



Technical Topics

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ATF licenses

HIGH TEMPERATURE INITIATORS

Standard EBW detonators with their PETN initial pressing are not capable of withstanding the elevated temperatures encountered in deep down-hole operations or in various thermal related experiments. RISI makes a number of detonators that can be used at higher temperatures. These include:

Det.	P/N	Type	Explosive
RP-750	188-7392	EBW	RDX
RP-800	188-7330	EBW	RDX
RP-830	188-7342	EBW	RDX
RP-850	188-7394	EBW	RDX
RP-880	188-7354	EBW	RDX fluid desensitized
RP-95	188-7373	EFI	HNS
RP-96	188-7393	EFI	HNS
RP-97	188-7399	EFI	HNS
SQ-2	188-7381	EBW Ignitor	
SQ-80	188-7382	EBW Ignitor	

The RP-800 has the same dimensions as the PETN RP-80 while the RP-830 has the same dimensions as the PETN RP-83. To minimize any confusion between PETN detonators and RDX detonators, all RDX detonators are manufactured with yellow colored aluminum cans. The RP-880 is designed such that the detonator will fail if submerged in a liquid. This is frequently a requirement in the oil industry.

The RP-95, RP-96, and RP-97 are Exploding Foil Initiators (Slappers) which require a unique firing system but does allow even higher operation temperatures than RDX.

The SQ-2 and SQ-80 are EBW Ignitors which have a deflagrating output rather than the detonating output of a normal detonator. These may be used to initiate propellant type mixtures.

The threshold characteristics of PETN and RDX EBW detonators are very different. The following thresholds are representative for PETN and RDX detonators:

	PETN	RDX
Threshold Voltage	500v	800v
Threshold Burst Current	200 amps	500 amps

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Under worse case conditions, using a RISI FS-9 firing system, this translates into firing over the following cable lengths:

	Max. Cable Length	
	Twin Lead (P/N 167-8559)	Coax (P/N 167-2669)
PETN Detonators	100ft	300ft
RDX Detonators	20ft	60ft

While the melting points of these explosives give some indicator of their potential thermal capability, this does not tell the whole story. Unfortunately, there seems to be a great deal of variation in experiments performed to measure thermal capability. These variations are probably due to the purity of the explosives. The following chart shows the melting points and what is generally considered to be a safe one hour operating temperature.

	Melting point	One Hour Data
PETN	284°F	260°F
RDX	400°F	330°F
HNS	600°F	540°F

Interested? Call for more details.

ATF LICENSES

One of our readers questioned whether the credit cards we accept (Visa, MasterCard, American Express) take the place of an ATF license! WRONG! All explosive purchases require a copy of a current ATF license with an original signature. The only exceptions are State and Federal governments and international shipments. *Each international shipment requires an approved State Department license* since virtually everything we make is on their Munitions Control List (obviously because of our incredibly high quality). We started accepting credit cards at the request of the U.S. Government as part of their perpetual attempt to reduce paperwork.

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