

## Smelter Operations, Controlling electrical operation of the furnace to smelt the burden efficiently

**Introduction:** Understand basic electrical principles and advanced electrical formulas and apply basic electrical formulas for furnace power consumption

**SAQA unit standard ID number – 259697**

<p><b>Target group:</b></p> <p>All relevant production employees, artisans, or, as required per production needs, without previous certification</p>	<p><b>Certification:</b></p> <ul style="list-style-type: none"> <li>▪ Theoretical assessments = 80% pass rate</li> <li>▪ Practical assessments = Competent or Not Yet Competent</li> <li>▪ 2 re-writes allowed per module</li> </ul>	<p><b>Duration:</b></p> <p>15 Days</p>
<p><b>Entry Level Requirements:</b></p> <ul style="list-style-type: none"> <li>▪ Minimum Literacy and Numeracy ABET 4 or NQF 2 or RPL, Grade 9</li> </ul>	<p><b>If competent a competence certificate will be issued</b></p>	

### COURSE OUTLINE

<ul style="list-style-type: none"> <li>▪ Safety Steps and Risk Assessment</li> <li>▪ The hazards and risks associated, pertaining to OHS Act, 1993 and General Machinery regulations</li> <li>▪ Electrocutation and burns</li> <li>▪ Legislation</li> <li>▪ Basic electrical principles</li> <li>▪ Alternating current (AC)</li> <li>▪ How the ARC furnace power transformer works</li> <li>▪ Complex AC circuits in ARC furnace</li> <li>▪ Instrumentation</li> <li>▪ Controlling the electrical operation of the furnace</li> <li>▪ Starting up and warm up a cold furnace</li> <li>▪ Baking paste electrodes</li> <li>▪ Controlling normal electrical operations</li> <li>▪ Safe working procedures</li> <li>▪ Actions to be taken should sub standard conditions and problems occur</li> </ul>	<p><b>Duration:</b></p> <p>15 Days</p>
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