

Improved semi-continuous two-component method for obtaining a composite explosive charge with polyurethane matrix

ABSTRACT

The present invention relates to a semi-continuous method for obtaining a composite explosive charge comprising a solid polyurethane matrix loaded with a charge, the charge being in powder form and comprising at least one nitro-organic explosive. Said method comprises the following successive steps:

- the obtaining of a pasty explosive composition comprising essentially the following ingredients:

- a polyol pre-polymer,
- a polyisocyanate monomer,
- a plasticising agent, and
- a solid charge in powder form comprising at least one nitro-organic explosive,

by continuous mixing of a pasty component A' and a liquid component B', prepared discontinuously from said constituent ingredients,

- the introduction into a mould of said pasty explosive composition, and

- the thermal cross-linking of said composition in said mould, and

being characterised in that:

- said liquid component B' comprises 90 to 99% by weight of said polyisocyanate monomer;

- said pasty component A' comprises the whole of the polyol pre-polymer, the whole of the solid charge in powder form and the remaining 1 to 10% by weight of the polyisocyanate monomer,

the plasticising agent being distributed without distinction between said components A' and B', and

in that the continuous mixing of said components A' and B' is carried out in such a way that the weight ratio between component A'/component B' is constant, being between 95.05/4.95 and 99.55/0.45.

Said method constitutes a particularly interesting improvement of the method according to EP-A-1 133 015.