Pure competence in air.

THE MOST CLIMATE NEUTRAL SOLUTION FOR 700 METRE DEEP MINE SHAFT WITH NOVENCO® ZERAX® FAN

MINE WITH A MISSION

GTS Grube Teutschenthal Sicherungs GmbH & Co. KG, a subsidiary of the Geiger Group, in Sachsen Anhalt is one of the most modern mines of its kind in the whole of Europe. Potash and rock salt were mined in this mine until 1982.

Today, mineral waste materials are brought into the former salt mine to secure the underground cavities. For this purpose, more than 200,000 tons of mineral waste materials are stored every year at a depth of approx. 700 metres. By using the cavities for the environmentally friendly and long-term safe disposal of mineral waste from municipal and industrial plants, the backfill mine makes a significant and sustainable contribution to environmental protection.

IMPLEMENTING THE LATEST TECHNOLOGY

For the latest renovation project at the backfill mine, carried out to improve ventilation systems under the ground, the main contractor Jeremias® Chimney Systems has delivered a specially designed and 36 m tall chimney together with all steel construction and ductworks.

With focus on a sustainable green solution for the project, the NOVENCO® ZerAx® axial flow fan was approved as an obvious choice for the Teutschenthal mine owners. The highly efficient and in 98% recyclable fan contributed considerably to the achievement of a state subsidy for the project.

The ZerAx fan, in size Ø2 m, is combined with an IE5 class Nidec PM motor type Dyneo+ and a Danfoss VLT frequency converter, which gives the unique configuration of the latest EC+ fan technology.

This highest possible system efficiency is a green solution that goes beyond the requirements of today.

Highly efficient NOVENCO® ZerAx® axial fan

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jeremias ABGASTECHNIK

EC+ Danfoss

Building & Industry

NOVENCO

SCHAKO Group

THE HIGHEST ENERGY EFFICIENCY IN COMPACTNESS WITH NOVENCO® ZERAX® FANS

FACTS

- LATEST EC+ TECHNOLOGY
- PM MOTOR TECHNOLOGY
- ENERGY SAVINGS
- HIGHEST SYSTEM EFFICIENCY
- INNOVATIVE FAN DESIGN

THE GREENEST WATT IS THE ONE NEVER PRODUCED

For the GTS chimney, the ZerAx fan with efficiency up to 92% is combined with an IE5 class Nidec PM motor and a Danfoss VLT frequency converter.

The motor power is 220 kW. In a direct comparison to traditional IE3 motors of 220 kW, the weight-saving is approx. half a ton.

Also worth mentioning is that traditional 4-pole AC motors of the same physical dimensions only have a maximum power of 132 kW.

The implementation of this solution proves that synchronous EC+ technology can accommodate energy performance with a reduced environmental footprint in the form of less kWh.

Less kWh consumed, fewer raw materials used and lower CO_2 emissions. Combined with the ZerAx fan efficiency of up to 92%, 98% recyclability rate and 20+ years of lifetime this solution is of great benefit to the environment for many years to come.

20+ years lifetime solution with NOVENCO® ZerAx® fan

ZerAx® fan being installed

View on the new ventilation system from above

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