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(54) **Explosive**

(57) Explosive is constituted by mixture of delaborated smokeless powder with emulsion matrix, whereas content of delaborated smokeless powder in explosive mass is 20 to 80%w/w.

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Description

Technical Background art

[0001] In last ten years there is in Czech republic as well as in other European countries the extensive armies reduction in progress, linked with liquidation of large volumes of excessive ammunition. Liquidation generally proceeds in the form of delaboration with subsequent utilization of at least some ammunition components and /or liquidation of individual ammunition components. One of the most important delaborated ammunition components are delaborated smokeless powders. These materials are liquidated either by burning or are utilized as raw material for new smokeless powders production or are utilized at rock shooting and blasting in quarries directly as industrial explosives.
The utilization of delaborated smokeless powders at rock shooting and blasting is meaningful utilization of these materials in fact, but it brings one principal disadvantage, inhering in danger of transition of delaborated smokeless powders detonation into burning, by which strong losses of energy necessary for rock shooting and blasting happen. Delaborated smokeless powders are used for production of powdery ammonium nitrate explosive, whose disadvantage however is that they are not water resistant and therefore cannot be used in irrigated blastholes. This fact then limits the quantity of delaborated smokeless powders that is possible in such manner to use.
[0002] The aim of technical solution is to remove or at least to minimize the drawbacks of the background art

Principle of the invention

[0003] The aim of the technical solution is reached by explosive, whose principle is that it is constituted by mixture of delaborated smokeless powder with emulsion matrix, whereas content of delaborated smokeless powder in explosive mass is 20 to 80% w/w.
[0004] The advantage of this explosive is that emulsion matrix in mixture with delaborated smokeless powder ensures necessary workability of explosive and ensures also necessary water-resistance of explosive, that all including securing of detonation reliability. Smokeless powder then contributes to augmentation of explosive sensitivity and to augmentation of explosive energetic potential.
[0005] In advantageous embodiment there is in emulsion matrix put porous granulated ammonium nitrate, coleseed oil - methylester and expanded polystyrene.

Examples of embodiment

[0006] Explosive is constituted by mixture of delaborated smokeless powder with emulsion matrix and eventually also other additives. Emulsion matrix is withal inexplosive highly viscous substance consisting of ammonium nitrate and sodium nitrate water solution, mineral oil and emulsifier, that is sensitized by particles of delaborated powder, eventually also by glass microbeads or gas bubbles.

Example No.1:

[0007] Explosive contains 50%w/w of emulsion matrix and 50%w/w of nitroglycerin delaborated smokeless powder.

Example NO.2

[0008] Explosive contains 20%w/w of emulsion matrix and 80%w/w of nitrocellulose delaborated smokeless powder.

Example No 3:

[0009] Explosive contains 80%w/w of emulsion matrix and 20%w/w of three component nitroguanidin delaborated smokeless powder.

Example No 4:

[0010] Explosive contains 30%w/w of emulsion matrix, 40%w/w of delaborated smokeless nitroglycerin powder, 28%w/w of porous granulated ammonium nitrate, 1,5%w/w of coleseed oil-methylester and 0,5%w/w of expanded polystyrene.

Claims

1. Explosive **characterized by** that it is constituted by mixture of delaborated smokeless powder with emulsion matrix, whereas content of delaborated smokeless powder in explosive mass is 20 to 80%w/w.

2. Explosive according to claim 1 **characterized by** that in emulsion matrix is put porous granulated ammonium nitrate, coleseed oil - methylester and expanded polystyrene.

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EUROPEAN SEARCH REPORT

Application Number
EP 07 46 6023

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	14 February 2008	Schut, Robert

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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