

Bushfire traps: the application of mesh screens to contain bushfires

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Abstract

Bushfires have become an all too frequent natural disaster in Australia. The severe impact of the incidents, especially in recent years, indicates the relative ineffectiveness of available techniques to contain them. The options to eliminate or reduce their impact include the application of wire meshes, which appears to be an effective technique. As filters and flame arrestors the benefits of meshes are well-established, and Australian standard for construction in bushfire prone areas (AS3959) recommends their use. However, the effectiveness of wire meshes in controlling bushfire propagation requires further investigation. In recent research carried out by the authors, it has been revealed that the screens are able to reduce the radiant heat flux, as well as effectively to weaken ember attack. The effects of screen parameters such as cell size, porosity, cell shape, weaving type and the screen orientation with respect to wind direction have been investigated experimentally and the results are presented in this paper.

Javad Hashempour Born on 21st of March 1985 and has been graduated Bachelor of Science in power engineering in 2007 from National Technical University of Ukraine “Kyiv Polytechnic institute”. Javad received his Master of Science from School of Aerospace, Mechanical and Civil Engineering, University of Manchester in 2010 and since May 2012 fulfills his PhD research project in mechanical engineering at school of Mechanical and Electrical Engineering, University of Southern Queensland.

He has 3 years’ industrial experience in power systems and worked as project engineer in several projects. His current research is on applying metal screens to contain bushfires.

Javad presented in the following conferences;

1. **Javad Hashempour**, and Ahmad Sharifian. "Potentials of metal mesh to contain bushfires." *Proceedings of the 2012 Qld Southern Regional Engineering Conference (SREC 2012)*. Engineers Australia, 2012.