加速老化到 56 天和 60 天,这种线性相关性降低。这说明,在该加速老化试验条件下,火工品在加速老化时间分别为 21 天、35 天和 45 天的老化速度基本上是一致的;当老化时间继续延长,其老化速度也逐渐加快。

（3）在该加速老化试验条件下,当加速老化到 56 天,该火工品被测样品的可靠度由老化 45 天的 100% 降低为 98.98%,当加速老化到 67 天,其可靠度降低为 15.06%。这说明,老化到一定时间,其可靠度降低的速度越来越快。

参考文献：

[1] Laurence J Bement. Pyrotechnic system failure：Causes and Prevention[R]. NASA Technical Memorandum 100633,1988:1 – 40.

[2] William H Simmons. Apollo spacecraft pyrotechnics[C]//proceedings of the 6th Symposium on Electroexplosive Devices. San Francisco, Calif.：The Franklin Institute Research Laboratories, 1969：2 – 7.

[3] Laurence J Bement. Manual for pyrotechnic design：Development and Qualification[R]. N95-31358,1995.

[4] 王汉功,徐远国,张玉民,等. 装备全面质量管理. 北京：国防工业出版社, 2003.

[5] 泸州化工厂. 火工品可靠性分析[R]. GF-A0033777,1998.

[6] 杨宇航,周源泉. 加速寿命试验的理论基础[J]. 推进技术, 2001 (4)：276 –278.
YANG Yu-hang, ZHOU Yuan-quan . Theoretical foundation of accelerated life testing[J]. Journal of Propulsion Technology, 2001, (4)：276 –278.

[7] 林震,张爱民,沈朝晖,等. 谈谈高加速寿命试验[J]. 环境技术, 2002(4)：5 – 9.
LIN Zhen, ZHANG Ai-min, SHEN Zhao-hui, et al. Talk about highty accelerated life test[J]. Journal of Environment Technology, 2002(4)：5 – 9.

[8] 张春华,温熙林,陈循. 加速寿命试验技术综述[J]. 兵工学报, 2004(4)：485 –490.
ZHANG Chun-hua, WEN Xi-sen, CHEN Xun. A comprehensive review of accelerated life testing[J]. Journal of Acta Armamentall, 2004(4)：485 –490.

[9] 涂小珍,李敬明,韦兴文,等. 某火工品贮存老化效应分析研究[J]. 含能材料, 2008(5)：539 –542.
TU Xiao-zhen, LI Jing-ming, WEI Xing-wen, et al. Study on the aging effect of a detonator[J]. Chinese Journal of Energetic Materials(Hanneng Cailiao), 2008(5)：539 –542.

[10] 冯国田,刘伟钦. 火工技术与实践[M]. 北京：国防工业出版社, 2004.

Property Assessment of a Initiating Device by Accelerated Life Test

TU Xiao-zhen, **WEI Xing-wen**, **WANG Pei**
(*Institute of Chemical Materials*, *CAEP*, *Mianyang* 621900, *China*)

Abstract：The change of an initiating device's function time was studied by accelerated life test at 60 ℃, and relative humidity 95%. Results show that the mean value of the detonator's single function time prolongs when the time of life test continues. And at the ageing time of 0, 21, 35 and 45 days, the maximum value of function time and the ageing time have good linear relatioushIp. The reliability value of the tested sample falls to 98.98% when the ageing time is 56 days, and falls to 15.06% when the ageing time is 67 days.
Key words：military chemistry and pyrotechnics；detonator；accelerated life test；reliability assessment

❀读者·作者·编者❀
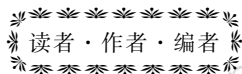
特别策划：高品质 HMX 与 RDX 专栏

高品质 HMX 与 RDX 的制备及相关研究,为研制新型低感(钝感)高能炸药、弹药、推进剂提供了一条有效的技术途径。为促进高品质 HMX 与 RDX 的研究,本刊于 2010 年 10 月第五期特别推出专栏——高品质 HMX 与 RDX。敬请关注,欢迎赐稿。

《含能材料》编辑部