# Steel Slag – Electric Arc Furnace Slag

## Measures to influence the quality of slags

<table>
<thead>
<tr>
<th>Process stage</th>
<th>Measures to influence the quality</th>
<th>Influenced properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw material preparing</td>
<td>selection, arrangement and pre-treatment of raw materials relating to the chemical comp. of the EAF slag</td>
<td>chemical composition e.g. CaO, SiO₂, P₂O₅, FeOₓ, MgO, trace elements</td>
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<tr>
<td>Melting process</td>
<td>selection of appropriate process conditions (O₂, lime addition and quality of scrap), reduction step before tapping</td>
<td>temperature, composition of products (e.g. FeO, MgO&lt;sub&gt;free&lt;/sub&gt;) volume stability</td>
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<tr>
<td>Heat treatment</td>
<td>slow cooling</td>
<td>structure, porosity, strength, grain size distribution</td>
</tr>
<tr>
<td>Processing</td>
<td>crushing, sieving, grading</td>
<td>grain size, shape, grain size distribution</td>
</tr>
</tbody>
</table>

- lime, additions
- scrap
- electric energy

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Liquid electric arc furnace slag

- **electric arc furnace process**
- crude steel

- **air-cooling**
  - Slow air-cooling to produce crystalline materials with maximum sizes of 300 mm
  - weathering to achieve a satisfying volume stability
  - crushing, sieving, grading due to the application as aggregates for road construction and hydraulic structures

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1) All process stages are subjected to a continuous production control like sampling, physical/chemical analysis and testing

* EAF C in case of carbon steel production
  EAF S in case of stainless steel production

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**EUROSLAG**