE GmbH & Co. KG  
Waldkraiburg site

## Preamble

As early as 2015, KRAIBURG TPE made a voluntary commitment to publishing an annual report on environmental protection, occupational safety and health, and energy management. KRAIBURG TPE's stance is based on the attitude that a company's sense and purpose goes beyond purely economic success. As a medium-sized and globally acting TPE manufacturer, we accept this responsibility and opted for transparency on key issues early on. This means that we take a public position and demonstrate binding responsibility towards our staff members, towards the local site and the people who live there, and also towards the environment.

We are intensifying this attitude every year, always aiming to take the company one step further. We can therefore say with certainty that, viewed from today's standpoint, we are in a good position to meet the challenges we will be facing in the future.

But the work is by no means finished yet. Looking at the next 10 years, we need to realize that we are approaching one of the most momentous decades in modern economic history. We are facing big challenges that can be overcome neither easily nor quickly. And yet we welcome them as catalysts for absolutely necessary change that will push us forward – every day. Our courageous, resolute and sustainable actions are enabling us to work towards a future that we will be proud of.

In summary, that's what motivates our more than 650 staff members all over the world. We are united by the ambition to develop products that support progress and change.



Oliver Zintner  
Director EMEA at KRAIBURG TPE  
Waldkraiburg 2021

## Areas of responsibility in Waldkraiburg

### **Franz Hinterecker**

CEO at KRAIBURG TPE

### **Oliver Zintner**

Director EMEA at KRAIBURG TPE

Dipl. Ing. **Karl-Heinz Ortmeier**

Head of Sustainability Management,

Head of Environment & Safety Management EMEA bei KRAIBURG TPE

### **Ines Klemisch**

Environmental Manager at KRAIBURG TPE

### **Reinhardt Lanzinger**

Safety Manager at KRAIBURG TPE

### **Anton Weingartner**

Energy Manager at KRAIBURG TPE

## Scope of the Combined Report

The environmental and energy management system report for KRAIBURG TPE at the Waldkraiburg site covers the following facilities:

### **Plant at Teplitzer Strasse (Plant K):**

Production building with infrastructure facilities and production facilities of KRAIBURG TPE

### **Plant at Friedrich-Schmidt-Strasse (Plant T):**

Premises, production building and office building

## Sustainability management

In 2020, KRAIBURG TPE presented its most detailed strategy so far on the key issue of sustainability. The focus is on topics and activities that will lead to predictable and measurable results. These are to be implemented in all company areas of KRAIBURG TPE at the Waldkraiburg site on the basis of an integrated approach.

**Sustainability core competence:** KRAIBURG TPE defines core competences as abilities that enable the company to gain a verifiable advantage over market competitors. This competence set is to be expanded to include sustainability as soon as possible. Measures for implementation are taking place at the staff, organizational and process levels. The topic of sustainability has been subdivided into three core topics to provide measurable and comprehensive results that involve the whole company:

- **Circular economy:** The overall objective in building a circular economy is to use products and raw materials for as long as possible in order to avoid waste. If a product cannot be reused or repaired, it is to be broken down into its raw materials so that these can be reused. To meet this challenge, KRAIBURG TPE is working on products and procedures that will promote the circular economy. When purchasing raw materials, KRAIBURG TPE gives special attention to regional and ecologically valuable sources of supply that are part of the circular economy. To use a solution that is as integrated as possible, we also include suppliers in the purchase of raw materials starting from the very first step. In addition, the materials used are constantly monitored. The first TPE compounds are already available worldwide.
- **Climate and energy:** Since today's most urgent social debates involve the key issues of climate and energy, KRAIBURG TPE has committed itself to minimizing its carbon footprint, reducing water consumption and cutting down emissions to a minimum. The focus is also on maximizing production efficiency and achieving a high recycling rate for waste material in the longer term. KRAIBURG TPE has reduced its corporate carbon footprint emissions by 25% since 2012. The company is increasing its efforts to accelerate this reduction.



- **Social matters and health:** KRAIBURG TPE's success is based on its staff members. The company has therefore established clear guidelines for protecting and supporting them.
  - » **Values and culture:** Focus on respect, trust and participation
  - » **Health and safety:** Prevention of accidents
  - » **Diversity and equal opportunity:** Equality and a sound corporate culture
  - » **(Further) training:** Staff members are the most valuable asset and are trained in-house and externally
  - » **Work–life balance:** A well-adjusted work–life balance is desirable.
  
- **Governance and compliance:** KRAIBURG TPE operates in accordance with the 10 principles of the UN Global Compact:
  - » **Compliance:** We act in complete accordance with the law, our principles and rules
  - » **Human rights:** We respect human rights
  - » **Code of Conduct for our business partners:** Zero tolerance for any misconduct

## Local sustainability boards

Local sustainability boards have been established at all KRAIBURG TPE sites (Germany, USA and Asia) to make the best possible efforts to advance sustainable development, always taking the relevant region and culture into account. These central bodies consist of members of senior management, as well as experts, and report directly to the management board. This means that sustainable action is always appropriately considered. The tasks of the relevant sustainability boards include formulating and checking sustainability targets, central coordination and identifying specific measures to improve sustainability performance.

#### **Division of the local sustainability board in EMEA:**

- Supply chain: Environment and social matters
- Ecological production
- Ecological product responsibility
- Marketing and stakeholder communication
- Social sustainability
- Activities of the association
- Targets of strategic planning
- Ecological sustainability
- Management systems and environmental monitoring

## **Interest groups**

### **Objective**

KRAIBURG TPE gives high priority to integrating the different interest groups in making decisions to achieve the best possible result for society, the industrial sector and the company. This collaboration is intended to lead to innovative solutions for current and future challenges, from improving safety and reducing waste through to making a positive contribution to climate change.

### **Members of staff**

The members of staff at KRAIBURG TPE are the decisive factor for success when it comes to sustainability, because it is only if we all work together that we will achieve the sustainability targets. The staff is integrated into the process in various ways: The members of staff are constantly improving their know-how and expertise, identifying potentials for improvement and developing innovative approaches for sustainable solutions within the company.

## Partners

Since KRAIBURG TPE has been a reliable TPE manufacturer for many years, its network of partners is very well developed, stable and established. These networking links are creating innovation partnerships in order to develop solutions and advance products to the next higher level by combining expertise. KRAIBURG TPE has partnerships all over the world and can look back on a long history of successful collaborative developments.

## Customers

KRAIBURG TPE's customers have a growing interest in industrial contributions to sustainability. The company therefore has active relationships with (future) customers based on partnership. The company aims to understand their needs and learn to anticipate them in order to supply suitable materials at any time and minimize possible risks. Customer-oriented and market-driven solutions are intended to help meet the requirements of customers and society even better and identify new business opportunities.

## Climate management

An effective, well thought-out and holistic climate management system for companies is the basis for a positive contribution to environmental protection. The requirements are growing and constantly becoming more specific, which means that customers, investors, NGOs, and also consumers are demanding more and more specific answers. This means that climate management comprises the approach used, indirect and direct emissions as well as effects of climate change on and for the company that are relevant to its business (<https://www.globalcompact.de/en/>). In the field of plastics, in particular, climate has to be taken into account at every step. KRAIBURG TPE has identified climate protection as one of the most pressing social challenges the company is facing. It has therefore made the topic an integral part of the company's DNA.

**KRAIBURG TPE is making a contribution to climate protection by taking various actions:**

- Increasing process and energy efficiency: saving energy has top priority. For this reason, processes are permanently adjusted. Energy consumption is monitored and optimized at all times.
- Reducing CO<sub>2</sub> emissions: CO<sub>2</sub> emissions are constantly recorded at the Waldkraiburg site to make it possible to react immediately to deviations. A long-term target is being set with the help of a reduction path.
- Renewable energies are further expanded: At the Waldkraiburg site, photovoltaic systems are already increasing the proportion of renewable energies used. It is intended to expand these systems. In addition, other renewable energy sources are currently being evaluated and considered.
- Working out the corporate carbon footprint: Since 2013, KRAIBURG TPE has been dealing with the issue of CO<sub>2</sub> balance in relation to its corporate carbon footprint (core CCF in scope 1 and 2) and has made the results available to customers. The balance helps to identify potentials for optimizing and/or avoiding greenhouse gas emissions. In the course of this, issues involving the product carbon footprint (PCF) are also being further prioritized so that customers can be constantly provided with reliable information.
- Expanding personal competences: KRAIBURG TPE is currently expanding its staff in the field of sustainability to ensure that the company is in a good and future-proof position in the long term.
- Comprehensive CO<sub>2</sub> reporting: In 2020, KRAIBURG TPE made a comprehensive CO<sub>2</sub> inventory (CCF) with the help of external experts based on the GHG Protocol. The aim is to optimize and standardize the recording and calculation of CO<sub>2</sub>. Findings will be included in the sustainability strategy based on numerical results. Relevant fields of activity along the value chain have been identified and an action plan has been created.



## CO<sub>2</sub>-emissions

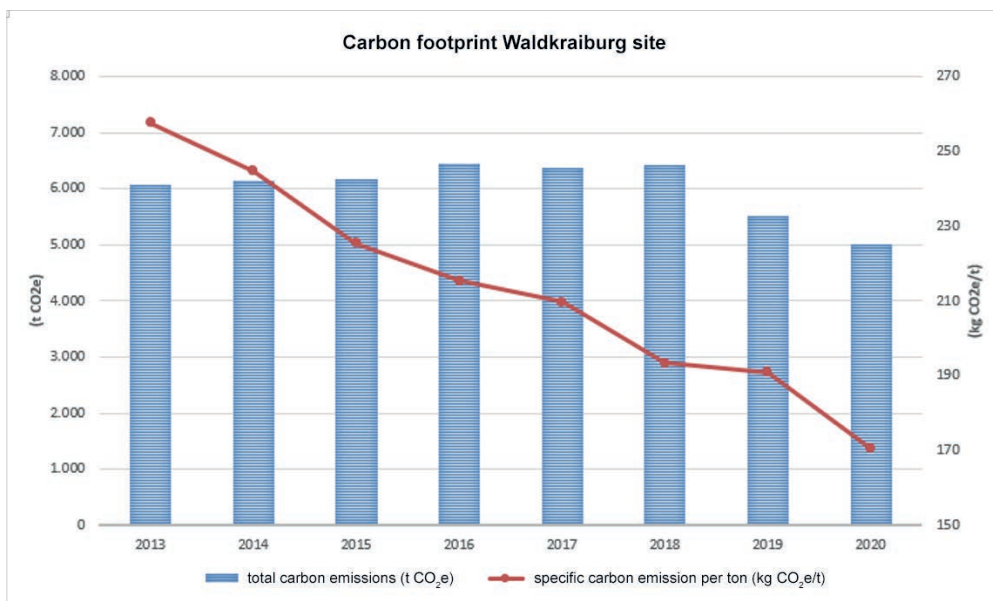
KRAIBURG TPE divides the emission of CO<sub>2</sub> into different categories based on its sources. The following categories have been identified:

- Scope 1: Emissions from the vehicle fleet
- Scope 2: KRAIBURG TPE’s largest sector comprises scope 2 emissions, which are attributable to the purchase of energy (electricity, gas), among other sources.
- Scope 3: Business trips

Emissions for raw materials, shipping, IT, etc. are not taken into account.

Specific CO<sub>2</sub> emissions have been reduced by 30% in relation to the amount produced. In 2020, additional exceptional savings were made due to the global situation. The three major factors can be traced to three main causes:

- Improvement of energy efficiency
- Lower CO<sub>2</sub> emission factors in Germany’s electricity generating system
- Generation of PV electricity on the premises



*The course of direct and specific emissions generated by KRAIBURG TPE at the Waldkraiburg site.  
(Source: internal documentation)*

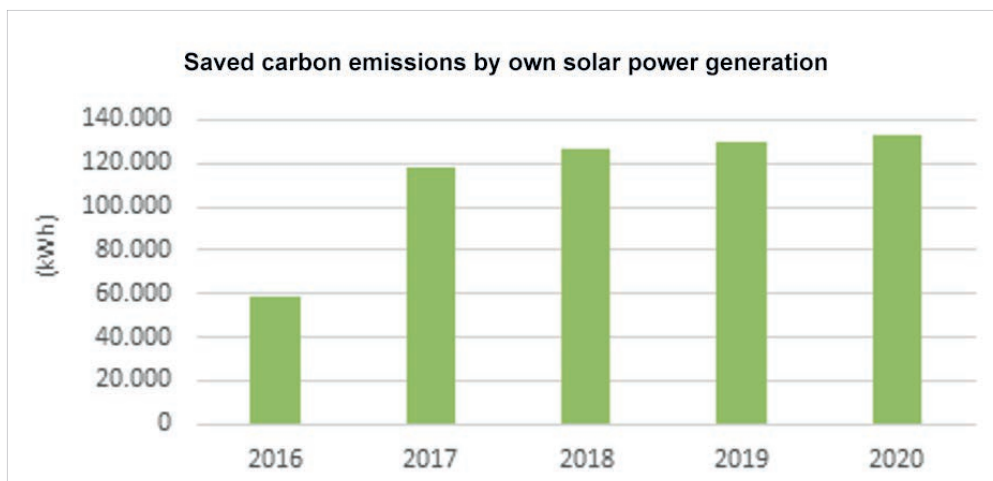
## Energy consumption

To save resources in the long run, KRAIBURG TPE is pursuing an energy policy that aims to avoid unnecessary energy consumption and maximize efficiency. An electricity plan has been developed to implement this policy. Consumption is regularly checked using a detailed measuring system. In summary, it can be stated that the specific energy consumption, including electricity and gas consumption, decreased by 8.0% to 392 kWh/t in the 2020 reporting year. Energy consumption has decreased by a total of 9.4% during the last seven years.

To ensure the best possible energy efficiency over the longer term, the 2030 energy strategy was completed this year. The energy action plans to be implemented in the coming years will focus on issues such as peak load management, optimization of facilities and charging infrastructure for electric mobility.

## Renewable energies

Germany's electricity generating system is becoming increasingly sustainable and the proportion of renewable energy consumed is growing. In 2020, KRAIBURG TPE was able to generate a total of 132,823 kWh emission-free power by expanding the surface of its photovoltaic system in 2017. This reduced the carbon footprint by 59 tonnes of CO<sub>2</sub> in 2019.



*The development of KRAIBURG TPE's generation of renewable energies on the premises between 2016 and 2020 shows a positive trend. (Source: internal documentation)*

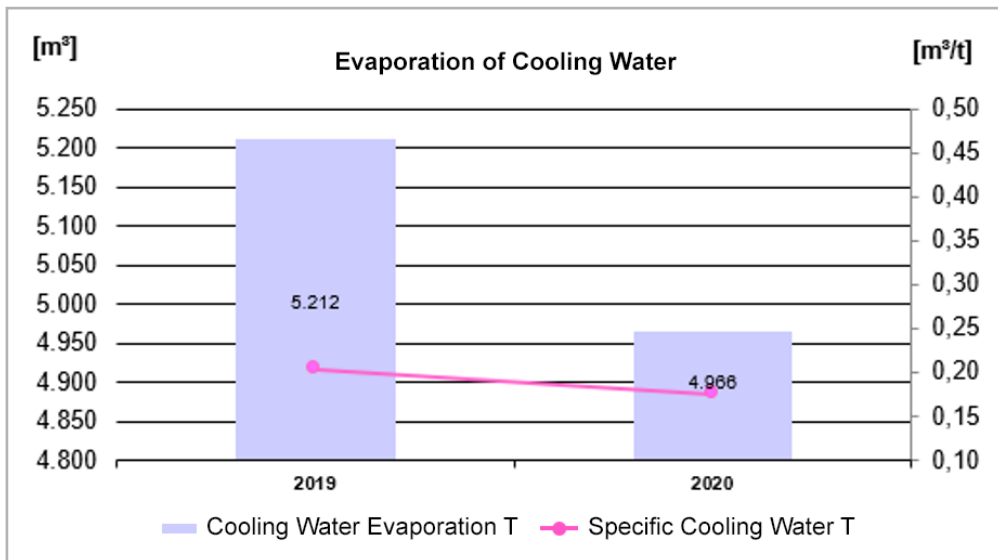
## Environmental conditions

The standard for environmental management systems, ISO 14001:2015, requires the environmental condition to be monitored in order to achieve environmental improvement through continuous measurements. The overarching objective is to recognize environmental changes earlier and better and to react accordingly. KRAIBURG TPE is making efforts to minimize the influence its business activity has on regional biological diversity. For this purpose, compensation areas are being created to keep developed land use as low as possible. A flower strip was already planted in 2019 to enhance the biological value of the premises. It is intended to expand the flower strip.

No accidents affecting the environment occurred during the 2020 reporting year.

## Water consumption

KRAIBURG TPE is monitoring specific water consumption, aiming to continuously reduce it. Since 2015, the company has been able to keep it at a constantly low level of 0.7m<sup>3</sup>/t. In 2019, optimizing the cooling towers in Plant T made it possible to substantially reduce the amount of vaporized water, with further savings following in 2020.



The amount of cooling water vaporized in 2010 as compared to 2020. (Source: internal documentation)

## Circular economy

The circular economy has become an indispensable topic in general and specific discussions and has also become a central issue on KRAIBURG TPE's agenda. It describes a change in the economy from linear models to a sustainable system with closed circular systems driven by renewable energies.

**In the context of the circular economy, KRAIBURG TPE has the following aims:**

- Stronger focus on the development of innovative product solutions that contribute to the circular economy. Increasing the proportion of sustainable products in the medium and long term
- Giving greater attention to and expanding recycling competence in the company
- Strengthening the focus on the circular economy in cooperation with partners, i.e. responsible procurement (supply chain management)

## In-house recycling

A major aspect of environmental protection is the recyclability of products. KRAIBURG TPE makes use of this property within the company. Almost all TPE waste (e.g. returns, starting material, etc.) is recycled instead of being disposed of. This leads to excellent recycling rate results. But the idea of recycling and circular systems must not be limited to the company's own business activities.

The social change from a linear economic system to sustainable thinking and acting in closed circular systems is a major challenge, which KRAIBURG TPE is meeting with an integrated approach based on the following pillars: Environmental awareness, energy efficiency and saving resources.

## Waste and emissions

The reduction of waste and emissions is a central aim of the environmental management system. The law on the circular economy and waste in Germany regulates due and proper waste disposal for all manufacturers and owners of waste as well as all waste disposal companies. The principle of “avoidance is better than recycling and recycling is better than disposal” applies. The specific quantity of waste has remained at a constantly low level in the course of recent years. In 2020, the value amounted to 11.84 kg/t.

## Health and safety at work

Measures for health and safety at work can help increase a company’s competitiveness. If they are properly implemented, prevention measures will prevent accidents, reduce periods of absence and improve employees’ state of health. The aim is to recognize possible dangers in advance. Forward-looking analyses enable everyone responsible to collaborate to recognize imaginable risks. The safety officer assesses individual risk factors in coordination with the operators.

Preventive protection targets are agreed based on these risk factors to minimize identified risks.

## Occupational safety and health / accidents

If accidents occur despite extensive safety measures, their causes are examined in detail. KRAIBURG TPE endeavors to avoid a repetition of such incidents. Relevant results will be analyzed together with the persons involved. The findings deduced from the analyses will be used to take suitable prevention measures. The accident key figures are important indicators for the accident risk at the Waldkraiburg site: The Lost Time Injury Frequency (LTIF) shows the number of accidents per year that cause the employee to be absent: A positive change in the trend for key accident figures (LTIF, 1000-person rate) can be identified for 2020, and KRAIBURG TPE was below the industry average.

Due to the building and the machines used, the noise load in the production area exceeds 85 dB(A). The noise is therefore regularly analyzed to define measures that are to be included in the environmental protection and occupational safety and health program. Noise areas (> 85 dB(A)) are consistently reduced based on a noise reduction program. A system is used to manage the inspection of noise emission and compliance with noise limits at the site boundaries.

## **Management of hazardous substances**

Based on an in-house guideline on hazardous substances, it is ensured that no harmful raw materials (e.g. carcinogenic, mutagenic or acutely toxic substances) are used at KRAIBURG TPE. The company's "substitution of hazardous substances" work group is working intensively on the possible substitution of hazardous substances used. The aim is to substitute less critical or uncritical substances for hazardous substances.

## **Fire and explosion protection / emergency management**

KRAIBURG TPE is constantly further expanding its knowledge on hazard prevention and is prepared to cope with possible emergencies. Thinking beyond the boundaries of its site, KRAIBURG TPE also takes customers, neighboring companies and the town into account and includes the local authorities in the planning process. In addition to evacuation assistants and floor wardens, there are numerous emergency managers at KRAIBURG TPE. A central crisis management team was established in 2015.

Practical exercises are essential for the success of our hazard prevention concepts should an emergency occur. We therefore regularly check our emergency systems and practice the procedures with the crisis team, emergency manager, staff members, fire department and necessary rescue forces. External observers analyzed the practical training exercise, and improvement measures were derived from it. In 2019, a large-scale emergency exercise was held with police, fire department and rescue forces.



## 2020 input /output report

The input / output report (corporate environmental performance report) is a central part of environmental reports recommended by the ISO 14001:2015 standard. The basic idea of such a report is to assess the impacts of business activities on the environment. This report transparently presents the fundamental parameters of KRAIBURG TPE's business activities.

The following key indicators serve to monitor and control performance. They are partly deduced from EMAS standards (ecological management system and audit scheme) and are related to the direct environmental protection, energy, and occupational safety and health aspects of the company. These measurable key parameters enable a transparent presentation in relation to constant improvements and their effectiveness.

### Input-Output Balance 2020 for the Waldkraiburg site

Input	Quantity	Unit	Output	Quantity	Unit
<b>Material consumption (production)</b>	<b>31.683</b>	<b>t</b>	<b>Produced quantity</b>	<b>31.004</b>	<b>t</b>
			<b>CO<sub>2</sub>-emissions</b>	<b>4.665</b>	<b>t</b>
			CO <sub>2</sub> -from natural gas	376	t
			CO <sub>2</sub> -from electricity	4.289	t
<b>Energy consumption</b>	<b>12.728</b>	<b>MWh</b>	<b>Waste</b>	<b>340</b>	<b>t</b>
Electricity	10.830	MWh	Non-hazardous	286	t
Natural gas	1.898	MWh	Hazardous	54	t
<b>Water consumption</b>	<b>23.400</b>	<b>m<sup>3</sup></b>	<b>Water drainage</b>	<b>23.400</b>	<b>m<sup>3</sup></b>
Unsoftened water	4.436	m <sup>3</sup>	Sewage	16.914	m <sup>3</sup>
Softened water	18.964	m <sup>3</sup>	Evaporation	6.486	m <sup>3</sup>

### Core indicators for environmental performance 2020 at the Waldkraiburg site

Indicator	Definition	Unit	Value
Material efficiency	Production quantity / material consumption (Production)	t / t	0,979
Specific electricity consumption	Electricity / production volume	kWh / t	342
Cooling efficiency	Evaporation heat / production volume	kWh / t	141
Specific heat consumption	Heating energy / (number of degree dasy x heated area)	kWh / (Kd x m <sup>2</sup> )	51
Specific water consumption*	Fresh water* / production volume	l / t	890
Specific carbon- emissions	CO <sub>2</sub> equivalents / production volume	kg / t	158
Specific waste consumption	Waste / production volume	kg / t	11,84
1000-men-quota	Number of reportable accidents / 1000 employees	1	5,49
LTIF	Frequency of work absences due to accidents / year	1	9,82

## Conclusion

KRAIBURG TPE faced many challenges in 2020. Looking back, it can be summed up by saying that we were able to provide a safe harbor for our employees and customers in uncertain times. We were faced with tasks at local and global levels and have done our best to overcome them together. We can report that the last business year was a positive one, as we have grown with the challenges we faced.

While keeping this positive development in mind, we also have to prepare for everything that may happen in the future. It is not yet possible to assess the significance of future challenges and decisions in relation to sustainability, environmental protection and occupational safety and health. For this reason, KRAIBURG TPE is establishing a broad basis in the medium and longer term to be able to meet probable scenarios and requirements and react accordingly. The means, ways and objectives for achieving this are addressed in detail in this combined report.

We will continue to expedite change during the coming year in order to play a role as a leading global TPE supplier that enables us to always stay on the ball for future-oriented and sustainable projects. Do you have any ideas or suggestions? Just get in touch with us and let's talk!



Oliver Zintner  
Director EMEA at KRAIBURG TPE  
Waldkraiburg 2021

## Europa, Naher Osten, Afrika

KRAIBURG TPE GmbH & Co. KG  
Friedrich-Schmidt-Str. 2  
84478 Waldkraiburg, Deutschland

Tel.: +49 8638 9810-0  
E-Mail: [info@kraiburg-tpe.com](mailto:info@kraiburg-tpe.com)

## Asien Pazifik

KRAIBURG TPE TECHNOLOGY (M) SDN.BHD.  
Lot 1839 Jalan KP6 6  
Kawasan Perindustrian Balakong  
43300 Seri Kembangan, Selangor, Malaysia

Tel.: +603 8934 1393  
E-Mail: [info-asia@kraiburg-tpe.com](mailto:info-asia@kraiburg-tpe.com)

## Amerika

KRAIBURG TPE Corporation  
4365 Hamilton Mill Road  
Buford, GA 30518, USA

Tel.: +1 678 584 5020  
E-Mail: [info-america@kraiburg-tpe.com](mailto:info-america@kraiburg-tpe.com)

