

Solar panels preliminary structural analysis

From: **Laki Revellos** <lrevellos@hhconsult.com.au>
Date: Tue, Jan 21, 2020 at 4:58 PM
Subject: RE: 112 Euston Rd Alexandria
To: David Watt <david@wattnext.com.au>

Hi David,

I have done some preliminary analysis of the existing steel framing with the proposed solar panel loads.

Both purlins and rafters will be working hard strength-wise but appear to have sufficient strength to support the solar panels. There will however be an issue with deflection with all members.

I believe that the deflection in the purlins will exceed acceptable standards and may result in possible ponding/water ingress issues. Similarly, I have reviewed the rafters for loading on the northern side of the ridge only. I believe that they also will exceed acceptable deflection limits. These reviews also assume that the entire section of roof is loaded, which is slightly conservative based on our conversation earlier however I do not believe that any refinement of the loading will make a significant difference. It is my opinion that the existing roof structure will require strengthening works in order to sufficiently support the proposed solar panel loading.

I hope this has been helpful. Let me know if you need any further clarification.

Kind Regards

Laki Revellos
Partner - Senior Structural Engineer

Mobile: 0419 400 655
Phone: 02 9417 8400
Suite 2.01, 828 Pacific Highway
Gordon NSW 2072
henryandhymas.com.au

From: **Richard Keetley** <richard@awsolar.com.au>
Date: Tue, Jan 21, 2020 at 12:03 PM
Subject: RE: 112 Euston Rd Alexandria
To: David Watt <david@wattnext.com.au>
Cc: Jake Luschwitz <jake.luschwitz@visy.com.au>

Hi David,

Attached is a datasheet for commercial panel we use for installations like this.

Its weight is 23.1kg, and its area is 2.0629m².

So weight per square meter is 11.197kg

With panels flat to the roof the mounting frame to support the panels adds about 0.5kg per square meter.

Please note, wind loading (and uplift) particularly near roof edge areas should also be considered.

All the best,

Richard

Solar panels preliminary structural analysis

Richard Keetley

Director

AUSTRALIA WIDE SOLAR

P: +612 9533 7444 | M: +61 0414 706 717

E: richard@awsolar.com.au

Unit 34, 17 Lorraine Street | Peakhurst NSW 2210



Winner of a 2019 Clean Energy Council Design and Installation Award.

Australia Wide Solar is an award-winning design and EPC company for over 27 years. We continue to provide excellence in service and long-term support in the renewable energy industry. If you like our services or the planet, then recommend us to a friend 😊

Australia Wide Solar Pty Limited ABN 89 498 082 914

This email (including all attachments) may contain personal information and is intended solely for the named addressee.

To access our complete Email Disclaimer [click here](#)

For our Terms and Conditions [click here](#)