



MiniSShot

Ignition Primer Sensitivity Testing

2008/09/28

The primer was composed out of 80% (milled, fertilizer grade) KNO_3 and 20% charcoal (14% grill charcoal, 6% homemade balsa wood charcoal). The mix was milled 30 minutes for 50 grams. One batch was mixed with alcohol and left to dry then turned into powder for testing.

Impact testing:

For impact testing I used a 500 grams steel hammer. I drilled a hole in the handle, ran a piece of round steel trough it and fixed that into a vice. So the hammer would rotate around it. A flat steel plate was positioned so that the hammer would impact it when it was horizontal. Samples of primer were placed on small pieces of paper and then the hammer would be left free from vertical (25cm level difference). 12 of these tests were conducted on each batch, none ignited. Another 10 samples were tested without the paper (directly between 2 metal surfaces), none ignited.

Electrostatic testing:

For this test I used a piezoelectric igniter modified to spark between a wire and an aluminum foil. The sample was placed on the foil and “zapped” 20 times, the spark even jumped between 2 “lumps” in the sample, no ignition.

Friction testing:

On a flat metal plate, the sample was placed on a sheet of paper. Another sheet of paper was placed on top and on that a 20kg weight. The weight was dragged for 20cm, no ignition.

In conclusion the ignition primer should be handled like black powder and no accidental ignition will occur.

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