FTMA TECH TALK

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Ranville Marmeto - MiTek Design Engineer

PROTECT TRUSSES FROM THE WEATHER

As the summer season approaches, it brings unpredictable weather that can negatively impact timber roof trusses and frames. If these structures are left exposed for extended periods, it will suffer significant damage.

An example of such situation is where the trusses and frames are left uncovered due to construction delays which can prolonged for weeks, months and sometimes almost a year. Then the job resumes, in most cases, builder disregards the idea to have these structures checked or inspected by the manufacturer or engineer.

This oversight can lead to significant risks, as prolonged exposure to the elements will compromise the integrity of the timber structure. The timber components are likely to warp, split, and suffer from fungal damage. Nail plates will show signs of surface corrosion with teeth backing out losing its grip. Additionally, the trusses will lose their camber and experience increased creep deflection under service load.

Movement on the structure (or even collapse) will have major ramifications into work practices. In unfortunate cases, this could lead to injuries to the public and potential criminal charges for negligence. Therefore, it is crucial that a qualified engineer inspects the trusses and frames whenever there are signs and evidence of weathered structures.

A comprehensive report on the condition of the trusses and frames, along with recommendations for repairs, will be necessary. Additionally, these structures in a weathered state should not have been installed initially without a thorough examination. The builder risks automatically losing his warranty had he completed the job without seeking any professional help to rectify this issue.

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For fabricators, it is essential that upon delivery of trusses to the site, builders are instructed to take prompt measures to cover and safeguard them if they are not scheduled for immediate installation. Protective covering or similar weatherproof materials that allow free air circulation; Additionally, placing timber fillets at intervals of 2.0m-2.5m to clear trusses off the ground can help prevent significant weather-related damage.

Please refer to Gang-Nail Guidelines No. 92 “Proper Storage of Trusses” for more details on this subject or refer to AS4440-2004 Appendix E3.

It is crucial for everyone to recognise the damaging impact that prolonged exposure to weather can have on frames and trusses. Understanding this risk will help ensure that appropriate preventative measures are implemented to maintain the quality of the timber truss structure before any undesirable and costly damage takes place.

Introducing Ranville Marmeto, a skilled design engineer supporting MiTek customers with design solutions. With a Bachelor’s in Civil Engineering and 16 years of experience across multi-storey and residential construction, Ranville’s journey with timber engineering began in 2015.

Ph: 1800 0 64835

E: ranville.marmeto@mii.com