Heraeus Chemicals provides catalysts, cathode and anode, to enhance the PEM electrolyzer performance.

- Energy transformation at power excess from renewables
- Hydrogen as the fuel of the future: PEM water electrolysis as highly flexible and efficient tool
- Oxygen evolution catalyst: The challenging task in water splitting

![Cathode PEM Anode](image)

**PLATINUM BLACK**
- high catalytic performance
- high metal purity
- nanoparticle cluster

**IRIDIUM BLACK**
- high catalytic performance
- high metal purity
- sponge-like morphology

**IRIDIUM(IV) OXIDE**
- high catalytic performance
- high active surface area
- nanoparticle network

<table>
<thead>
<tr>
<th>Property</th>
<th>PLATINUM BLACK</th>
<th>IRIDIUM BLACK</th>
<th>IRIDIUM(IV) OXIDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific Surface Area, m²/g</td>
<td>20 - 35</td>
<td>21 - 25</td>
<td>150 - 180</td>
</tr>
<tr>
<td>Metal Content, wt.%</td>
<td>min. 97</td>
<td>min. 98</td>
<td>85.4 - 85.9</td>
</tr>
<tr>
<td>Particle Size Distribution (D50), µm</td>
<td>10 - 15</td>
<td>15 - 21</td>
<td>0.003 - 0.004</td>
</tr>
</tbody>
</table>

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