



Insensitive Munitions Solutions
For
Projectiles Crimped
To
Cartridges for Artillery Application

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PEO SOF WARRIOR SYSTEMS

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Cartridge Cases with Venting Holes





Slow Cook-off Test

Before

Second Test

After



30, 3/8 inch
holes in cartridge case



Fragment, 4 feet from oven



Slow Cook-off Test

First Test



Cartridge case with 6,
 $\frac{3}{4}$ inch holes



Fragment, 30 feet from
oven



Fast Cook-off Test

Cartridge With 30, 3/4 inch Holes Test #2



Cartridges, after the test remained on
the pit



Modified Slow Cook-Off Test



Thermal Gasket on Primer



Cartridge case with 6 holes in Slow Cook-Off oven



AC 130 Projectiles for 105MM Gun

Where to Next?

- Explosive!!
- PBXN-109 has been selected as the explosive for the PGU 44/B
- A new Initial Capability Document (ICD) requires a blast output as well as lethality when firing the PGU 44/B inside a building
- PBXN 109 meets the ICD requirement and IM Insensitive criteria
- Gun firing were conducted at Eglin AFB in March 07 to determine blast output, pressure and gun survivability
- Thermal tests with AUR will be conducted later in FY 07



105 MM Gun Firing Test



105 MM Projectile and Breech



105 MM Gun

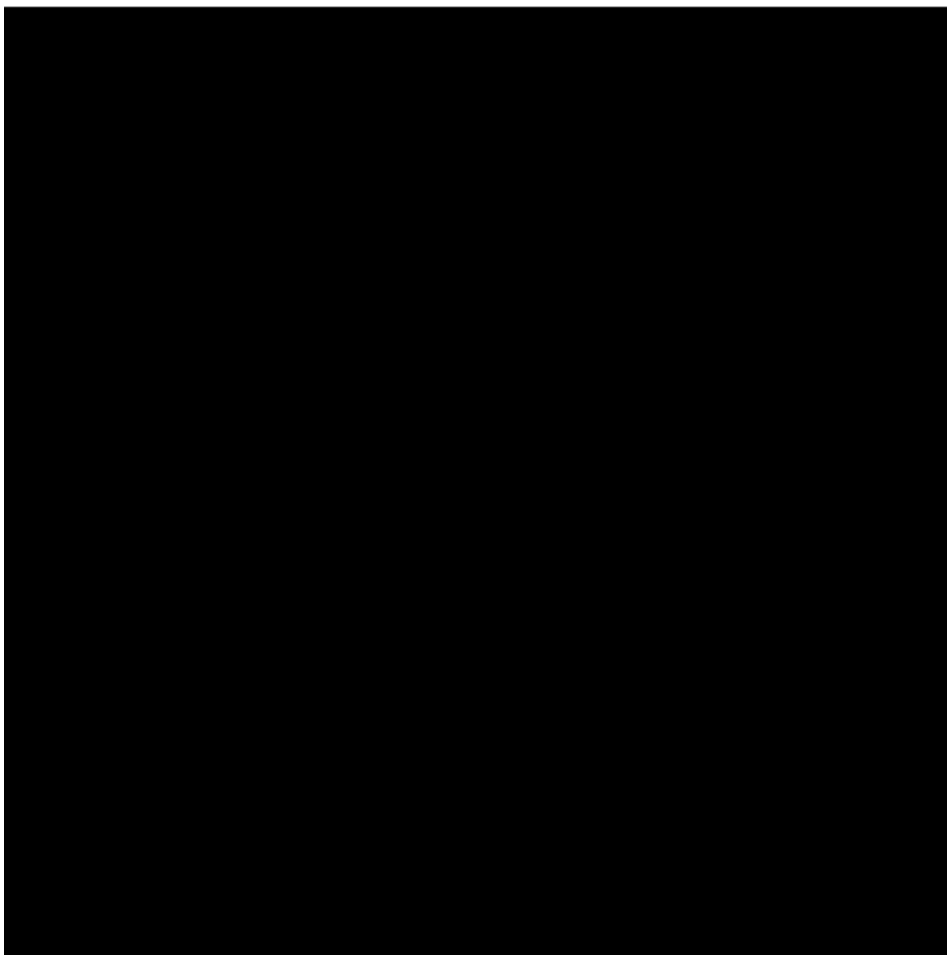


PBXN-109 Fuze Set PD





PBXN-109 Fuze Set PD Delay





Comp B Fuze Set in PD Mode





PBXN-109 Fuze Set PD

Same target as Comp B





Comp B on Left PBXN-109 to the Right

Comparison Test





Plugs in Cartridge Case

Before Firing





PBXN-109 with Polyurethane Liquid Plugs in Base of Cartridge





Plugs in Cartridge Case

After Firing





Plugs in Cartridge Case Liquid Polyurethane

Before Firing





PBXN-109 with Polyurethane Plugs in Base of Cartridge





Plugs in Cartridge Case Liquid Polyurethane

After Firing





Inside View of Cartridge Case with Liquid Polyurethane

After Firing





Inside View of Cartridge Case with Polyurethane Plugs

After Firing





Polyurethane Plug

Machined Plug, After firing



What's Next?

- Conduct a full up round test with vented cartridge case (including venting plugs and projectiles filled with PBXN-109).
- Prepare a SOW to purchase 105 mm cartridges to conduct a full qualification test in FY 08.