

Project: Caliber .30 Carbine Tracer
Personnel: C.J.W. Wiegand, D. Petruccelli

At the request of the New England Magnesium Company a modified type of Grade A magnesium was tested and found to be satisfactory. Effects of granulation on magnesium in tracer composition was determined with the results that coarser magnesium has a longer trace whereas finer magnesium shows a brighter trace with a tendency towards erratic flights.

Storage tests on loaded rounds showed stability to decrease with increasing amounts of moisture in the powder.

The use of calcium resinate in igniter composition has been evaluated again. There was no marked difference in performance between fused and precipitated calcium resinate. Furthermore, composition containing no calcium resinate also showed satisfactory stability.

Stability of tracer cartridges containing Hercules flake powder was determined for Lake City and found to be equivalent to Western Ball powder.

Project: 12 Gauge Shot Shell Tracer
Personnel: P. D. Deans, D. Petruccelli

Shot shell tracer capsules charged with I-7 igniter exhibit trace performance superior to those charged with #92 mixture.

Storage tests at 120°F. and 90% R.H. indicate I-7 capsules to be more stable than #92 mixture. In view of the results production will be changed to the I-7 composition.

Project: .22 Rim Fire Charging
Personnel: C.J.W. Wiegand, D. Petruccelli

A study of pellet weights has shown the following results:

1. Variations from charging are considerably smaller than variations after spinning.
2. A convenient method of pellet weight determination has been found by weighing primed shells before and after firing, using a slight correction factor to determine the accurate charge weight.
3. Experimental evidence has shown that the sensitivity can be greatly improved by decreasing the tolerance in head thickness. Furthermore, it appears that spinning punches can be used for 1-1/2 or 2 hours compared with the present 1 hour limit.