

Dynamic Tensile Mechanical Properties of Three Types of PBX

ZHAO Yu-gang¹, FU Hua¹, LI Jun-ling^{1,2}, CHEN Rong², WEN Shang-gang¹

(1. National Key Laboratory of Shockwave and Detonation Physics, Mianyang 621000, Sichuan; 2. College of Science, National University of Defense Technology, Changsha 410073, China)

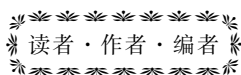
Abstract: Tensile mechanical properties of some PBXs were evaluated by Flattened Brazilian Disc (FBD) and Split Hopkinson Press Bar (SHPB). Quartz transducers and digital image correlation (DIC) technology were used to measure stress and strain information. Stress-strain curves of three types of PBXs under strain rate of 10^2 s^{-1} were obtained. Results show that all of the tensile strength, failure strain and dynamic modulus have relationship with the loading strain rate. A constitutive model had been established based on the experimental data.

Key words: solid mechanics; Brazilian test; PBX (polymer bonded explosive); split Hopkinson press bar (SHPB); digital image correlation (DIC)

CLC number: TJ55; O34

Document code: A

DOI: 10.3969/j.issn.1006-9941.2011.02.016



广西金建华民爆器材有限公司

“GTX 起爆药及其系列雷管生产线”通过验收

2010年12月24日,广西壮族自治区工业和信息化委员会在广西百色主持召开了广西金建华民爆器材有限公司“GTX起爆药及其系列雷管生产线”验收会。国家民用爆破器材产品质量监督检验中心蒋荣光研究员任鉴定委员会主任,兵器工业安全技术研究所魏新熙研高工任副主任委员,来自全国民用爆破器材科研、检测、安全评价和生产领域的11位专家和60余名代表听取了项目研究总结报告,产品检测报告,用户使用情况报告,现场考核了生产线和运行状况,通过认真审查和评议,一致同意广西金建华民爆器材有限公司“GTX起爆药及其系列雷管生产线”通过验收,并转入正常生产。验收专家认为:通过使用 GTX 起爆药,实现了起爆药生产和使用过程的安全环保,使用性能可靠,能够很好地满足生产和雷管使用要求,具有显著的社会效益和经济效益,具有良好的推广应用前景。

(广西金建华民用爆破器材有限公司 李丕和供稿)