

PBXN-7 PROCESSING AND QUALIFICATION USING TATB MANUFACTURED
AT HOLSTON ARMY AMMUNITION PLANT

Mr. Curtis Teague
BAE Systems
4509 W Stone Dr
Kingsport TN 37660
Phone: 423-578-6394
Email: curtis.teague@baesystems.com

PBXN-7 is one of several pressable formulations that contain a significant portion of TATB. The formulation combines the TATB with RDX in an inert binder of Viton to produce a very insensitive product that can be pressed into different configurations.

PBXN-7 has historically been used as a booster material in several applications, and has been manufactured frequently in the past at Holston. More recently, due the dwindling stocks of government owned TATB and the unavailability of a CONUS manufacture of TATB, the PBXN-7 has been manufactured by Land Systems at the Bridgewater facility in the UK. The TATB used in the formulation was also manufactured there. The historically high cost of TATB, and likewise the PBXN-7, has prohibited the use of this formulation for anything other than those applications where a minimal amount of explosive material is required. In an effort to establish a CONUS manufacturing source while significantly reducing the cost of TATB, OSI has recently developed a new synthesis method for the manufacture of TATB at Holston. TATB from that process has been used to produce PBXN-7. The PBXN-7 will be qualified for use in the traditional applications.

This paper describes the formulation of PBXN-7 using TATB manufactured at Holston and the approach for qualification of this material and the manufacturing source. Data from the formulations made using traditional TATB stock material and OSI manufactured TATB will be compared. Ideas will be presented for use of a significantly lower cost PBXN-7 as a main charge fill.