FTMA TECH TALK

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N.D.I.S. CEILING HOISTS

There has been a large increase in the number of National Disability Insurance Scheme (NDIS) Specialist Disability Accommodation (SDA) dwellings constructed recently. While these buildings must comply with the minimum prescriptive requirements of the NCC, there are also additional SDA Design Standard requirements.

There is still some discussion about what the actual classification of SDA dwellings are in accordance with the NCC i.e. class 1a, 1b or 3. This may come down to the interpretation of the building certifier and may affect the construction requirements of the NCC.

One of the many requirements for SDA dwellings includes that bedrooms and bathrooms shall have provisions for inbuilt structure capable of installation of a ceiling hoist. Ceiling hoists may be ceiling mounted, or wall mounted.

Ceiling hoists are typically used to safely assist transferring people from beds, chairs, toilets etc. The lifting capacity (safe working load) of the hoist will depend on the manufacturer's specifications. This would include the self-weight of the unit and rails, as well as the lifting capacity.

For SDA dwellings the hoist is for possible future installation, so the manufacturer is not typically known and therefore the actual specifications are also not known. Typically, the drawings will indicate a **maximum** capacity e.g. 250kg, however the SDA Design Standard specifies the **minimum** load capacity of the hoist is to be 250kg. Be careful to clearly document what loads are applied to your designs.

As a truss designer it is ideal to know the exact locations of the hoist rails so that a load can be applied at specific locations.

For SDA dwellings this is often not the case, and the ceiling hoist could be located anywhere within the room(s). This can really complicate the design process when the bedroom is located under a hip end with hips, jacks, truncateds, and these may be supported by a girder truss (hierarchical loading).

When applying the loads there may be a nominal dead load to be applied due to self-weight, and the safe working load would be applied as a live load. Depending on your design software, you may be able to input the live load as a short-term or a medium-term live load, and you may be able to use a load combination that is separate from other load combinations. For example, the hoist load will be applied at some time in the future and may not be combined with the construction live loads.

It is also important to note that additional connection details may be required. For example, if the load is applied to a hip end, the minimum connection details specified in AS4440 may require additional fixings. Again, be careful of hierarchical load combinations (particularly cumulative loads) and how these may affect the connection details.

Consideration of how the hoist is to be installed in the future may also be required. For example, if the hoist rail is located between two trusses, they may require some form of hanging beam or unistrut to run across the bottom chords. This may require increasing bottom chord sizes to match neighbouring trusses.

We are seeing a lot of NDIS projects requiring certification by a registered engineer. These certificates can be for both the design and installation inspection. Ensure that you allow for adequate engineering fees in your quotation.

It is important that you provide adequate notation on your documentation what has (or has not) been allowed for in your designs. If you require any assistance, contact your local nailplate supplier.

This FTMA Tech Talk was written by **Dean Ashton, Senior Structural Engineer** of FTMA **Principal Partner, Multinail**.

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