QUALITY CONTROL TESTING OF PLASTERBOARD FOR BRACING APPLICATIONS

Y L Liew
Vicroads
Victoria, Australia

E F Gad
The University of Melbourne and Swinburne University of Technology
Victoria, Australia

C F Duffield
The University of Melbourne
Victoria, Australia

ABSTRACT

It is well recognized around the world that plasterboard clad walls can provide significant bracing to light framed residential structures. In Australia, local codes of practice allow up to 50% of lateral bracing to be provided by such walls. While plasterboard contributes to the structural performance, associated quality control tests do not explicitly cover the bracing quality of plasterboard. The majority of existing quality control tests are related to other performance criteria such as damage during handling and punching of nail or screw heads through the plasterboard in ceiling applications. This paper reports the findings of a study into the adequacy of existing plasterboard quality tests as a measure of its bracing capacity. The paper also reports the development of a new test method, described herein as fastener bearing test, as an alternate quality control method for bracing capacity of plasterboard. This fastener bearing test is subsequently validated through an extensive experimental program. The paper concludes that the proposed test is a simple and reliable method to assess the bracing capacity of plasterboard.

Key words: Light-framed Structures, Plasterboard, Gypsum, Testing, Bracing.