MST
MINING SYSTEMS & TECHNOLOGIES

Dry reinforced mix for the construction of isolating, including explosion-proof, curtain walls

SBR-wall

PURPOSE

The dry reinforced mix SBR-wall is intended for making curtain walls in order to insulate unused mine workings and mined-out spaces in coal mines.

The dry reinforced mix SBR-wall is used for the construction of ventilation, water and pulp-proof, explosion-proof and dynamically stable isolating curtain walls. The dry reinforced mix SBRwall allows construction both cut and no-cut curtain walls.

The dry reinforced mix SBR-wall can be used for making jackets adjacent to the curtain wall, non-combustible lining, grouting of weakened mine workings , as well as isolating coal beds from contact with the mine atmosphere, prevention of leaks and air leakage through cracks in coal pillars.

COMPOSITION

The dry reinforced mix for the construction of isolating, including explosion-proof, curtain walls SBR-wall is a polymer-mineral fine-grain mix obtained through intensive mixing of graded sand, high-grade Portland cement and a set of modifying additives, ensuring durability, high rate of gaining early strength and waterproofing.

Key benefits

- **High compressive and bending strength**
- **Durable**
- **Enables quick construction of a curtain wall**

Technical description

REQUIREMENTS FOR WORKS DURING THE CONSTRUCTION OF CURTAIN WALLS

Construction of isolating curtain walls using the dry reinforced mix SBRwall must be carried out in accordance with the “Instruction for the isolation of unused mine workings and mined-out spaces in coal mines”, approved by order of the Federal Service for Environmental, Technological, and Nuclear Oversight No.530 dated 28.10.2014 and the “Instruction for the construction and repair of isolating and explosion-proof curtain walls using the “Dry reinforced mix for the construction of isolating curtain walls SBR-wall”.

METHOD OF MORTAR PREPARATION AND APPLICATION

Before applying the mortar, make the rear wall as formwork (plywood, fiberboard, chipboard). After that, the mortar is applied using the shotcreting equipment for dry or wet shotcreting.

When using equipment for dry shotcreting, type A dry reinforced mix SBR-wall is applied, for wet shotcreting - type B dry reinforced mix SBR-wall. The mortar is applied continuously until full completion.

Working surface, ambient air and gauged water temperature must be at least +5ºC and no more than 30ºC.

Works of preparation and application of shotcrete mixes must be performed in accordance with the requirements of the document titled the Instruction for the construction and repair of isolating and explosion-proof curtain walls using the “Dry reinforced mix SBR-wall”.

The rebound accumulated on the soil of the mine working is periodically mixed with a jet of shotcrete or eliminated.

DRY MIX CONSUMPTION

Dry mix consumption depends on the type of work performed. Preparation of 1 cubic meter of solution requires 1700-1800 kg of dry mix. The mix rebound is less than 5%.

SPECIFICATIONS

Binding base	Portland cement
Aggregate	sand
Fraction of aggregate	up to 3.2 mm
Fiber length	6-12 mm
Water consumption for preparation	0.18-0.2 liters per 1 kg of mixture
Surface and ambient temperature	at least +5ºC
Temperature of gauged water	from +5ºC to +30ºC
Compressive strength: at the age of 3 days at the age of 28 days	at least 25 MPa at least 40 MPa
Bending strength: at the age of 3 days at the age of 28 days	at least 7.5 MPa at least 10 MPa
Adhesion with coal and rock at the age of 28 days	at least 1.5 MPa
Waterproofing	W10...W12
Air tightness	0,0422-0,0641 м³/с •
Minimum hose length	not limited
Maximum hose length	according to the certification data of the shotcreting equipment

SAFETY RULES

The material does not contain toxic components. When performing work, use special personal protective equipment (overalls, gloves, protective mask and goggles).

PACKAGE TYPE

Comes in bags with polyethylene liner weighing 25 kg (±0.5 kg), put into big bags with polyethylene liner, 1000 kg each.

SHELF LIFE

Store the construction mix in a dry place with relative humidity of up to 60%, temperature from –50 to +50ºC. Shelf life in the manufacturer’s packaging is 12 months from the date of manufacture.

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