

Development of Pyrotechnic Means for the Destruction of Data System Components

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Abstract:

The use of electronic means increased tremendously in the last two decades. The amount of personal and business related sensitive data especially on the mobile means, e.g. laptop, PDA or cellular phone, is growing even more. The prevention of unauthorized access to these sensitive data on electronic and communication equipment is at the moment an unsolved problem. One solution of this problem is the physical destruction of the storage medium by pyrotechnic means.

The development and characterisation of a suitable gas generator composition is described. The basic components of the formulations had been selected to obtain either a thermal destruction or a physical deactivation of major electronic parts. At start of work thermodynamic calculations had been performed to optimize the product spectrum and to obtain the basic chemical and physical data of the pyrotechnic composition. Thermo analytic methods (TG, DSC) were applied to characterize the decomposition behaviour of the selected formulation. The safety parameters for the handling of the substance, e.g. sensitivity to friction and impact, ignition temperature, were determined. The reaction and combustion behaviour had been investigated by experiments in ballistic and optical bombs. A device for testing on real parts has been designed.