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Chlorinated Rubber for Corrosion Protection Coatings and Contact Adhesives

Pergut®
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As your leading partner for polyurethane chemistry, we know you are competing in increasingly challenging environments: Your customers are becoming more and more demanding in their expectations for quality, durability, sustainability and aesthetics of products. And they have more choices. For you this means that cost pressure is rising – while innovation cycles are becoming faster and faster.

Helping you to turn this challenge into your competitive advantage is the goal that drives our daily work. We call it: INVENTING FOR YOU. But what exactly are the basic values underlying this promise? What principles enable us to improve your productivity, drive sustainability, ensure reliability and co-create future-proof businesses? First and foremost, we are curious. Because only if we listen closely to you and ask the right questions, we can respond to your individual needs with new, creative and unexpected solutions that make a real difference to you. That’s why inventing for us always starts with thinking about your unmet business challenges. It requires an in-depth understanding of your needs along the whole value chain. To make sure what we invent stands the test of time. Living up to this aspiration requires more than competencies – it calls for a corporate culture of being courageous. A culture that is defined and lived by dedicated people who cooperate to push the boundaries of invention founded on knowledge and experience. Our courage permeates our entire business – from partnerships to business models. This is also reflected in our colorful business philosophy. We appreciate partnerships that go beyond traditional black-and-white ways of acting and thinking. An attitude of openness that invites you to co-create new things – rather enabling you than just providing. We are optimistic and resourceful in finding solutions that inspire our customers and partners.

This set of fundamental values adds up to an unrivaled performance orientation to constantly strive for the better, be it through big or small changes. A true sense of business regardless of function. And a deep commitment to delivering our promise everyday. Anywhere. Again and again.

INVENTING FOR YOU.
Building blocks for efficiency, supply security and sustainability

Solutions to enhance your process efficiency
Nowadays, the quality demands made on industrial processes are very high. But at the same time, there is a clear need to cut costs. Both goals can be achieved by increasing process efficiency. The complexity of the processes involved in manufacturing coatings and adhesives offers us various opportunities to enhance process efficiency. Significant process-optimizing and cost-cutting gains are possible, for example through faster curing and shorter process times. At Covestro we have a wide range of solutions designed to enhance your process efficiency. Why not take advantage of our know-how? These solutions will be good for your bottom line.

Outstanding quality and supply security – worldwide
Covestro, the world’s leading manufacturer of aliphatic and aromatic isocyanates, offers an extensive range of raw materials and services for manufacturers of coatings and adhesives. This allows the very latest technology to be used extremely effectively for a variety of applications. Thanks to its unique setup and worldwide network of state-of-the-art production sites, R&D facilities and customer technical centers, industry-leading supply chain setup, global orientation and local stocks, extremely large product portfolio, highest health, safety and environmental (HSE) standards, as well as tailored supply chain flexibility with short lead times, Covestro offers the industry unrivaled supply security and assured quality.

High coating performance – enabled by nature
Sustainability drives innovation at Covestro. We are committed to optimizing our manufacturing processes, reducing the impact of logistics, and enabling sustainability along the value chains. Renewable feedstocks offer opportunities for developing more sustainable building blocks for coatings and adhesives – with significant potential for reducing the carbon footprint of end products while also reducing our overall dependence on fossil-based resources. But to make more sustainable solutions not just possible but also economically feasible, the performance of all our feedstocks needs to satisfy high industry standards. To this end, we are evaluating the use of renewable raw materials and will enlarge our product portfolio with new bio-based and mid- to long-term cost-competitive products, provided the raw materials become commercially available. In all these efforts we are committed to focusing on products that perform at least as well as established products but are at the same time more sustainable.
Pergut® is Covestro’s trade name for a group of coating and adhesive raw materials based on chlorinated rubber. The various Pergut® grades can be put to versatile use in a broad range of applications.

As a binder in premium anti-corrosion coatings, Pergut® impressively combines good adhesion properties on numerous substrates with easy processability and high resistance qualities. Additional coating applications for Pergut® include roadway markings, printing inks, and swimming pool paint.

When Pergut® is used in solventborne contact adhesives, it increases bond strength. As an adhesive system in its own right, Pergut® can be used as a durable rubber-to-metal adhesive.

Pergut® is manufactured in Dormagen, Germany, in one of the most modern production facilities for chlorinated rubber. A special Covestro proprietary manufacturing process ensures an extremely low content of carbon tetrachloride (CCl4) in the product. With a CCl4 content of < 0.005 % pbw (≤ 50 ppm), customers are supplied with unique products that meet all global legal regulations.
As a raw material for coatings, Pergut® offers a wide range of beneficial properties that are advantageous in a wide range of applications:

**Beneficial properties:**
- Easy processing and fast drying
- Good adhesion to metals (steel, iron, zinc) and mineral substrates
- Excellent repaintability even after many years
- High corrosion resistance
- Resistant to chemicals, acids/bases, water and saline solutions
- Resistant to environmental influences
- Suitable for anti-fouling coatings
- Soluble in many solvents
- Good compatibility with numerous resins, polymers, plasticizers, pigments, and fillers
- High paint storage stability in closed containers
- One-component application
- Resistant to bacteria, mold and fungus

**Applications:**
- Solventborne, fast-drying corrosion protection coatings and floor coatings
- Suitable as a primer, intermediate coat or topcoat in indoor and outdoor applications
- Roadway markings and signal colors
- Swimming pool paint
- Printing inks

Pergut® for coatings: Simple and good
As a raw material for contact adhesives, Pergut® offers a number of useful properties that are beneficial in adhesive applications:

**Beneficial properties:**
- Easy processing
- Very high initial strength and adhesive strength
- Suitable for rubber-to-metal bonding
- Improves resistance to ozone, mineral oils, chemicals, weathering, and thermal exposure
- Leads to light-colored, phase-stable adhesives in resin-free formulations
- High chemical resistance to acids/bases and saline solutions
- Good compatibility with numerous resins, polymers, plasticizers, pigments, and fillers
- Good solubility in various solvents

**Applications:**
- Joining elastomers with metals and other materials under vulcanization conditions
- Optimizing adhesive properties in solventborne contact adhesives, e.g. in the automotive, building and DIY industries, and for bonding furniture and shoes

Pergut® for adhesives: Strong and durable
## Pergut® products to meet your needs

<table>
<thead>
<tr>
<th>Grade</th>
<th>Viscosity @ 23°C* [mPa · s]</th>
<th>Iodine Color*</th>
<th>Chlorine Content (WT. %)</th>
<th>Raw Material</th>
<th>Adhesives</th>
<th>Container Coatings</th>
<th>Road Marking</th>
<th>Swimming Pool Coatings</th>
<th>Hot Seal Coatings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pergut® S 5</td>
<td>5 ± 1.5</td>
<td>≤ 0.005</td>
<td>≤ 7 ≤ 2.5 ≥ 64.5</td>
<td>Polybutadiene</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pergut® S 10</td>
<td>11 ± 2</td>
<td>≤ 0.005</td>
<td>≤ 7 ≤ 2.5 ≥ 64.5</td>
<td>Polyisoprene</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pergut® B 10</td>
<td>10 ± 2</td>
<td>≤ 0.005</td>
<td>≤ 7 ≤ 2.5 ≥ 65.0</td>
<td>Polybutadiene</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Pergut® S 20</td>
<td>20 ± 4</td>
<td>≤ 0.005</td>
<td>≤ 7 ≤ 2.5 ≥ 64.5</td>
<td>Polyisoprene</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pergut® B 20</td>
<td>20 ± 4</td>
<td>≤ 0.005</td>
<td>≤ 7 ≤ 2.5 ≥ 65.0</td>
<td>Polyisoprene</td>
<td></td>
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<tr>
<td>Pergut® S 40</td>
<td>42 ± 9</td>
<td>≤ 0.005</td>
<td>≤ 7 ≤ 2.5 ≥ 64.5</td>
<td>Polyisoprene</td>
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<td>Pergut® S 90</td>
<td>92 ± 18</td>
<td>≤ 0.005</td>
<td>≤ 7 ≤ 2.5 ≥ 64.5</td>
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<tr>
<td>Pergut® S 130</td>
<td>150 ± 30</td>
<td>≤ 0.005</td>
<td>≤ 7 ≤ 2.5 ≥ 64.5</td>
<td>Natural rubber</td>
<td></td>
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<tr>
<td>Pergut® S 170</td>
<td>165 ± 35</td>
<td>≤ 0.005</td>
<td>≤ 7 ≤ 2.5 ≥ 64.5</td>
<td>Polyisoprene</td>
<td></td>
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* Viscosity and iodine color measured in 18.5 % solution in Toluene

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**Fast-lane access to polyurethane innovations**

At Covestro innovation is in our DNA. Ever since Otto Bayer discovered polyurethanes in 1937, we have been driving polyurethane innovations in coatings and adhesives as well as in other application areas. As our partner you enjoy fast-lane access to polyurethane innovations, and can help us in developing the next generation of polyurethanes to meet the industry’s upcoming challenges and needs. What can we offer you?

- Powerful know-how on both established and new polyisocyanates, as well as on new polyurethane hybrid technologies.
- The prospect of new application technologies to enable efficient processes.
- More sustainable, biomass- or CO₂-based materials that do not sacrifice high performance.

Join us to shape the future!