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ZHI Xiao qi,HU Shuang qi,LI Juan juan,et al.Cook off Response Characteristics of Desensitizing RDX Explosive under Different Restriction Conditions[J].,2009,32(3):22-24.

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## 不同约束条件下钝化RDX的烤燃响应特性



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《火炸药学报》 [ISSN:1007-7812/CN:61-1310/TJ] 卷: 32 期数: 2009年第3期 页码: 22-24 栏目:  
出版日期: 2009-06-30

Title: Cook off Response Characteristics of Desensitizing RDX Explosive under Different Restriction Conditions

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关键词: [材料科学](#); [烤燃实验](#); [钝化RDX](#); [热安定性](#)

Keywords: [material science](#); [cook off test](#); [desensitizing RDX](#); [thermal stability](#)

分类号: TJ55; TQ564

DOI: -

文献标志码: A

摘要: 以2℃/min的升温速率对带壳的钝化RDX炸药进行慢烤试验,研究了不同约束条件下钝化RDX的烤燃响应特性。结果表明,材料相同时,随着厚度的增加炸药耐烤燃时间随之增长,但反应的剧烈程度逐渐减弱;厚度相同时,耐烤燃特性随材料物理性能的不同发生变化。根据材料力学理论和传热学理论,对所产生的现象进行了分析。结果表明,材料相同时,增加壳体的厚度,可以提高钝化RDX的热安定性;材料不同时,采用热导性低的材料可以提高炸药的热安定性。

Abstract: A slow cook off test of desensitizing RDX cylinder with shells at a heating rate of 2℃/min is performed to investigate the response characteristics of desensitizing RDX explosive under different restriction conditions. The test results show that the response time increases with increasing the thickness of shell when material is same and drastic degree of explosive response weakens with the increase of the restriction.And the response time change with the change of physical characteristics of materials.The phenomenons are explained according to the theory of mechanics of materials and heat transfer,showing that the vulnerability of booster can be reduced by increasing thickness of shell and with the low thermal conduct material.

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备注/Memo: 收稿日期: 2008 11 13; 修回日期: 2009 03 17 作者简介: 智小琦(1963-), 女, 副教授, 从事弹药工程与爆炸技术研究。

更新日期/Last Update: 2010-01-26