

Scope of Work for Supply of Warheads with Press Loaded OMA Explosive

1. Introduction

Explosive composition OMA (HMX/Wax/Graphite – 97/2/1) is required to be press filled to prepare shaped charges having diameter as 120 mm. The shaped charge warhead assembly consists of explosive filling, copper liner, wave shaper, support bush and casing. Overall length of warhead with pressed explosive is 182 mm. The schematic view of shaped charge is shown in figure 1. Details of charge dimensions are mentioned in drawing number MPAT 00 01 00 00 000 00XA.

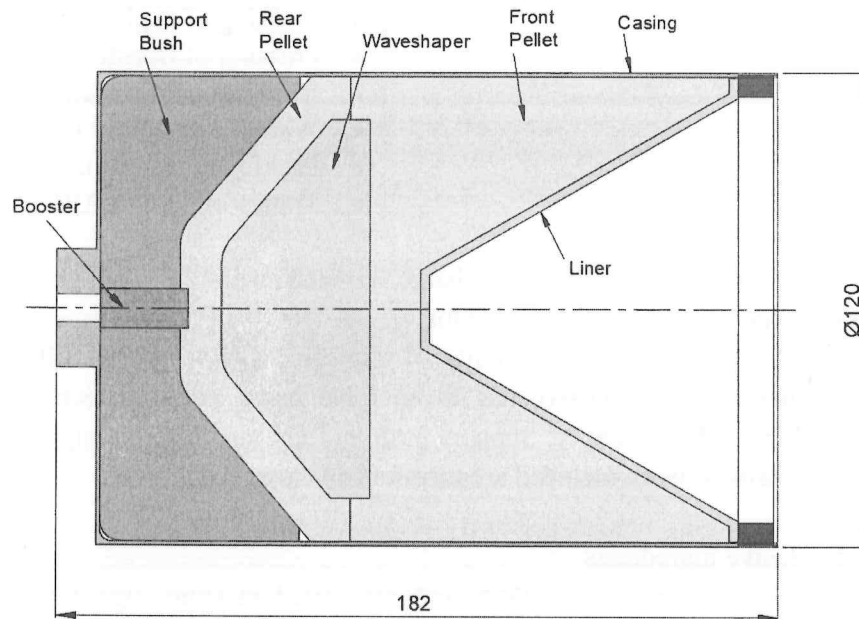


Figure 1: Schematic Configuration of Warhead

2. It is essential to achieve filling density of 1.80 ± 0.02 g/cc for front pellet and 1.70 ± 0.02 g/cc for rear pellet. The front and rear pellets weigh 1.29 ± 0.02 kg and 0.36 ± 0.005 kg respectively with these filling densities. Booster will be prepared using press filling of RDX/Wax (95/5) at filling density of 1.65 ± 0.02 g/c. Each booster weighs approximately 6 gm of explosive. Explosive filling with density of 1.80 ± 0.2 g/cc has to be achieved using hot pressing technique however fillings with lower densities can be done in ambient condition.
3. ARDE will issue Liner, moulds and other warhead hardware required to the firm as Free Issue Material (FIM) as per standard terms and conditions of ARDE. The Firm shall prepare, process and fill the explosive as per mentioned drawing number. Any tools or

Firm will utilize its expertise for selection of suitable adhesive, its required thickness and any processing necessary.

- d) *Second Pressing of Front Pellet*: Front pellet along with coated liner has to be pressed second time using hot pressing technique to further compact the filling and eliminate any dimensional gap between liner and explosive. The press load and dwell time has to be worked accordingly to achieved required parameters.
- e) *Warhead Assembly*: Assembly of warhead has to be carried out inside casing supplied by ARDE. Suitable booster is also required to be supplied along with warhead assembly
- v) Inspection and Acceptance criteria of pressed charge
 - a) Dimensions of pressed charge – as per drawing number MPAT 00 00 00 00 000 00XA.
 - b) Weight of charges are required to be recorded.
 - c) Overall density of charge has to be calculated as per measured dimensions.
 - d) Inspection will be carried out using tools and facilities available with the Firm.
 - e) Firm's certificate to be provided for percentage composition of ingredient of explosive.
- vi) Packing and delivery
- vii) The pressed charge are required to be delivered at ARDE, therefore Firm shall make suitable transport arrangements for its delivery.
- viii) The pressed charge comes under 1.1D category as per STEC pamphlets, therefore shall be stored and transported accordingly.

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