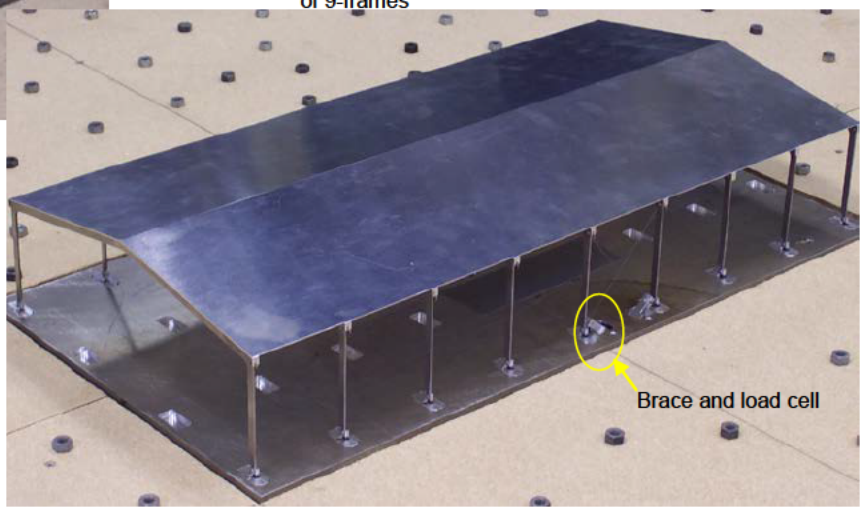
MBMA Open Frame, USA

Wind Engineering Study

70 ft wide, 20 ft high building consisting of 6-frames

100 ft wide, 30 ft high building consisting of 9-frames



40 ft wide, 12 ft high building consisting of 3-frames

Client		
Metal Building Manufacturers Association, 1300 Sumner Ave, Cleveland, OH		
Height	*Year Tested*	*Model Scale*
Three eaves heights of 12, 20 and 30 feet	2007	1:100

The Project

The objective of the study is to determine the wind-induced drag and bracing loads in the direction normal to the frames (parallel to the ridge) for open frame, low-rise buildings.

The Wind Tunnel Studies

The overall drag loads were measured using the force balance technique.

The bracing loads were determined using the load cell measurements.

In total, 18 configurations consisting of three different frames sizes in the range of widths from 40 feet to 100 feet and heights from 12 feet to 30 feet, with buildings consisting of 3, 6 and 9 frames of several solidity ratios were examined in an open country terrain at a scale of 1:100.

The Boundary Layer Wind Tunnel Laboratory

Western

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FSTB/ 286 /March 2008 /JHO
Last Printed: March 06, 2009