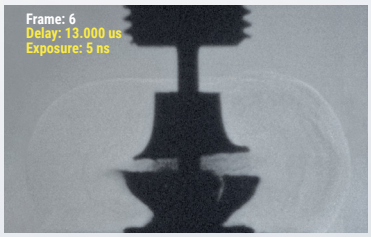
X SPARK

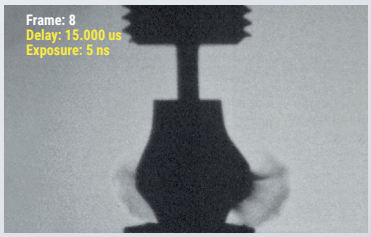
ADVANCED ELECTROSTATIC SPARK SENSITIVITY APPARATUS

The X SPARK™ is the newest generation of the universal testing instrumentation designed for the precise evaluation of the sensitivity of energetic materials to electrostatic spark in the range of discharge energies from 25 µJ to 17.5 J and voltages between 500 V and 10 kV.

Testing of electrostatic spark sensitivity together with testing sensitivity to both impact and friction, are crucial methods for the determination of safety parameters. The X SPARK provides the precise measurement of spark energy of initiation for a wide range of crystalline energetic materials from primary explosives to low sensitive plastic explosives.



Ignition – detonation of a primary explosive



Ignition – burning of a pyrotechnic mixture

APPLICATIONS

Electrostatic discharge is one of the most frequent and the least characterized causes of accidental explosions of energetic materials. Together with friction and impact sensitivity, it provides the necessary information for safe handling and manufacture of the energetic materials.

Reliable data on the electrostatic spark sensitivity of energetic materials is thus critical for their manufacture, quality control, explosives processing, loading, transportation, storage, demilitarization and research and development of the new explosive materials.

Approaching needle testing stand

ADVANTAGES & FEATURES

- Unique compact design
- Replaceable spark gaps
- Several models of automatically operated testing stands according to different international standards including stands with fixed electrodes and with an approaching anode
- Consumables at affordable prices
- Modified designs of the spark gap assemblies according to the requirements of other standards or testing methods are available upon request
- External testing assemblies are designed for up to 500 mg explosive samples
- Wide selection of capacitors in the capacitor bank for testing with wide ranges of spark energies
- Easy implementation of the Standard Operation Procedures (SOP) and tailoring the testing procedures to the specific requirements

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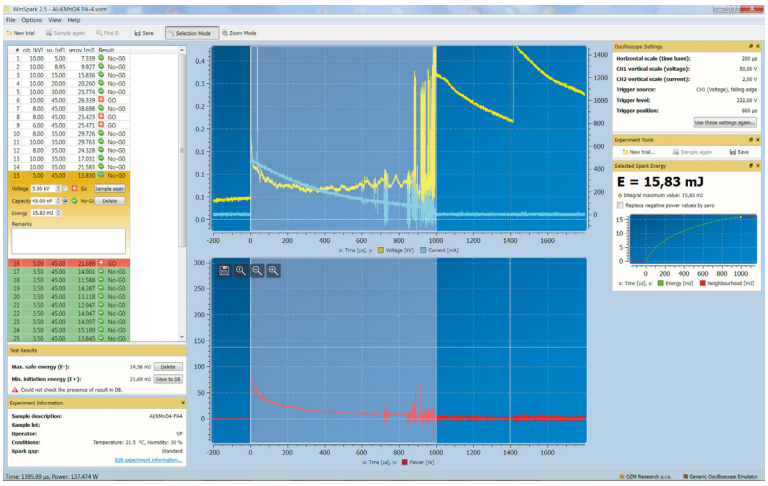
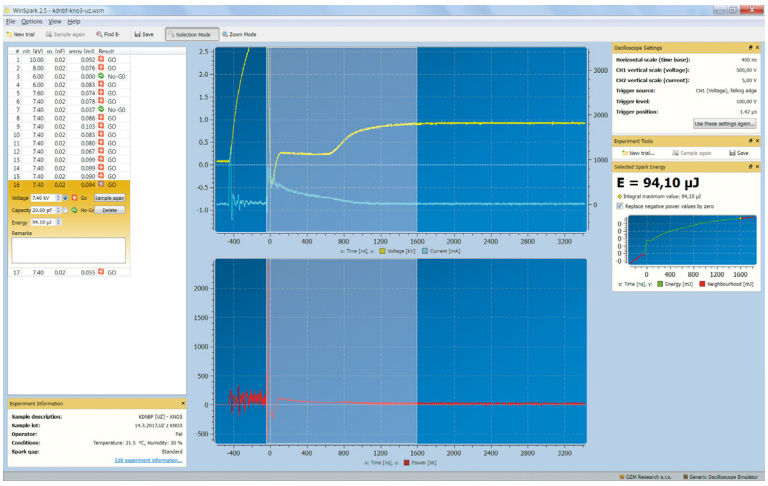
design by Jan ERMIS





Winspark software screenshots

COMPLIANCE

- **EN 13938-2**, Part 2
- **MIL-STD-1751A**, Method 1031 (Methods 1032 and 1033 avaible upon request)
- **STANAG 4490**

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L SPARK™ vs. X SPARK™ Comparison of Technical Parameters

	L SPARK	X SPARK
Direct discharge energy evaluation	–	●
Automatic test stand function	–	●
Static electrode test stand	●	●
Moving electrode test stand	–	●
Working voltage up to 10 kV	●	●
Set of external and built-in capacitors	●	●
Application of statistical testing procedures	–	●

● Supported – Not supported

L SPARK™ vs. X SPARK™ Comparison of Applications

	L SPARK	X SPARK
Explosives, Propellants and Pyrotechnics	●	●
Research & Development	○	●
Service Qualification	●	●
Product Quality Control	●	○
In-service Surveillance	●	○
Storage & Transport Safety (Risk)	○	●
Ammunition Demilitarization	●	●

● Applicable ○ Limited use

Other available version of spark testers

ESD LS30™

Large-scale electrostatic discharge sensitivity tester

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