

MIL-STD-650
 NOTICE 1
 31 August 1970

MILITARY STANDARD

EXPLOSIVE : SAMPLING, INSPECTION AND TESTING

TO ALL HOLDERS OF MIL-STD-650

1. The following pages of MIL-STD-650 have been revised and supersede the pages listed:

NEW PAGE	DATE	SUPERSEDED PAGE	DATE
V	31 August 1970	V	3 August 1970
VI	31 August 1970	VI	3 August 1970

2. The following method is to be added:

NEW METHOD	DATE
T109.6	31 August 1970

3. Retain this notice and insert before the table of contents.

4. Holders of MIL-STD-650 will verify that page changes and additions indicated above have been entered and will destroy the previous notice (Notice page only). The latest notice (notice page) will be retained as a check sheet. This issuance, together with appended pages, is a separate publication. Each notice is to be retained by stocking points until the Military Standard is completely revised or cancelled.

Custodian :
 Army-MU(PA)
 Navy-OS

Preparing Activity:
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Project No. 1376-A-061

FSC 1376

MIL-STD-650
31 August 1970

T109.1
31 August 1970

This tentative test method has been prepared by the U.S. Army Munitions Command. It is optional for use by all activities.

METHOD T109.1

RATE OF DETONATION

1. SCOPE

1.1 This method is used to determine the detonation velocity of an explosive cartridge or a file of explosive cartridges.

2. SPECIMEN

2.1 The specimen shall consist of a cartridge or file of cartridges of the explosive. A file of cartridges is prepared by cutting off the paper ends of the cartridges except for two cartridges having only one end cut off (these two are used at each end of the column). The cartridges are butted firmly together (explosive to explosive) and then held in place by rolling in paper and then securing the paper.

3. APPARATUS

3.1 Two lead plates with a transverse line drawn across one of the plates.

3.2 One quarter inch diameter brass (or other non-sparking metal) awl.

3.3 A barricade if large charges are to be tested.

4. MATERIALS

4.1 Rated detonating cord (length must be sufficient to assure explosive file detonation does not damage lead plate).

4.2 One No. 6 Electric Detonator or a Miner's Fuze and Cap.

5. PROCEDURE

5.1 Mark the detonating cord in the exact center.

5.2 Punch two holes in the column at specified locations with a non-sparking metal awl and insert the ends of the detonating cord at least 1/2 inch and preferably one inch into the file. The two ends should be inserted to exactly the same depth.

MIL-STD-650

5.3 Place the assembly, as shown in figure 1, on the ground. In order to avoid damage to the lead plates, the explosive file should be barricaded or placed in a ditch or so that there is a rock or other obstruction between it and the lead plates.

5.4 Tape the center of the detonating cord to the lead plate so that the center point coincides with the transverse line marked on the plate.

5.5 Place another lead plate on top of the detonating cord. Under this confinement the mark obtained is more easily located.

5.6 Insert the electric detonator or miner's fuze and cap centrally into one end of the column of explosive.

5.7 Fire the charge and carefully measure the distance between the line incised by the explosive and the original mark on the lead plate.

5.8 Calculate the rate of detonation as follows:

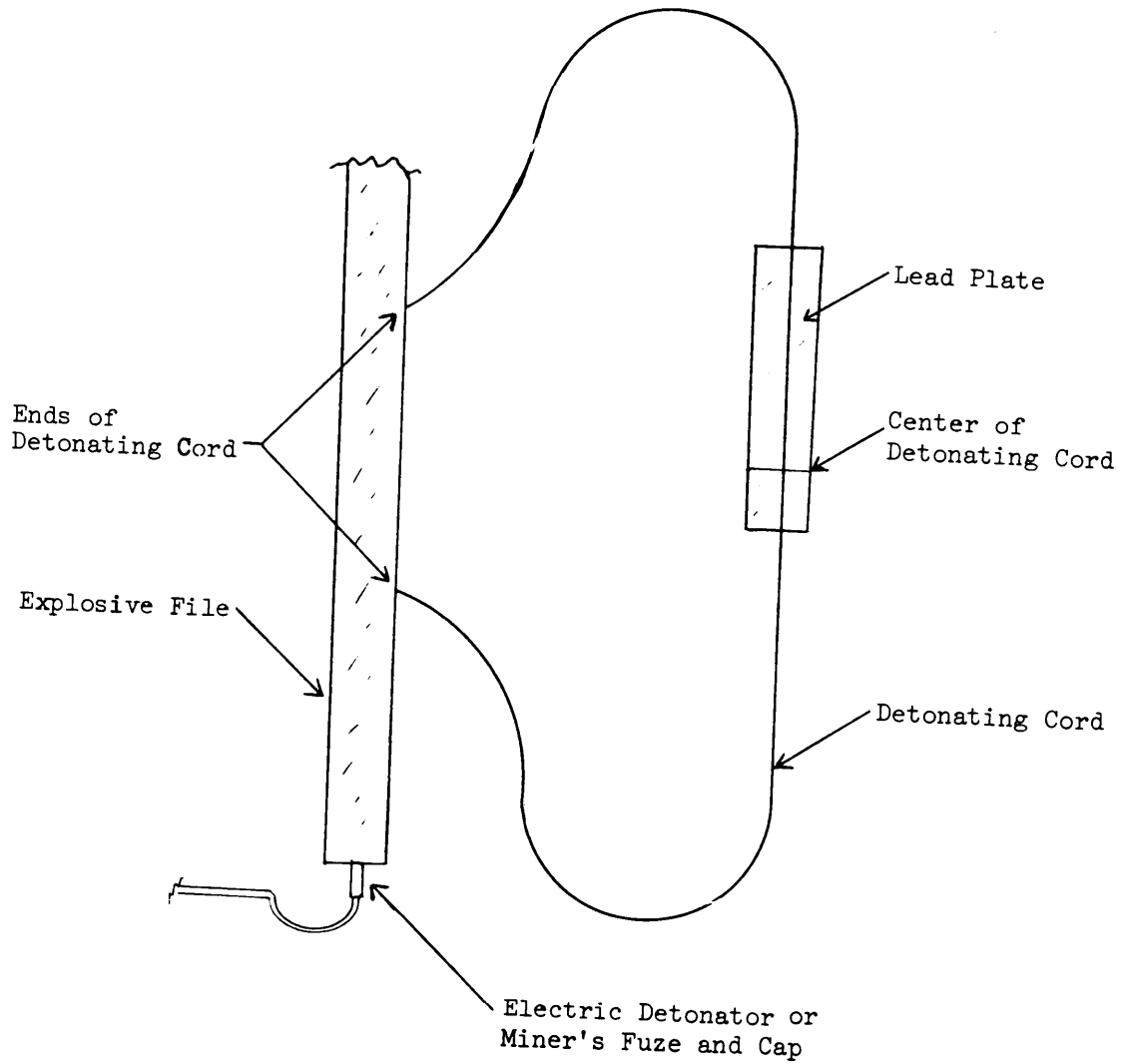
$$\text{Rate of Detonation} = \frac{A C}{2 B}$$

Where :

A = Rate of detonation of detonating cord.

B = Distance between center of detonating cord and mark.

C = Distance apart of ends of detonating cord in explosive file.



TEST SET-UP FOR DETERMINING RATE OF DETONATION

FIGURE 1

MIL-STD-650
31 August 1970

ALPHABETICAL INDEX OF TEST METHODS-CONTINUED

Title	
Phenolphthalein Indicator Solution	703.1
pH Value (Electrometric Method)	103.1
Plasticity (Elongation)	211.1
Plasticity (Modulus of Compressibility)	211.2
Potassium Bromate (0.05N Standard Solution)	610.1
Rate of Detonation	T109.1
Reactivity Test	504.1
Setting	207.1
Sensitivity to Initiation (Sand Test Method)	507.1
Sodium Diphenyl Benzidine Sulfonate Indicator- Solution	706.1
Sodium Hydroxide (0.1N Standard Solution)	602.1
Sodium (Magnesium Uranyl Acetate Method)	417.1
Sodium Thiosulfate (0.1N Standard Solution)	613.1
Solidification Point	210.1
Volubility (Leaching Method)	704.1
Solvent Extraction (Selective Solvent Method)	108.1
Soxhlet Extraction	301.6
Specific Gravity (Bottle Method)	203.2
Specific Gravity (Mercury Displacement)	203.1
Starch Indicator Solution	701.1
Sulfate	411.1
Sulfuric Acid (0.1N Standard Solution)	612.1
Tetracene (Polarograph Method)	416.1
Titanous Chloride (0.2N Standard Solution)	605.1
Total Lead (Chromate Method)	402.2
Total Lead (Sulfate Method)	402.1
Trinitrotoluene	413.1
Trinitrotoluene (in Tetrytol)	413.2
100°C and 120°C Vacuum Stability Test.	503.1
Viscosity (Efflux)	212.1

MIL-STD-650
31 August 1970

NUMERICAL INDEX OF TEST METHODS
Group 100 - General Test Methods

Method No.

- 101.1 Moisture (Dish and Cone Method)
- 101.2 Moisture (Desiccation Method)
- 101.3 Moisture (Distillation Method)
- 101.4 Moisture (Karl Fischer Method)
- 101.5 Moisture and Volatiles (Oven Method)
- 101.6 Moisture and Volatiles (Vacuum Oven Method)
- 102.1 Acidity or Alkalinity (Hot Aqueous Extraction Method)
- 102.2 Acidity or Alkalinity (Cold Aqueous Extraction Method)
- 102.3 Acidity or Alkalinity (Complete Solution Method)
- 103.1 pH Value (Electrometric Method)
- 104.1 Volubility (Leaching Method)
- 105.1 Insoluble Material (Solvent Insoluble Method)
- 106.1 Insoluble Particles or Grit (Solvent Extraction Method)
- 107.1 Ash
- 108.1 Solvent Extraction (Selective Solvent Method)
- T109.1 Rate of Detonation

Group 200 - Physical Test Methods

Method No.

- 201.1 Bulk or Apparent Density (Standard Vessel Method)
- 201.2 Bulk or Apparent Density (Wet Method)
- 201.3 Bulk or Apparent Density (Dry Method)
- 202.1 Density (in Vacuo)
- 203.1 Specific Gravity (Mercury Displacement)
- 203.2 Specific Gravity (Bottle Method)
- 204.1 Granulation (Dry)
- 204.2 Granulation (Wet)
- 205.1 Average Particle Diameter (Fisher Sub-Sieve Sizer)
- 206.1 Particle Size (Microscopic)
- 207.1 Settling No.
- 208.1 Hygroscopicity (Equilibrium Method)
- 209.1 Melting Point (Capillary)
- 210.1 Solidification Point
- 211.1 Plasticity (Elongation)
- 211.2 Plasticity (Modulus of Compressibility)
- 212.1 Viscosity (Efflux)