

# **OSTRAVIT C**

## **Semi-plastic Permissible Explosive of Category II**

### **DIRECTIONS FOR USE**

#### **I. Scope and Conditions of Use**

1. Semi-plastic permissible explosive of category II OSTRAVIT C is allowed for surface as well as underground blasting under conditions specified in regulations on explosives and in these Directions.
2. OSTRAVIT C is designed as permissible explosive of Category II primary for blasting in coal mines. On other workplaces, surface as well as underground, OSTRAVIT C is allowed in non-explosive environment only.
3. OSTRAVIT C is not allowed in the materials, where its use could cause their fire or explosion.
4. OSTRAVIT C is semi-plastic (almost loose) homogeneous material of greenish colour.
5. OSTRAVIT C is supplied and allowed to be used in cartridges of diameter 30 mm. Permitted low limit diameter for OSTRAVIT C is 30 mm.
6. Where for blasting the use of permissible explosive of Category II only is set by the regulations, the weight of OSTRAVIT C charge in the blast hole shall not exceed 2,000 g (limit charge).
7. Supplied and used OSTRAVIT C shall meet the parameters defined in organizational standard TDV 352/03, issued in Explosia a. s., Pardubice – Semtín and in ES Certificate on Testing of Type No. 0589.EXP.0931/04 (BAM).
8. At break-up free blasting work, there is no need to use permissible fuse, in case the length of OSTRAVIT C charge in common packing does not exceed 5 m.

## **II. Initiation and Loading**

1. For initiation of OSTRAVIT C the primers are used of initiation capacity not less than that of standard reference primer REF.DET 3 in terms of EN 13763-15. The explosive may also be initiated by means of detonation cord of PETN core load 12 g /m at minimum.
2. Initiation charge shall be placed to the blast hole bottom as the first in such a way, that the primer is bottom oriented into the longer part of the charge.
3. OSTRAVIT C shall be loaded into blast holes neither using force nor by stemming. Only its non-forcible inserting and pressing is allowed. All OSTRAVIT C cartridges, including adjusted cartridges designed to be used in the same blast hole, shall be inserted into common plastic packing in such a way that the cartridges ends fit against each other tightly.
4. OSTRAVIT C cartridges shall be neither portioned nor pneumatically loaded.

## **III. Water Resistance**

1. OSTRAVIT C may also be used for wet environment and underwater applications. The time of water exposure shall not exceed 2 hours; water column height above the charge shall not exceed 1 m.
2. When using OSTRAVIT C in wet environment and under water, increased attention shall be paid to loading to avoid damage to cartridges packing.

## **IV. Temperature Range for Applications**

OSTRAVIT C is allowed to be used within temperature range 0 °C to +30 °C. At these limit temperatures the temperature exposure shall not exceed 10 hours. The explosive that cannot be non-forcibly set in semi-plastic state shall not be used.

*Note: Solidification of the mass of OSTRAVIT C in cartridges may be caused by their storage beyond specified tolerances. OSTRAVIT C practically does not freeze even at temperatures – 50 °C and does not harden up to +50 °C, negative impact on its physical properties has a high content of humidity in atmosphere which, especially at temperatures above +30 °C, causes, under long-term exposure, moistening of cartridges and subsequent hardening.*

## **V. Service Life and Storage Conditions**

OSTRAVIT C is allowed to be used not longer than 9 months since the date of production (service life as well as warranty period) provided it is stored in intact forwarding packing and in the room, where relative air humidity does not exceed 90 % and temperature varies within – 20 °C to +30 °C. In case these storage conditions cannot be observed, especially the content of humidity in atmosphere, the organization shall ensure necessary check of product quality, especially detonation capacity, namely after 3 months of storage.

## **VI. Classification for Transport**

1. For the purposes of public transport OSTRAVIT C is classified as follows:

RID and ADR - class 1, UN 0081 EXPLOSIVE, TYPE A, 1.1 D

IMDG - class 1, UN 0081, Explosive, blasting, type A, 1.1.D

2. For the purposes of storage OSTRAVIT C is classified according to ČBÚ Decree No. 99/1995 of Coll., in the wording of later regulations into Class A III, serial No. 8.

## **VII. Packaging and Marking**

OSTRAVIT C is supplied in small diameter cartridges 30/200 mm/g (cartridged in Explosia a.s., Semtín 107, 530 50 Pardubice 2), 30/125 mm/g (cartridged in Istrochem Explosives a.s. Nobelova 34, 836 05 Bratislava) or as agreed between customer and producer. Individual cartridges are packed into common PE packing, hermetically sealed on both ends either by thermic weld or drawn together with rubber band. There are 10 or 20 pcs of cartridges in the common packing. The mass of explosive or its packing is marked with green colour. Transport (forwarding) packing is cardboard sealable box, approved and tested for transport of dangerous goods of Class 1. Weight of explosive in transport packing shall not exceed 25 kg.

Transport (forwarding) packings are provided with the data prescribed by ČSN 66 8011 and by the Regulation (EC) No 1272/2008 (CLP).

Furthermore, the explosive must be marked with a traceability identifier in accordance with Directive 2008/43/EC and Directive 2012/4/EU for the identification and traceability of explosives for civil uses.

## **VIII. Disposal Consideration**

OSTRAVIT C is disposed of by burning or explosion on the place approved for disposal of explosives in accordance with ČBÚ regulations. When disposed of by explosion, the booster charge of explosive of detonation velocity not less than 4,000 m/s and of weight not less than 500 g is inserted into the explosive to be disposed of. This way prepared charge is fired. The packings free of rests of explosive are disposed of by burning in dangerous waste incinerators.

## **IX. Information on Hazardous Defects**

Significant reduction of chemical stability or occurrence of liquid nitroesters exudations cannot be excluded at OSTRAVIT C. Such explosive shall be disposed of according to par. VIII hereto.

## **X. Misfires Disposal Consideration**

Misfires disposal is accomplished according to applicable provisions of ČBÚ Decree No. 72/1988 of Coll., in the wording of later regulations.

## **XI. Safety and Health Provisions**

The data on safety and health protection are specified in the Safety Data Sheet of the product. . The Safety Data Sheet is provided always with the first supply of the product or upon request.

## XII. Fire- fighting Measures

Toxic and irritating gases evolve on burning. On burning of larger quantity conversion may occur to detonation.

In case of fire not to extinguish and evacuate persons to a safe distance.

## XIII. Legislation

OSTRAVIT C as explosive is covered with the Act No. 61/1988 of Coll., in the wording of later regulations. OSTRAVIT C is stipulated product according to Act No. 22/1997 of Coll., in the wording of later regulations, and the Government Order No. 358/2001 of Coll., in the wording of later regulations.

## XIV. Physical and Function Parameters

OSTRAVIT C is a mixture of sodium nitrate, ammonium chloride, nitrocellulose, nitroglyceroglycole, calcium formate, calcium carbonate, carboxymethylcellulose, zinc stearate and silicon dioxide.

Basic technical specifications according to TDV 352/03:

Quality Parameter	Unit	Value	
		Within 1 week after production	In the end of service life
Explosion characteristics calculated:			
Oxygen balance	% O <sub>2</sub>		+3.5
Specific volume of explosion products	dm <sup>3</sup> .kg <sup>-1</sup>		570
Heat of explosion	kJ.kg <sup>-1</sup>		2,070
Explosion temperature	°C		1,500
Flash point	°C		300
Detonation velocity in cartridges, min.	m.s <sup>-1</sup>	1,800	1,600
Detonation transmission in cartridges, min.	Cm	3	1
Sensitivity to impact, min.	J	6	4
Detonation capacity	-	Meets the test	
Detonation capacity of the explosive subjected to water pressure (0.01 MPa / 2 hrs)	-	Meets the test	
Safety of explosive in explosive environment	-	Meets the test	
Density, min.	g.cm <sup>-3</sup>		1.05
Low limit diameter of sealed as well as non-sealed cartridge	Mm		30

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