CABOT
GOLD MINING
RECOVERING GOLD

To produce mere ounces of gold, thousands of tons of ore must be mined, crushed, roasted, ground, treated, pulped and leached. Activated carbon plays a key role in capturing the gold from the mine. In a mine, any gold that is not adsorbed by activated carbon will be lost. In order to ensure the highest possible gold yield, selection of the right activated carbon product is crucial. With our focus on quality, minimal fines formation, reliability and services we can make a difference when it comes to maximizing gold recovery in mines and in your gold circuits.

We have been supplying gold mines with top quality activated carbon for decades. Our technical expertise in activated carbon and our long time presence in this market has helped us to develop an impressive and diverse activated carbon product portfolio for the mining industry.

In order to help our customers get the best possible performance from our products, we also provide customized services including:

- Logistical service
- Analytical service
- Technical application support
- Field service visits
- System audits
- Process optimization support
- On-site carbon applications training
- Samples for testing and analysis

Our products

Our product portfolio consists of two product lines that can be used in Carbon in Pulp (CIP), Carbon in Leach (CIL) or Carbon in Column (CIC) gold recovery systems:

Benefits of our NORIT® RO 3515 & NORIT RO 3520 activated carbons
- Increased gold yield
- Superior gold loading capacity
- Low attrition losses due to ultra-high hardness
- Maximum fines formation specified
- Extruded activated carbon
- 1.5 and 2.0 mm diameter

Benefits of our NORIT GCN 612 G & NORIT GCN 816 G activated carbons
- High gold loading capacity
- Reduced platelet’s content due to pre-treatment
- Low pre-condition losses due to high hardness
- Granular activated carbon (coconut shell based)

In addition to maintaining a high gold adsorption capacity, gold recovery carbons should be resistant to the highly abrasive conditions in gold recovery systems. This resistance enables the minimization of activated carbon fines formation, which is important to the process. Low fines production not only keeps carbon consumption as low as possible, but more importantly results in lower gold losses, as once carbon fines are generated they will adsorb gold quickly and leave the systems to the tails with the gold attached.
Typical characteristics of NORIT activated carbons for gold recovery

<table>
<thead>
<tr>
<th></th>
<th>Unit</th>
<th>NORIT RO 3515 activated carbon</th>
<th>NORIT RO 3520 activated carbon</th>
<th>NORIT GCN (coconut shell based) activated carbons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abrasion index</td>
<td>mg fines/minute</td>
<td>Max. 5</td>
<td>Max. 5</td>
<td>10-15</td>
</tr>
<tr>
<td>Particle size</td>
<td>98% &gt;1.4 mm diameter</td>
<td>98% &gt;1.7 mm diameter</td>
<td>6x12 mesh 8x16 mesh</td>
<td></td>
</tr>
<tr>
<td>Pre-conditioning losses</td>
<td>Mass %</td>
<td>&lt;1%</td>
<td>&lt;1%</td>
<td>2-5%</td>
</tr>
<tr>
<td>Gold adsorption capacity (K-value)</td>
<td>g/kg</td>
<td>55</td>
<td>55</td>
<td>40</td>
</tr>
<tr>
<td>Relative rate of adsorption</td>
<td>% of reference</td>
<td>100</td>
<td>80</td>
<td>6x12: 90 8x16: 110</td>
</tr>
</tbody>
</table>

In depth test methods available upon request

For more explanation we refer to our Technical Bulletin no. 166 "The importance of attrition resistant activated carbon for gold recovery".

**Higher yields**
The University of Delft in the Netherlands performed a study to determine to what extent activated carbon fines in the tails of a running gold mine are loaded with gold. The fines in this study contained on average around 3000 ppm of gold, with loadings up to 4000 ppm, clearly demonstrating the importance of the reduction of fines formation to maximize gold yield.

We use an abrasion index test, measuring fines formed per minute. Our products exhibit ultra-low fines formation, which ultimately results in improved gold yield.

**Beyond gold recovery**
We supply activated carbon for a variety of mining applications:
- Wastewater treatment
- Drinking water purification
- Metal processing
  - Removal of flotation reagents
  - Treatment for ion exchange resin protection or solvent extraction
- Removal of mercury from gas flows
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Our sales, technical service and customer service teams are prepared to serve customers around the world. Contact us at cabotcorp.com/activatedcarboncontact

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