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## Different Loading Methods in Brazilian Test for PBX

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**Abstract:** To investigate the effects of loading methods in Brazilian Test on tensile strength for the PBX, traditional Brazilian Test, arc Brazilian Test and rubber-cushion Brazilian Test were conducted for PBX specimens, and the corresponding tension strengths was 3.57 MPa, 5.22 MPa and 5.48 MPa respectively. Compared with the tension strength of 5.5 MPa by standard tensile test, the rubber-cushion Brazilian test shows same result. The load-displacement curves of the traditional Brazilian test and the arc Brazilian test were invalid, but the load-displacement curve of rubber-cushion Brazilian test was valid. Small cracks appear at loading contact zones besides the leading cracks through samples by the traditional Brazilian test and the arc Brazilian test, but there was only one diametrical crack by the rubber-cushion Brazilian test. It indicates that the rubber-cushion Brazilian test established by this work is better to measure the tensile strength of the PBX than the other Brazilian test methods.

**Key words:** solid mechanics; polymer bonded explosive (PBX); Brazilian test; Arc Brazilian test; rubber-cushion; tensile strength

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## 特别策划——《高效毁伤技术研究》专栏征稿启事

高效毁伤技术研究受到国内外科研工作者的广泛关注。为此,《含能材料》将于2012年12月第6期组织出版“特别策划——《高效毁伤技术研究专栏》”。内容涉及先进炸药技术、先进引信技术、高效毁伤战斗部技术。以原创性地研究论文为主,少量的研究综述及研究快报。

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