February 12, 2021

Re: Tesla Retrofit PV Structure Qualification Certification Letter

Tesla's Retrofit PV product is an assembly consisting of Zep ZS Comp and Zep ZS Span mounting hardware for comp shingle or tile roof coverings and PV modules using the Zep Compatible frame. Please refer to the product data sheets, UL listing, and installation documentation for further information.

The Tesla Retrofit PV assembly is used on roofs with a minimum 3/12 pitch, is installed with staggered attachments (see installation manual) and does not exceed 3 psf. Installation of the Tesla Retrofit PV assembly offsets load in areas of the roof designed to support a roof live load and provides a lower-friction surface than the existing roof. The weight of the offset live load or difference in accumulated roof snow load as a result of reduced surface friction (in regions where the roof snow load is greater than the roof live load) will exceed the weight of the PV assembly. Consequently, the net additional loading impact to existing gravity load resisting elements is less than 5% for the framing of pitched roof structures with existing roofing material comprised of comp shingle or tile. Note that this assessment does not apply to structures with existing metal roof coverings in regions where roof snow load is greater than roof live load.

The PV system alteration increase in the lateral demand of the existing structure is less than 10 percent. The existing structure is adequate to support a PV alteration per 2015 IEBC to 402.3 & 402.4

I certify the installation of the Tesla Retrofit PV assembly on existing structures with: a) existing roofing material comprised of comp shingle or tile roof coverings and b) no existing structural damage; meets the criteria outlined in the "Alterations" section of the "Prescriptive Compliance Method" chapter of the IEBC and is therefore permitted by 2018 North Carolina Residential and Building code without alterations or strengthening of the existing framing.

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