



Solar Racking for Ballasted Membrane Roofs

[D. Scipione, Ph.D.](#), D. Kelly, M. Keller, C.F. Kwan, J. Turner,
Z. McLean, S. Saba, A. Simon, C. Mazziotto

INTRODUCTION

Ballasted membrane roofs require 10 psf of ballast spread evenly over the entire roof.

This weight can approach a roof's structural limit, making solar unfeasible.

METHODS

Roll-A-Rack is a long gutter-like channel that holds ballast and supports the solar panels.

The rack and solar panel exert a pressure of 3.5 psf.

Adding 6.5 psf of ballast into the rack channel gives a total of 10 psf.

Install solar arrays
on ballasted membrane roofs
without additional load



RESULTS

Roll formed racks as thin as 22-gauge hold enough river rock to ballast the underlying membrane roof and the solar array.

CONCLUSION

Solar on ballasted membrane roofs is always feasible.

MORE INFO (LINKS)

- [Roll-form Video](#)
- [Wind Tunnel Video](#)
- [UL1703 Fire Video](#)
- [Seeking Beta Testers](#)



[Seeking Beta Testers](#)