

Tarapaca, Chile

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The implementation consisted of six sets of switchboards, each consisting of two switchboards to power the stator and rotor of a mill on the premises of one of the largest open-pit copper ore mines in the world. This is not our first implementation of this type - so far we have delivered over 50 such sets to customers from all over the world.

IMPLEMENTATION DATE: JUNE 2019

Our designers used Autodesk Inventor software to complete the overall design of the enclosures. Production took place in-house at the Radiolex facility in Gdańsk. By using TripleShield technology, the housing has achieved a high corrosion class, which allows it to operate uninterrupted in difficult atmospheric conditions for a long period of time. The structure is made in two different paint colors: inside it is RAL9005, outside it is RAL2010. The enclosures are equipped with pressure safety flaps in the roof, whose task will be to direct the generated energy and hot gases in a direction that is safe for the operator in the event of an arc fault.

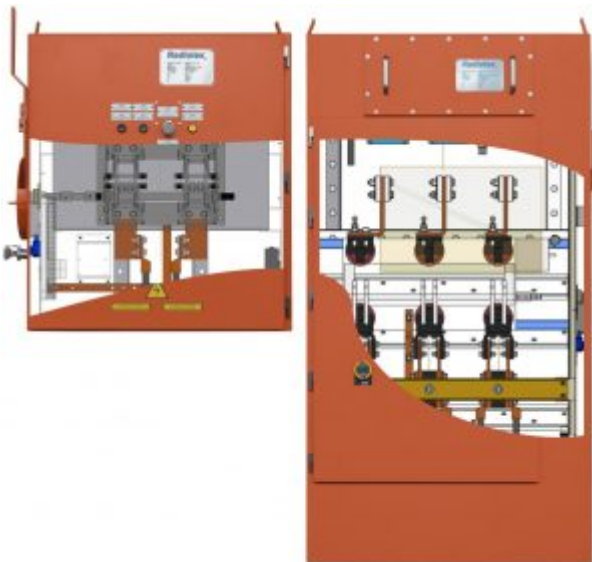


Fig 1. Set of switchboards for powering the mill – a photo of the actual construction and a shot of the interior from the Inventor program

The prefabrication department was responsible for extending the bus bridge from the disconnecter outside the housing, which would allow the rails to be connected to the windings of the engine driving the mill in the mine. The housing is equipped with internal lighting, voltage indication, heater and numerous locks preventing opening of the disconnecter under load. The infrared windows used enable control of the main current path with a thermal imaging camera while the device is operating.

		Rozdzielnica SN ZASILENIE STOJANA	Rozdzielnica rN ZASILENIE WIRNIKA
Un	[V]	12000	1000
In	[A]	3150	1000
f	[Hz]	0-7	DC
IP	[-]	IP58	IP58
IK	[-]	IK10	IK10

Un – rated voltage,

In – rated current,

f – frequency,

IP – the degree of protection provided by the housing against the ingress of liquids and solids

IK – mechanical strength classification.

Table 1. Electrical parameters of switchboards

Before being placed on site, this series of products was type tested in accordance with the PN-EN 62271-200 standard in the laboratory of the Institute of Electrical Engineering in Warsaw. The tests included, among others: checking the short-time withstand and peak withstand currents, insulation tests, checking the IP and IK protection levels, and the rated current was determined on the basis of temperature rise tests.

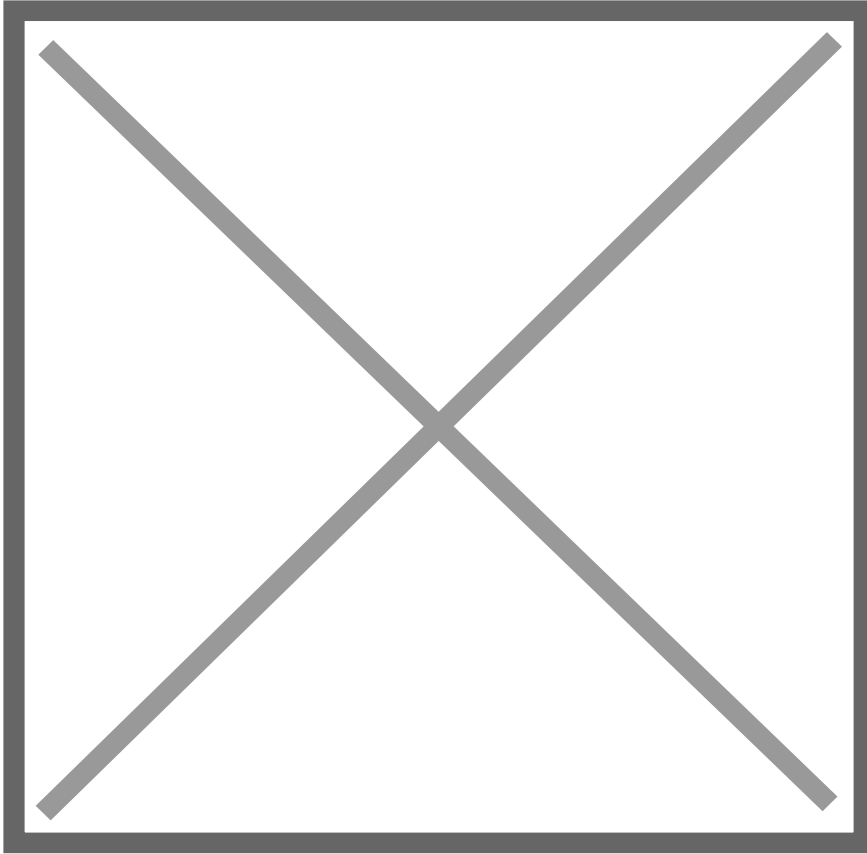


Fig 2. Photo taken during tests at the Electrical Engineering Institute in Warsaw

GALERIA PRODUKTU WRAZ Z PRZYKŁADOWYMI REALIZACJAMI





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