

1500lb Armour Piercing Bomb

In 1925 the Admiralty had increased the armour piercing bomb performance requirement from 3" to 7" perforation of steel plate from a height of 10,000 feet and so no further trials of the 450lb armour piercing bomb were to be carried out and development of a much larger bomb was to proceed. It was decided to try to meet this requirement by designing a 1500lb armour piercing bomb. A preliminary sketch was made first then a small size model was based on it. Sixteen of these models were made for dropping trails to test their ballistics and for grouping results. The models were completed in February 1926 and the dropping trails in June, the results were quite successful with very good groupings being obtained from 10,000 feet.

The bomb body designs were completed by November 1926 and orders for four bombs were placed with Woolwich followed by experimental orders with Hadfields and Messrs. Firth for four bombs each. Hadfields completed their order by May, Firths by June and Woolwich by the end of the year. Firing trials against 7" steel plate were carried out by the end of July 1927, striking velocities were 811 and 815 feet per second. Neither of the bombs perforated the plate but rebounded whole. Discussions about modifying the bomb to have a smaller diameter or whether a heavier bomb would have to be used were carried out and in January 1928 it was realised that the original requirement would never be met by a 1500lb bomb at

low velocities and a heavier bomb would be necessary.

In March 1928 two bombs made by Hadfields were fired at 6" steel plates at 10 degrees at just over 800 feet per second, one bomb perforated and the other did not. This indicated that 800 feet per second was the border line velocity. In May two bombs of Firth's manufacture were fired at 6" steel plates at 20 degrees, 850 feet per second, both bombs perforated successfully and were recovered whole. In July a bomb made by Firth was fired against a 6" plate, 10 degrees at 816 feet per second and a bomb by Woolwich was fired at a 3" plate at 20 degrees, at 550 feet per second. Both bombs perforated and were recovered successfully.

In July 1928, despite the bomb not meeting the requirements it was decided to approve the bomb. In August it was decided that the tail unit should be made of aluminium. In September 1928 decisions were made to use the remaining experimental bombs in a series of firing trails against thinner steel plates (3") with lower striking velocities. This was to confirm that the 1500lb armour piercing bomb would defeat the main deck of any ship in the world at the time except the HMS Nelson and HMS Rodney when dropped from around 5,000 feet.

1500lb Armour Piercing Bomb

Written by David Boyd

Thursday, 01 January 2009 20:51 -

In October 1928 amendments to the design were suggested and in March 1929 it was decided shellite would not be used as a filling for the bombs. In June fragmentation trails with two bombs filled with TNT were carried out and the results were very satisfactory, also from the firing trail results the 1500lb bomb was expected to defeat a 3" plate from 3000 feet. In June Woolwich recommended a steel exploder container for all armour piercing and semi armour piercing bombs in order to obtain the best detonation, as a result the 1500lb bomb was slightly redesigned to keep the weight below 1500lb.

And in November 1931 the designs of the 1500lb bomb with all the amendments were finally approved.

Weight
Filling

Sources - AVIA 46 285, AVIA 46 163