

VENTSET™

COOL, PRODUCTIVE AND SAFE ENVIRONMENT



CONCEPT

The Ventset™ system comprises of cellular concrete (Cellcon™), pumped into retaining polypropylene paddock wall structures, which are constructed in the stoping or development environment to improve ventilation flow and reduce thermal loading of the ventilation air.

Previously mined-out areas are effectively hermetically sealed, thereby restricting the flow of heat into the passing ventilation.

FEATURES

- The Ventset™ system can utilise either pre bagged material or grout from an existing surface plant
- A mix design is specially tailored to suit the grout plant mix and the ventilation system
- The grout is transported to the underground workings via the mine's grout ranges
- A customised in-line foam generator and pump, situated in the stoping environment, converts the grout into cellular concrete
- This low density cellular concrete, called Cellcon™, is pumped into a 100mm wide polypropylene paddock wall
- Cellcon™ is a low density product (400 to 1200 kg/m³) with excellent thermal insulating properties - the aeration of the grout can reduce the volume of pumped grout by 40%
- Cellcon™ sets into a >1MPa strength concrete after 7 days to form permanent 100mm wide ventilation paddock walls
- The density and strength is inter related and can be modified to meet the individual mine's requirements



DURASET

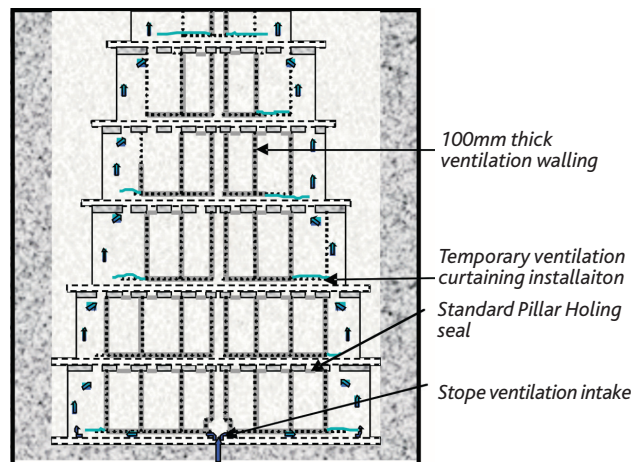
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BENEFITS

- Ventset™ utilises the mine's current grout plant and ranges
- Reduces the pumped volume of grout
- Eliminates free water in the stoping environment, thereby reducing water pumping
- Provides permanent ventilation walls, which can withstand a blast at 12m from the face
- Improves ventilation flow in the working environment
- Reduces the ambient temperature in the working environment
- Reduces energy consumption from the mine's cooling plant and equipment
- Safer and healthier environment by sealing off the worked out back areas
- Maintains sweeping and vamping up to date in the back areas
- Productivity improvements due to better working conditions
- Optimises shaft time

LAYOUT

- Ventset™ provides permanent ventilation walls that are constructed on dip and strike to ensure the intake air is maintained on the working areas
- Can be used with temporary ventilation curtains
- Provide holing seals of the yield support pillars
- Integrates with the mining, cleaning and support activities
- Installed as close as 12m from the face



INSTALLATION

- Duraset provides trained contractors who install the Ventset™ system:
 - Providing specially trained operators
 - Supplying the paddock materials
 - Constructing the ventilation paddock walling
 - Filling of the ventilation walls with Cellcon™ in compliance with the mine's production and services departments
- Ensures that all working areas are kept up to date therefore managing the mine's ventilation control systems within the production demands.

ADDITIONAL APPLICATIONS

- Cellcon™ can be used as a void fill to stabilise cavities after falls of ground
- Ventset™ principle can be used as support for strata control known as Strataset™, where it can be pumped into appropriately sized dip and strike retaining polypropylene paddock bag structures.

SABS
ISO 9001

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