

Experimental of Inverted-T Shape Reinforced Concrete Wall Subjected to Blast Load

M.A. Seman^{1,a}, S.M. Syed Mohsin^{2,b}, A.M.A. Zaidi^{3,c}, M.F.S. Koslan^{4,d}
and Z. M Jaini^{5,e}*

1Department of Civil Engineering, Universiti Malaysia Pahang, 26300, Malaysia

2Faculty of Civil Engineering Technology, Universiti Malaysia Pahang, 26300, Malaysia

3Department of Mechanical Engineering, Universiti Pertahanan Nasional Malaysia, 57000, Malaysia

4Royal Malaysian Air Force, Ministry of Defence, Kuala Lumpur, Malaysia

5Faculty of Civil & Environmental Engineering, Universiti Tun Hussein Onn, 86400, Malaysia

a*mazlanseman@ump.edu.my, bmaszura@ump.edu.my, cmujahid@upnm.edu.my,
dfuadpostgrad@gmail.com, erizuan@uthm.edu.my

ABSTRACT

Reinforced concrete (RC) widely used as the construction material for the main structural element for many significant structures such as bridge and building because of its relatively high strength and economical. However, there still lacks research published regarding the appropriate reinforcement steel arrangement in a complete RC structure subjected to blast load. Most of the published experimental works focused on the small rectangular or square RC panel. From the record search, the approved design by professional engineers, when RC wall subjected to the possibility of blast load, both RC wall details either retaining wall or shear wall implemented. Therefore, the fullscale blast experiment is vital to appraise the appropriate steel reinforcement arrangement in the RC wall. The blast experiment indicated, with different steel reinforcement arrangement in the RC wall, the better blast resistance with the number of cracks on the RC wall is significantly less from one another for the wall with the arrangement of horizontal flexural reinforcement tied-outside the vertical flexural reinforcement and the hooked-in direction of vertical flexural steel reinforcement into the wall base.

KEYWORDS: Reinforced concrete; Wall; Structure; Blast

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