



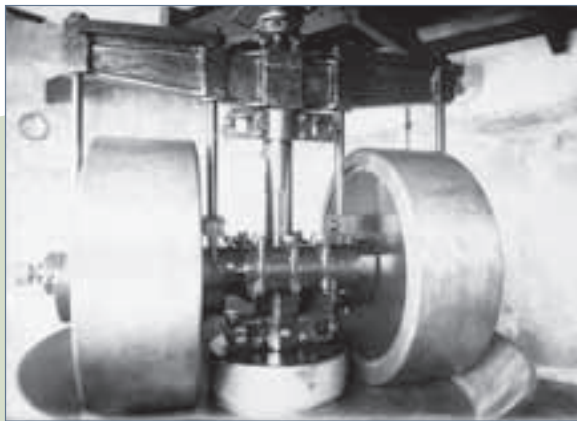
EXPLOSION



EXPLOSIVES



History



Explosia a.s.

Explosia a.s. is the traditional and most important Czech manufacturer of explosives with a history dating to 1920, when „Československá akciová továrna na látky výbušné“ (Czechoslovak joint-stock company for the production of explosive substances) was founded in Semtín, near Pardubice. The history of the name Explosia a.s. dates back to 1934 (until 1946) and the tradition was renewed in 1998.

Explosia a.s. is 100% in the ownership of the Czech Republic; it is an independent commercial company with a significant position on the market of industrial explosives in the Czech Republic.

Explosia a.s. is an internationally famous and important manufacturer of industrial explosives exported to a number of countries in the European Union and outside it.

Explosia a.s. has available production and storage capacities serviced by qualified personnel, which makes it possible to offer a complete line of industrial explosives and igniters for all spheres of surface and underground applications carried out by mining companies or companies providing blasting services. As a matter of fact, explosives can be delivered directly to the firing site and mixing and loading vehicles can be operated.

In the past, **Explosia a.s.** has focused distinctively and successfully on providing comprehensive services of drilling and blasting works, primarily during the surface mining of aggregates. FOSPOL a.s. gradually took over these services as a specialized daughter company of Explosia a.s., which is its 100 % owner.

Research and development in the field of explosives – special products

The Research Institute for Industrial Chemistry (VÚPCH), founded in 1954 is the part of Explosia a.s. This institute ensures research and development in the field of explosives and ammunition not only for Explosia a.s., but also for other partners within the Czech Republic and abroad. Apart from research and development, whose results are intended both for industrial applications and the military sphere, VÚPCH offers services in the field of analytical chemistry, testing and safety engineering for explosives and ammunition, small tonnage production of new energy materials and special explosives and the production of pyrotechnic components for aircraft rescue systems.

Quality control management



The quality control system was introduced in the company in 1998 in the extent corresponding to the ISO 9001 standard. Since 2003, after successfully passing the re-certification audit, Explosia a.s. has been the holder of the Certificate according to system standard EN ISO 9001:2000 standard and since 2004, the holder of a Certificate of quality system conformity with the AQAP 2110 requirements. Another recertification audit in accordance with the ISO 9001 standard proceeded successfully in 2006.



Industrial explosives – products and services

Explosives for opencast mining

are industrial explosives intended exclusively for works on surface workplaces. These explosives are usually supplied in explosive charges of a large diameter packaged in polyethylene, but opencast explosives can also be made and supplied by means of surface trucks. An initiating charge of a brisance explosive is usually used for initiation. If these explosives are in cartridges, they are denoted by their yellow colour.

Explosives for underground mining

are industrial explosives also intended for underground use, namely in environments without the danger of explosions of gases, vapours or dust. Explosives for underground mining are supplied in paper cartridges, in charges packaged in polyethylene or in volume packaging. These explosives are denoted by their red colour.

Permissible explosives (Permitted Explosives)

are industrial explosives intended for mines with a different measure of danger of the incidence of explosive mixtures of firedamps and coal dust with air. They are supplied in paper cartridges. These explosives are designated by colours depending on their classification from the point of view of the safety in mines. Safe underground explosives of category II are denoted by their green colour, explosives of category I by their white colour.

Explosives for special use

are intended for use, for example, during blasting works under pressure, under water, during geoseismic surveys and for destruction and other special works. Some of these explosives are used as initiating charges.

Black powders

are a mixture of potassium nitrate, sulphur and charcoal. They are used as powders for blasting, timing, pyrotechnical purposes, in hunting ammunition and for firing from vintage firearms.

STARTLINE detonating cords

are igniters charged with high explosive penthrite. They are used primarily for ensuring the transmission of detonation.

Mixing and pump trucks

are a modern means of blasting technique that transport inexplosive components or mixtures thereof to the consumption site, where they prepare the explosive by mixing and sensitizing it and charging it into the shot-holes at the same time.

Drilling and blasting services

are all the services necessary for the preparation and carrying out of blasting and are provided with various degrees of complexity. They consist primarily of drilling works, supplies of explosives and initiators to the blasting sites, blast master works and providing blasters, including the charging service, loading and transportation.



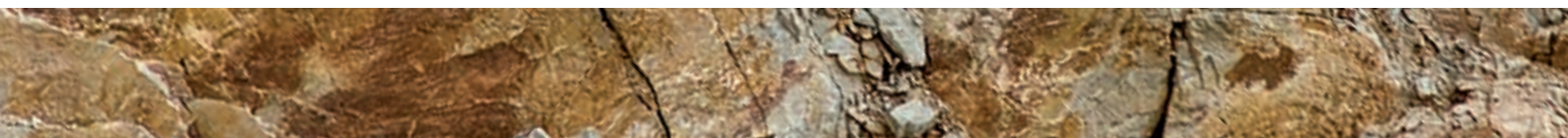
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Opencast explosives



PERMON® IOT

The PERMON® IOT opencast explosive is a bulk ammonium nitrate explosive containing TNT. The classical method of its production by wheel mill technology guarantees perfect homogenization of the components and thus also the high and stable quality of the explosive.

It is used for blasting works on surfaces in a dry environment. It can be used particularly in soft and medium hard rocks. It is supplied in cartridges and in bulk. It does not contain carcinogenic DNT.



PARAMETER	Unit of measure	PERMON® IOT
Explosion heat	kJ/kg	4 079
Gas volume	dm ³ /kg	928
Temperature of explosion	°C	2 749
Oxygen balance	% O ₂	+ 0,17
Velocity of detonation (in 65 mm, non confined)	m/s	4 000
Velocity of detonation in the borehole (in 95 mm, usual value)	m/s	4 100
Brisance according to Hess	mm	15
Trauzl test	cm ³	400
Relative working ability	%	89
Transmission of detonation (in 30 mm, non confined)	cm	4
Transmission of detonation (in 65 mm, non confined)	cm	2
Bulk density	kg/m ³	min. 800
Density in the cartridge	kg/m ³	1 050
Firing	–	detonator No. 8
Water resistance (large diameter cartridges)	–	does not resist water
Smallest permitted diameter	mm	30
Shelf life	month	6

Packaging	PERMON® IOT				
	30	65	75	90	PE bags
Diameter [mm]	30	65	75	90	PE bags
Mass [g]	100	2 000	2 500	3 400	25 000
Length [mm]	135	585	585	585	–
Net weight [kg] / box	25	24	25	23,8	–

Small diameter cartridges (30 mm) are packaged in waxed paper.

Large diameter cartridges are packaged in a PE hose.



Emsit® 20 from the pump truck

The EMSIT® 20 opencast explosive prepared by the mixing and pump truck is an explosive of a modern emulsion type with a high detonation velocity and excellent resistance to water. The explosive is prepared at the consumption site.

It is used as a powerful explosive particularly during blasting works, where wet or saturated blast holes occur or where the character of the material broken loose requires the use of powerful explosives. The explosive is charged into shot-holes provided with a detonator — an explosive cartridge with the detonation velocity of at least 6,000 m/s (for example, INFERNIT® 45, PERUNIT® E or SEMTEX® IA).

PARAMETER	Unit of measure	EMSIT® 20 from the pump truck
Explosion heat	kJ/kg	2 800
Gas volume	dm ³ /kg	800
Temperature of explosion	°C	1 800
Oxygen balance	% O ₂	+ 0,5
Velocity of detonation (in 65 mm, non confined)	m/s	4 800
Velocity of detonation in the borehole (in 95 mm, usual value)	m/s	5 600
Density	kg/m ³	1 050 – 1 150
Water resistance	–	24 hrs/0,2 MPa
Smallest permitted diameter	mm	70

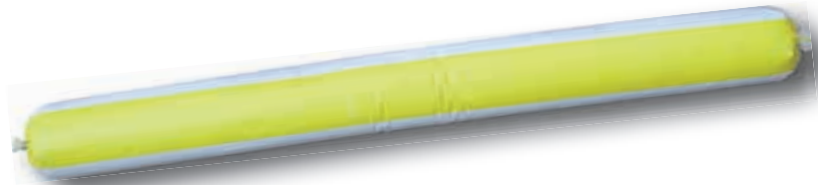




The EMSIT® V opencast explosive EMSIT® 20 is an explosive of a modern emulsion type with a high detonation velocity and outstanding resistance to water. The explosive is packaged by a modern cartridge machine into a thermally and mechanically resistant foil with a high strength weld.

It is used in large diameters as an efficient explosive during blasting works, where wet or saturated blast holes occur.

Contrary to the EMSI® M explosive, EMSIT® V has a stiffer consistency. It is necessary to use an initiating explosive charge for detonation with a velocity of detonation of at least 6,000 m/s.



PARAMETER	Unit of measure	EMSIT® V
Explosion heat	kJ/kg	2 800
Gas volume	dm ³ /kg	800
Temperature of explosion	°C	1 800
Oxygen balance	% O ₂	+ 0,5
Velocity of detonation (in 65 mm, non confined)	m/s	5 300
Transmission of detonation (in 50 mm, non confined)	cm	2
Density	kg/m ³	min. 1 150
Firing	–	booster min. 500 g
Water resistance	–	24 hrs/0,2 MPa
Smallest permitted diameter	mm	50
Shelf life	month	12

Packaging	EMSIT V			
Diameter [mm]	50	65	75	90
Mass [g]	1 250	2 500	2 500	3 000
Length [mm]	approximately 560	approximately 600	approximately 460	approximately 400
Net weight [kg] / box	25	25	20	24

Note: The lengths of the charges are variable, depending on the density of the emulsion matrix.





Explosives for underground mining



PERMON[®] DAP M

PERMON[®] DAP M, an explosive for underground mining, is a bulk explosive of the DAP (ANFO) type.

It is used for surface and underground blasting works in an unexplosive and dry environment. It is usually supplied in bulk and is intended for gravitational and mechanical charging.



PARAMETER	Unit of measure	PERMON [®] DAP M
Explosion heat	kJ/kg	3 700
Gas volume	dm ³ /kg	970
Temperature of explosion	°C	2 400
Oxygen balance	% O ₂	+ 0,3
Detonation speed (in 43 mm, steel pipe)	m/s	min. 3 000
Velocity of detonation in the borehole (in 95 mm, usual value)	m/s	4 000
Bulk density	kg/m ³	min. 650
Firing – borehole max. 60 mm mechanically	–	booster min. 100g
– in bulk and above 60 mm	–	booster min. 250g
Water resistance	–	does not resist water
Smallest permitted diameter	mm	43
Shelf life	month	6

Packaging	PERMON [®] DAP M	
Kind of packaging	PE bag	Big – bag
Mass [kg]	25	500



Permonex® V 19

The underground mining explosive PERMONEX® V 19 is a bulk ammonium nitrate explosive containing TNT. The classical method of its production by wheel mill technology guarantees perfect homogenization of its components and thus also the high and stable quality of the explosive.

It is used for surface and underground blasting works in an unexplosive environment. It is supplied in cartridges and in bulk. It is used for blasting works in a wet environment and under water. It does not contain carcinogenic DNT.



PARAMETER	Unit of measure	PERMONEX® V 19
Explosion heat	kJ/kg	4 242
Gas volume	dm ³ /kg	903
Temperature of explosion	°C	2 900
Oxygen balance	% O ₂	+ 1,6
Velocity of detonation (in 65 mm, non confined)	m/s	4 400
Velocity of detonation in the borehole (in 95 mm, usual value)	m/s	4 600
Brisance according to Hess	mm	18
Trauzl test	cm ³	400
Relative working ability	%	91
Transmission of detonation (in 28 mm, non confined)	cm	4
Density in the cartridge	kg/m ³	1 050
Firing	–	detonator No. 8
Water resistance	–	2 hrs/0,3 MPa
Smallest permitted diameter	mm	28
Shelf life	month	6

Packaging	PERMONEX® V 19								
Diameter [mm]	28	36	40	50	60	65	75	90	PE bags
Mass [g]	100	415	500	1 250	2 000	2 000	2 700	4 000	25 000
Length [mm]	150	400	400	520	660	585	585	600	–
Net weight [kg] / box	25	25	25	25	20	24	24,3	24	–

Small diameter cartridges (28 mm to 40 mm) are packaged in waxed paper.

Large diameter cartridges (50 to 90 mm) are packaged in a PE hose.



Perunit® E

The underground mining explosive PERUNIT® E is an explosive of a dynamite type with a high content of energy, high density and high values of the velocity of detonation. It is used in underground workplaces in an unexplosive environment and on surfaces wherever the character of the material broken requires the use of a powerful explosive. Large diameter explosive cartridges are suitable primarily for initiating explosives.

This traditional explosive was innovated again in 2007 and does not contain DNT and TNT nitroaromates, which are dangerous to the health.



PARAMETER	Unit of measure	PERUNIT® E
Explosion heat	kJ/kg	min. 4 100
Gas volume	dm ³ /kg	858
Temperature of explosion	°C	min. 3 000
Oxygen balance	% O ₂	+ 2,2
Velocity of detonation (in 65 mm, non confined)	m/s	min. 6 000
Velocity of detonation (in 28 mm, non confined)	m/s	2 400
Velocity of detonation in the borehole (in 95 mm, usual value)	m/s	6 200
Brisance according to Hess	mm	min. 14
Trauzl test	cm ³	min. 385
Relative working ability	%	min. 78
Transmission of detonation (large diameter cartridges non confined)	cm	min. 4
Density	kg/m ³	min. 1 300
Firing	–	detonator No. 8
Water resistance (large diameter cartridges)	–	4 hrs/0,3 MPa
Water resistance (small diameter cartridges)	–	2 hrs/0,3 MPa
Smallest permitted diameter	mm	28
Shelf life	month	9

Packaging	PERUNIT® E							
Diameter [mm]	28	38	50	65	70	80	90	120
Mass [g]	200	500	1 250	2 500	2 500	3 125	4 167	8 333
Length [mm]	220	320	440	550	450	450	480	550
Net weight [kg] / box	25	25	25	25	25	25	25	25

Small diameter cartridges (28 mm to 38 mm) are packaged in waxed paper.
Large diameter cartridges (50 to 120 mm) are packaged in a PE hose.



INFERNIT® 45

The INFERNIT® 45 plastic explosive is an explosive of a classical dynamite type with a high content of energy, high density and high values of the velocity of detonation. Moreover, it features stabilized velocity of detonation even in small diameters.

It is used primarily as an initiator in all diameters, furthermore for secondary disintegration, geoseismic surveys and wherever the stabilized velocity of detonation can be used. It contains neither carcinogenic DNT nor toxic TNT.



PARAMETER	Unit of measure	INFERNIT® 45
Explosion heat	kJ/kg	4 680
Gas volume	dm ³ /kg	717
Temperature of explosion	°C	3 400
Oxygen balance	% O ₂	+ 1,5
Velocity of detonation (in 65 mm, non confined)	m/s	6 400
Velocity of detonation (in 28 mm, non confined)	m/s	min. 6 000
Brisance according to Hess	mm	22
Trauzl test	cm ³	380
Relative working ability	%	70
Transmission of detonation (large diameter cartridges non confined)	cm	10
Density	kg/m ³	1 450
Firing	–	detonator No. 8
Water resistance (large diameter cartridges)	–	24 hrs/0,8 MPa
Water resistance (small diameter cartridges)	–	10 hrs/0,3 MPa
Smallest permitted diameter	mm	22
Shelf life	month	12

Packaging	INFERNIT® 45				
Diameter [mm]	22	25	28	38	50
Mass [g]	120	156	200	500	1 000
Length [mm]	220	220	220	320	440
Net weight [kg] / box	24	25	25	25	23

Small diameter cartridges (22 mm to 38 mm) are packaged in waxed paper.

Large diameter cartridges (50 to 120 mm) are packaged in a PE hose.



Emsit® M

Underground blasting agent EMSIT® M is an explosive of a modern emulsion type with a high velocity of detonation and excellent resistance to water. The explosive is packaged by a modern cartridge machine into a thermally and mechanically resistant foil with a very strong weld.

It is used in small and large diameters as an efficient explosive during blasting works, where wet or saturated blast holes occur. It has also found application during underground blasting works.



PARAMETER	Unit of measure	EMSIT® M
Explosion heat	kJ/kg	2 800
Gas volume	dm ³ /kg	800
Temperature of explosion	°C	1 800
Oxygen balance	% O ₂	+ 0,5
Velocity of detonation (in 30 mm, non confined)	m/s	min. 4 400
Velocity of detonation (in 65 mm, non confined)	m/s	5 100
Brisance according to Hess	mm	20
Relative working ability	%	63
Transmission of detonation (in 50 mm, non confined)	cm	3
Density	kg/m ³	min. 1 050
Firing	–	detonator No. 8
Water resistance	–	10 hrs/0,35 MPa
Smallest permitted diameter	mm	30
Shelf life	month	12

Packaging	EMSIT M					
Diameter [mm]	30	38	50	65	75	90
Mass [g]	500	463	1 250	2 500	2 500	3 000
Length [mm]	680	393	540/590	660/690	500/520	435/450
Net weight [kg] / box	22	25	25	25	20	25

Note: The lengths of the charges are variable depending on the density of the emulsion matrix.





Permitted explosives



Ostravit® C

The OSTRAVIT® C permitted explosive (safe in a gaseous environment) is a semiplastic explosive on the basis of exchange ions and components decreasing the tendency of the explosive to deflagration, containing liquid nitroester. The explosive is classified in the DBT II category and is used for blasting works in accordance with the instructions for its use in coal mines with a high danger of firedamps and coal dust.



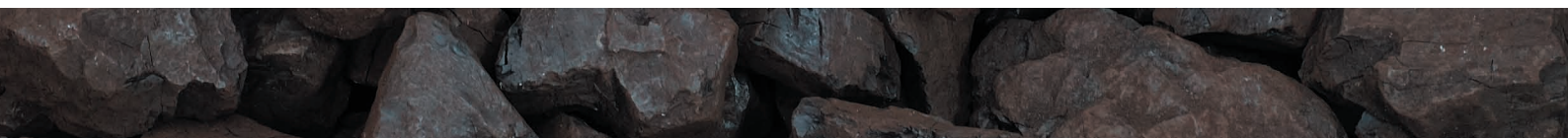
SEMTINIT® 50

The SEMTINIT® 50 permitted explosive (safe in a gaseous environment) is a plastic explosive containing sodium chloride and liquid nitroester. The explosive is classified in the DBT I category and is used for blasting works in accordance with the instructions for its use in coal mines with the danger of explosion of firedamps and coal dust.

Pneumatic charging of the explosive is permitted.

PARAMETER	Unit of measure	OSTRAVIT® C	SEMTINIT® 50
Explosion heat	kJ/kg	2 070	2 250
Gas volume	dm ³ /kg	570	412
Temperature of explosion	°C	1 500	1 600
Oxygen balance	% O ₂	+ 3,5	+ 3,4
Velocity of detonation	m/s	1 900	2 300
Brisance according to Hess	mm	6	15
Trauzl test	cm ³	130	–
Relative working ability	%	40	45
Transmission of detonation	cm	6	6
Density	kg/m ³	1 150	1 300
Firing	–	detonator No. 8	detonator No. 8
Water resistance	–	2 hrs/0,01 MPa	2 hrs/0,01 MPa
Smallest permitted diameter	mm	30	28
Shelf life	month	6	4

Packaging	Diameter (mm)	Mass (g)	Length (mm)	Netto [kg] / box
OSTRAVIT® C	30	200	225	24
SEMTINIT® 50	28	200	215	25





Explosives for special use



SEMTEX® IA is a plastic explosive for special use on the basis of an inexplusive plasticizer with penthrite as an active component. The explosive contains a marking substance for pre-explosive detection.

It is used primarily for destruction works, underwater blasting works (up to 100 m), special blasting works and as an initiator. The explosive can be split and shaped under the conditions indicated in the instruction manual for its use.



PARAMETER	Unit of measure	SEMTEX® IA
Explosion heat	kJ/kg	4 980
Gas volume	dm ³ /kg	950
Temperature of explosion	°C	3 800
Oxygen balance	% O ₂	- 66
Velocity of detonation (in the 21 mm diameter)	m/s	7 200
Brisance according to Hess	mm	21
Trauzl test	cm ³	330
Relative working ability	%	80
Transmission of detonation (in the 30 mm diameter)	cm	3
Density	kg/m ³	1 440
Firing	–	detonator No. 8
Water resistance	–	10 hrs/1 MPa
Smallest permitted diameter	mm	3
Shelf life	rok	2

Packaging	Diameter (mm)	Mass (g)	Cartridge shape	Netto [kg] / box
SEMTEX® IA	21	300	prolate	24
	40	500	prolate	25
	50	250	initiating tube	24,5
	60	500	initiating tube	25
	–	1 000	brick	25
	–	2 500	brick	25

The SEMTEX® IA explosive is packaged in waxed paper or PE hoses. The initiating explosive cartridges with a centre channel are packaged into paper tubes with plastic caps with openings for the detonator.



SEMTEX® IH

SEMTEX® IH is a plastic explosive for special use on the basis of an inexplusive plasticizer with penthrite and hexogene as active components. The explosive contains a marking substance for pre-explosive detection. It is used primarily for destruction works, underwater blasting works (up to 100 m of water column) and special blasting works. This explosive of the SEMTEX® type has the highest velocity of detonation.

The explosive can be split and shaped under the conditions indicated in the instruction manual for its use.



SEMTEX® IO

SEMTEX® IO is a plastic explosive for special use on the basis of an inexplusive plasticizer with penthrite as an active component. The explosive contains a marking substance for pre-explosive detection. It is used primarily for special destruction and blasting works, underwater blasting works (up to 100 m of water column). This black explosive can be shaped well and has good adhesive properties.

The explosive can be split and shaped under the conditions indicated in the instruction manual for its use.



PARAMETER	Unit of measure	SEMTEX® IH	SEMTEX® IO
Explosion heat	kJ/kg	4 982	5 030
Gas volume	dm ³ /kg	950	790
Temperature of explosion	°C	3 800	–
Oxygen balance	% O ₂	- 61,7	- 45
Velocity of detonation (according to ČSN EN 13631-14)	m/s	7 400	7 300
Brisance according to Hess	mm	22	22
Trauzl test	cm ³	330	–
Relative working ability	%	85	80
Transmission of detonation (in the 30 mm diameter)	cm	3	3
Density	kg/m ³	1 430	1 470
Firing	–	detonator No. 8	detonator No. 8
Water resistance	–	10 hrs/1 MPa	10 hrs/1 MPa
Smallest permitted diameter	mm	5	3,5
Shelf life	rok	5	5

Packaging

The SEMTEX® IH and SEMTEX® IO explosives are packaged in waxed paper. They are supplied in the form of bricks with a mass from 250 to 3,000 g according to the customer 's requirements. There are 24 or 25 kg of explosives in the transport packaging.

SEMTEX® 10-SE

SEMTEX® 10-SE is a plastic explosive for special use on the basis of an inexplusive plasticizer with penthrite as an active component. The explosive contains a marking substance for pre-explosive detection. It is used for the explosive hardening of metallic materials. The explosive is white, can be well shaped and has good adhesion; it is supplied in a sheet charge form. The explosive can be split and shaped under the conditions indicated in the instruction manual for its use.



SEMTEX® S 30

SEMTEX® S 30 is an explosive for special use with penthrite as an active component. It is used for explosive cladding and welding of metals. SEMTEX® S 30 is a white bulk material.

PARAMETER	Unit of measure	SEMTEX® 10-SE	SEMTEX® S 30
Explosion heat	kJ/kg	3 992	1 277
Gas volume	dm ³ /kg	944	420
Temperature of explosion	°C	2 600	1 023
Oxygen balance	% O ₂	- 62,6	- 3,0
Velocity of detonation	m/s	7 000	2 200
Brisance according to Hess	mm	20	10
Relative working ability	%	70	–
Transmission of detonation	cm	1	–
Density	kg/m ³	1 490	–
Bulk density	kg/m ³	–	1 100
Firing	–	detonator No. 8	detonator No. 8
Water resistance	–	10 hrs/1 MPa	does not resist water
Smallest permitted diameter	mm	1,5	20
Shelf life	rok	2	1

Packaging

SEMTEX® 10-SE is supplied in the form of a sheet charge 300 x 2 mm and a length corresponding to 10 kg, i.e. approximately 10 m. The explosive charge is covered with a PE foil on both sides and wound on a coil.

SEMTEX® S 30 is packaged into 25 kg PE bags and a transport package.



Black powders



Vesuvit® TN

The VESUVIT® TN black powder is a mixture of potassium nitrate, sulphur and charcoal. This black powder is bulk granulated material of a gray-black colour with a semiglossy surface (graphite).

VESUVIT® TN is used for careful disintegration of unbroken pieces of noble rocks (block mining) or during blasting works in easily disintegrable rocks.

VESUVIT® TN does not resist water and may only be used in a dry environment under the conditions specified in the corresponding user manual. It is charged into blast holes or joints by means of explosive cartridges in paper wrapping. An electric detonator, fire cord or igniter with initiation ability such as standard ignition detonator No. 8 can be used for initiation.



Vesuvit® THH

The VESUVIT® THH black powder is a mixture of potassium nitrate, sulphur and charcoal. This black powder is bulk granulated material of a gray-black colour with semiglossy or matte surface.

VESUVIT® THH is used for blasting works, as a primer mixer or rocket fuel.

VESUVIT® THH does not resist water and may only be used in a dry environment under the conditions specified in the corresponding user manual. It is charged into blast holes or joints by means of explosive cartridges in paper wrapping. An electric detonator, fire cord or igniter with initiation ability such as standard ignition detonator No. 8 can be used for initiation.



PARAMETER	Unit of measure	VESUVIT® TN	VESUVIT® THH
Explosion heat	kJ/kg	3057	3057
Gas volume	dm ³ /k	280	280
Temperature of explosion	°C	2 250	2 250
Temperature of explosion, min.	°C	185	185
Sensitivity to impact by a hammer (10 kg), min.	J	10	10
Moisture, max.	%	1,0	1,0
Grain size	mm	0,63 – 2,0	2,24 – 7,1
Granularity			
Rest on sieve 7.10 mm, max.		–	10,0
Falling through 2.24 mm, max.	%	–	10,0
Rest on sieve 2.00 mm, max.		5,0	–
Falling through 0.63 mm, max.		5,0	–
Density	kg/m ³	min. 1 700	min. 1 700
Shelf life	month	36	12

Packaging

Black powder is usually packaged into 2.5 kg or 25 kg PE packages. Another packaging can be negotiated.





Detonating cords



Startline® 6, 12, 15, 20, 40, 80 and 100

STARTLINE® 6, 12, 15, 20, 40, 80 and 100 is a type line of classical detonating cord.

The mass of penthrite in grams contained in a running meter of detonating cord of a given type is specified by the number attached behind the STARTLINE® name. STARTLINE® detonating cords are made on modern machines, controlled electronically, which guarantees a perfect continuous column of penthrite along the entire detonating cord length. Fibres of synthetic materials are used for “wraps” that provide high tensile strength to the detonating cords. The surface of the detonating cords is coated with a layer of synthetic material providing resistance to water. These facts ensure extraordinary functional reliability of detonating cords with low grammage.

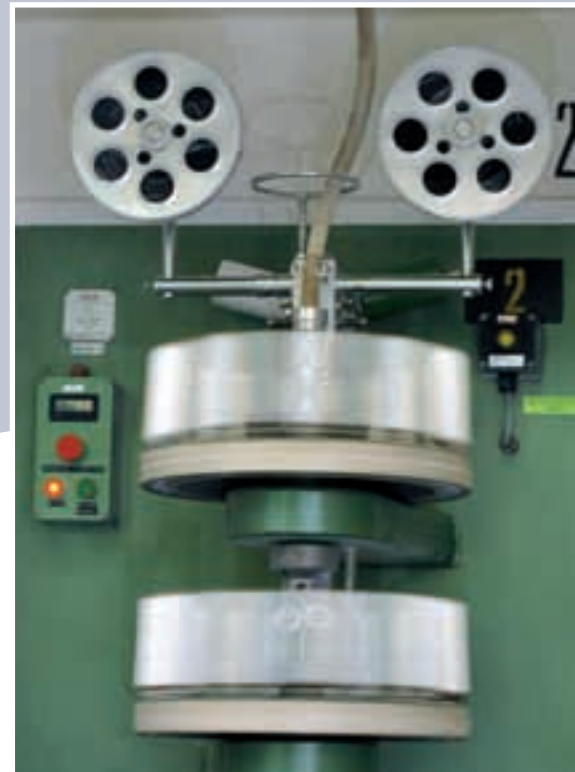


PARAMETER	STARTLINE® 6	STARTLINE® 12	STARTLINE® 15	STARTLINE® 20	STARTLINE® 40	STARTLINE® 80	STARTLINE® 100
Colour	red	green	blue	yellow	orange	ultraviolet	ultraviolet
Content of explosive [g/m]	6,0 ± 1,0	12,0 ± 2,0	15,0 ± 2,0	20,0 ± 2,5	40,0 ± 4,0	80,0 ± 8,0	100,0 ± 10,0
Velocity of detonation [m/s]	6 500	6 500	6 500	6 500	6 500	6 500	6 500
Outside diameter [mm]	min 3,0	5,0 ± 1,0	5,2 ± 1,0	6,6 ± 1,0	8,7 ± 1,5	11,5 ± 2,0	13,0 ± 2,0
Resistance to load [kg]	min. 50	min. 60	min. 60	min. 70	min. 75	min. 75	min. 75

Packaging

Plastic coils in cardboard packaging.

PARAMETER	Number of meters on the coil	Number of coils in the cardboard box	Total number of meters in the box
STARTLINE® 6	400	2	800
STARTLINE® 12	250	2	500
STARTLINE® 15	230	2	460
STARTLINE® 20	160	2	320
STARTLINE® 40	100	2	200
STARTLINE® 80	40	2	80
STARTLINE® 100	35	2	70





Mixing and pump trucks



MIXING AND PUMP TRUCKS

The explosive is made directly “above the blast hole” and charging is carried out by the car operators according to the instructions of TVO or the blaster. The opencast explosive of the Emsit® 20 emulsion type is charged by a metering pump by means of the charging hose into the borehole from the bottom.

The mechanized charging of explosives by means of the mixing and pump trucks saves up to approximately 30 % of the initial costs on the drilling works after the adaptation of the drilling scheme, which significantly decreases the overall costs for the rock breaking. Other important advantages of this method of work are:

- Speeding up the preparation of the blasting work
- Manpower savings during charging and manipulation in the storehouse
- Savings on the transportation and storage of explosives
- Substantial increase of hygiene and safety at work
- Substantial decrease of physically demanding work





Drilling and blasting services



DRILLING AND BLASTING SERVICES

Explosia a.s. offers comprehensive services to its customers from mining companies. These services are now centralized in FOSPOL a.s., a daughter company, which is now in the 100% ownership of Explosia a.s.

FOSPOL a.s. has a history of more than 15 years of activity in the field of drilling and blasting works and is now the largest provider of blasting works in the Czech Republic. After incorporating the Centre of Drilling and Blasting Works, Explosia now (2007) breaks loose more than 8 million tons of mined rock per year — at approximately 30 localities altogether throughout the Czech Republic.

By combining a strong manufacturer of explosives with its largest user on the Czech market, a high potential of growth was ensured for both subjects in the future and a good opportunity on the part of the mining companies.

Services

The dominant activity of FOSPOL a.s. is providing services during the surface mining of minerals, primarily drilling, blasting works and earthworks during quarry exploitation.

The drilling works are ensured by means of the self-propelled crawler-mounted drills owned by the company.

FOSPOL a.s. carries out blasting works of large and small extent almost exclusively by using a line of industrial explosives from the Explosia a.s. production.

Crawler-mounted hydraulic hammer drills are used for secondary breaking.

The mined rock and other materials are loaded and transported by means of machines for earthworks. For the implementation of these works, the company is well equipped with modern techniques and an adequate number of workers with the corresponding qualification and experience of many years.



FOSPOL a.s. also offers a system of quarry “comprehensive servicing” to the mining companies, which involves the integration of the drilling works, blasting works and secondary material breaking with loading and transportation of the material into the primary crusher into one continuous technological unit, completed with the transfer of finished products into an intermediate storage area, transportation of the dump pile, clearing the site, etc., so that the provided service is truly comprehensive and the mining company can concentrate its capacities solely on processing the transported raw material in the technological line and on selling the products.

Carrying out drilling works, blasting works and earthworks, including transportation and material storage on the sites of engineering constructions or other construction projects and occasional activity in the field of construction destructions, demolitions and dismantling — these are complementary activities of the company. Road traffic and transport of heavy loads are activities carried out by FOSPOL a.s. for its own needs.

The activities of FOSPOL a.s. can be summarized in the following points:

- Mining activity and activity carried out in a mining manner.
- Manual and machine drilling with a borehole diameter of 21 – 150 mm.
- Blasting works in a small and large extent for the surface mining of rocks, engineering constructions, construction works and destruction.
- Rock breaking by means of hydraulic breaking hammers on crawler-mounted vehicles without the use of explosives.
- Earthworks, including material manipulation and transport
- Storage and sale of industrial explosives and detonators
- Transport of industrial explosives, detonators by PHM cars modified according to ADR
- Destruction, demolition and dismantling of construction and machine units
- Charging service in the form of complementary service for the consumers of explosives
- Ensuring the measurement of blasting works by the authorised worker
- Road transportation and transportation of heavy loads







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