Rubber-to-Metal-Parts
Injection-, Compression-, Transfermoulding
Moulded Articles
Tyres
Hoses
Conveyor Belts
Cable Sheets
Timing Belts, V-Belts
Profiles, Sealing Systems
Rubberizing of Drums
Lining
Gaskets
Sheetings
Rubberizing of Fabrics
Matting

Rubber Compounds for

Polymer-Technik
Elbe GmbH

2012
With now over 110 years tradition in the rubber industry in the Lutherstadt Wittenberg the Polymer-Technik Elbe GmbH is a driving partner in the production and worldwide commercialisation of rubber compounds for the production of technical rubber goods.

On the 01.01.1993 PTE GmbH started as successor of Gummiwerk Elbe GmbH with its business activities and continues its progress ever since well-versed and full of determination. With us you rely on a stable partner, who will support you seriously and competent for short-dated projects as well as for long-term cooperation.

We are convincing with:

- Technological know-how
- Latest mixing technology
- Efficient production processes
- Experience and innovation
- Qualified and highly motivated staff
- Products „Made in Germany“
- Customer-oriented service and tailor-made solutions
- Competitive prices
- Certification acc. to ISO TS 16949
- Environmental friendly behaviour
- Flexible reaction onto the demands of the markets

We at PTE understand the needs of our customers and offer high quality product solutions!
Today we are processing on 6 mixing lines to serve customer requirements for black and coloured compounds in our facility in Lutherstadt Wittenberg.

**PTE has disposal of any reliable mixing technology:**

- Tangential rotor technology for economic compounding, especially for final mixes
- Intermeshing rotor technology with excellent cooling behaviour for intensive dispersion and demanding tasks
- Intermeshing rotor technology with variable clearance for economic compounding of 1-pass mixes
- In-line and off-line strainers for maximum purity of mixtures with special requirements, e.g. rubberized drums, printing matrices, extrusion articles

In addition, PTE is operating a special department for the further refinement of compounds. Thereby we can – if necessary – rework and transform your compounds to meet your requirements.

With a pool of more than 2,800 recipes and over 1,300 raw materials we supply for almost the entire application range of elastomer compounds. In the PTE-own development department we generate and test rubber compounds following the specification and special needs of our customers.

Together with PTE as your innovative development partner you are able to gain competitive advantages.

**Typical Properties of Elastomers**

<table>
<thead>
<tr>
<th>Elastomers</th>
<th>Properties</th>
<th>Resistance</th>
<th>Mechanical Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural rubber</td>
<td>NR</td>
<td>-60.. + 100 70</td>
<td>Good</td>
</tr>
<tr>
<td>Styrene-butadiene rubber</td>
<td>SBR</td>
<td>-40.. + 120 90</td>
<td>Good</td>
</tr>
<tr>
<td>Ethylene-propylene rubber</td>
<td>EPDM</td>
<td>-40.. + 150 130</td>
<td>Poor</td>
</tr>
<tr>
<td>Chloroprene rubber</td>
<td>CR</td>
<td>-40.. + 150 100</td>
<td>Poor</td>
</tr>
<tr>
<td>Nitrile rubber</td>
<td>NBR</td>
<td>-40.. + 150 100</td>
<td>Poor</td>
</tr>
<tr>
<td>Butyl rubber</td>
<td>IIR</td>
<td>-40.. + 180 170</td>
<td>Poor</td>
</tr>
<tr>
<td>Epichlorohydrin rubber</td>
<td>ECO, CO</td>
<td>-40.. + 150 135</td>
<td>Moderate</td>
</tr>
<tr>
<td>Acrylic rubber</td>
<td>ACM</td>
<td>-40.. + 180 160</td>
<td>Poor</td>
</tr>
<tr>
<td>Hydrogenated nitrile rubber</td>
<td>HNBR</td>
<td>-40.. + 160 150</td>
<td>Good</td>
</tr>
<tr>
<td>Silicone rubber</td>
<td>VMQ</td>
<td>-40.. + 250 200</td>
<td>Poor</td>
</tr>
<tr>
<td>Fluor rubber</td>
<td>FKM</td>
<td>-40.. + 260 200</td>
<td>Poor</td>
</tr>
</tbody>
</table>

- Excellent
- Good
- Moderate
- Poor
PTE is committed not merely to fulfil all certification requirements, but aims at setting new standards by working consciously along all process levels. This quality can be measured.

Prior to using incoming raw materials in your compounds the quality of all materials is being evaluated in our receiving area within the scope of thorough incoming examinations.

For this PTE uses not only classical wet-chemical and titration techniques, but has also modern physical-chemical measurement methods such as thermo-gravimetics, differential scanning calorimetrics and infrared spectrometrics on hand.

Essential elements for the surveillance of our product quality are computer-aided and -controlled warehouse management, scaling, mixing and batch-off processes.

Moreover, each batch is tested according to the customer’s specification. Among the standard release tests are rheology, viscosity, hardness, density and tensile strength.

If required, we can also apply special application related tests. The results of the quality evaluation – recorded in the release test certificate 3.1 B according to EN 10 204 – are a fix element of each delivery.

Following our company philosophy these measures allow a complete traceability of all products and processes.
Being an internationally operating company PTE supplies its compounds in the desired delivery form to your global production sites. The statutory national regulations on the treatment of packaging materials are abided entirely.

Of course, you may also use your own logistic system. We support you by loading your truck at the agreed pick-up date. The effective fill rate of the transport capacities marks a further main point in the realisation of our logistics concept. Independent of the delivery form we take joint action to optimise the fill rate of your container or truck transports.

Non-standard but specially required delivery forms (e.g. cable cords) can be realised in a post-processing centre by a further process step as requested.

**Delivery Forms and Packaging**

- Wig Wag endless (also perforated) max. width 720 mm
- Sheets max. width 720 mm
- Endless strips 35 x 8 to 120 x 10
- Deviating sizes on request
- Granules Standard: 5 x 5 x 5
- Special delivery forms on request

- Euro-, one-way-, plastic pallets
- Metal boxes (also with intermediate floors)
- Plastic boxes

- One-way containers (various sizes)
- Special packaging on request

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**Service**

- One-way containers (various sizes)
- Special packaging on request

**Delivery Forms and Packaging**

- Sheets on Euro-palette, wrapped into protection foil
- Wig-Wag-sheets on Euro-palette, wrapped into protection foil
- Wig-Wag-sheets (with middle-cut) on Euro-palette, wrapped into protection foil
- Feeding strips (continuous), 35 to 120 mm, Protection-bag in wire-mesh container or cardboard-box
- Feeding strips, 40 to 120 mm, wound horizontally on trays stored in cardboard-box or wire-mesh container
- Granules in Big-Bag

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**Computer-controlled raw material storage with more than 1,300 ingredients**

Strip-preparation of endless feeding strips
Due to the strong growing demand for silica containing compounds from different industrial ranges of applications to enhance the durability of dynamical stressed parts, e.g. to improve the tread properties of latest technology tires, we currently install two new mixer lines within a specifically designed building.

These two new mixers are intermeshing machines of latest technology having a special plating and coated surface to set up the mixing aggregates more robust against the aggressive media which are released during silanisation reactions.

Beside the newest mixer technology we will for the first time, additionally to our proved mill technology, install an innovative extrusion technology within the downstream facilities to meet highest of all requirements for the production of compounds for the profile industry.

The capacity extension enhances our plant capacity from 60,000 MT to 90,000 MT per year throughput or rather from 40,000 MT to 60,000 MT per year mixing capacity and facilitates therefore the economical production of specific assortments with large quantities.

The expansion investment heightens not only the production capacity but also allows a superior arranging of the assortments in terms of quality.

FKM

Additionally to the expansion of our buildings and facilities we invested in a separate internal mixer line especially for the production of fluorine rubber compounds.

Special attention during the construction of this system was paid to the gapless traceability as well as to quickly cleanable construction parts to keep the production of frequently coloured fluorine compounds not only economical but also qualitative faultlessly.
Wuxi Elbe Polymer Technology Co. Ltd. (WPTE) is a 100 percent owned subsidiary of PTE GmbH Wittenberg and acts in a modern factory in Wuxi, Jiangsu province and is thanks to the vicinity to Shanghai – Nanjing motorway conveniently and quickly to reach.

Our motivated and well educated staff as well as the application of latest european technology ensures the steady production of high-quality products.

WPTE owns two mixer lines which allow the production of black and coloured assortments. Our compounds are supplied in different forms of delivery to meet our customers concerns. For instance wig-wag, slabs, endless strips in different dimensions or granules are possible. For compounds with highest requirements concerning purity and dispersion we have the possibility to strain online.

Integrated production control as well as computer assisted scaling and mixing technology enable the traceability of used raw materials and process parameters. With the help of the present testing technologies we can realise and certify all conventional tests.

Professional know-how, an extensive equipped laboratory and the comprehensive knowledge about local and imported raw materials set up the basis for the development of tailor-made and customer focused product solutions and the possibility to meet required standards and specifications.

Priority operation of WPTE is the satisfaction of our customers. Those we obtain with the help of highest quality during all production steps as well as efficient processes and with it the paired competitiveness. The secrecy of all customer information is strictly abided.