BLAKLEY ELECTRICS

CASE STUDY
DATA SHEET

Power Cubes for Blast Furnace Refurbishment

When the UK's leading steel producer was planning the refurbishment of a major blast furnace, the requirement was identified for high concentrations of 400V and 110V power across the worksite, to supply welders, power tools and temporary lighting. Following discussions with the Blakley Projects Team, three types of multi-voltage distribution assembly were developed for the project.

The design brief for all three assemblies was simple:

- robust, IP65, stainless steel enclosure with lifting / fork lifting facilities
- a single 400V 3 wire incoming supply
- 63A switched and interlocked 400V sockets with individual MCB / RCD protection
- integral 400:110V transformer to provide RLV supplies
- 16A and 32A 110V sockets with individual MCB / RCD protection

Although the design brief was straightforward, the scale of the power requirements was challenging: incoming supplies rated up to 630A; transformers rated up to 60 kVA; up to 12 no. 63A 400V interlocked sockets and 24 no. 110V sockets to be accommodated. The resulting assemblies weighed-in at up to 620kgs each and the different facets of the requirements presented a variety of challenges to the Blakley Design and Manufacturing Teams.

In order to make the units as compact as possible, it was agreed that a "cube" design was the best option, with equipment fitted to all four sides of the enclosures. The use of panel mounted 63A interlocked sockets not only improved the aesthetic appearance of the assemblies but also helped to minimise the footprint and reduce the likelihood of physical damage to the sockets (traditional 63A interlocked sockets are surface mounting and vulnerable to physical damage).

Due to the environment, enclosures were fabricated from stainless steel with a natural finish (unpainted). Lifting eyes were certified and the associated bracketry was based on our type tested lifting arrangement, which has a certified safe working load of 1500kgs.

Smaller assemblies were supplied on stands but it was decided to keep the centre of gravity as low as possible on the larger units and these enclosures feature a heavy duty channel base.

If you have a possible requirement for a similar assembly please contact the Blakley Projects Team who will be delighted to discuss your requirements.

Power Cube Type 3 with integral 60 kVA transformer

Power Cube Type 2 with integral 32kVA transformer

Experts in **high performance** power and lighting products
E: sales@blakley.co.uk W: www.blakley.co.uk

South: 1 Thomas Road, Optima Park, Crayford, Kent DA1 4QX T: 0333 188 0284
North: Suite 38, Pure Offices, Turnberry Park Road, Morley, Leeds LS27 7LE T: 0333 188 0285