

standard specification. Ultraline® has the similar fire resistance characteristics as Fyrelite®. Substituting combustible framing and using non or low combustible materials, such as Ultraline® will assist to reduce the consequences of uncontrolled fire. Remember, ZOG® Steel frames will not ignite and do not burn. When Fire resistance is a critical consideration in construction, ZOG® Steel framing provides a great solution.

### Expansion/Contraction

With the use of ESI® sheet, ZOG® Steel framing expansion and contraction rates are negligible due to minimal direct heat transfer to the frame even in hot weather. Furthermore ZOG® Steel framing possesses a compatible expansion coefficient with that of Ultraline® plasterboard, thereby minimising the incidence of cracking.

### Condensation

The most simply realised measurement of humidity (amount of water vapour in the air) is the temperature at which water vapour first condenses. This temperature is known as the “Dew-Point”. The engineered ZOG® Steel frame system has a ESI® sheet Thermal Break and hence remains above Dew-point. Timber does not require a Thermal Break and may fall below Dew-Point. Without a Thermal Break, Timber frames will condensate in higher temperatures than ZOG® Steel frames.

Any moisture on Timber can start deterioration which can continue even after it dries. When any moisture on Steel dries, the Steel will not rust.

### Construction

During periods of wet weather or during winter months the moisture level in Timber frames can become too high and internal wall lining can not be commenced until the moisture levels drop sufficiently. ZOG® Steel frames do not suffer from this inconvenience so construction times are often significantly reduced.

As ZOG® Steel frames are so dimensionally straight, trades people find there is no need for packing to compensate for non-linear dimensions as is often the case with Timber framing. Internal lining tradespeople prefer ZOG® Steel framing because of its straightness and accuracy. Specialist subcontractors can install bathrooms and kitchens more easily and at a lower cost for the same reasons. The dimensionally stable properties of ZOG® Steel framing assists in providing a very high standard of internal finish that will last, as ZOG® Steel framing will not warp, twist, or shrink after installation.

### Electrical Safety

ZOG® Steel Frames are electrically safe because the frames are earthed. When exposed to a live wire, they will create a short and trip the residual current safety device, however, a broken or pierced wire in a Timber frame can remain live and current leakage can cause troublesome faults, fire risks and personal injury.

## Durability Comparison between ZOG® Steel and Timber

ZOG® Steel frames & trusses are coated to protect them from rusting which is a “surface” condition. Timber needs a full thickness treatment to prevent deterioration.

Cut edges of ZOG® Steel do not need additional treatment due to sacrificial properties of the coating. Any cut ends of treated timber should have additional treatment as chemicals used in factory treatment generally do not penetrate the full thickness of the timber.

ZOG® Steel frames & trusses will not absorb moisture. Timber will absorb moisture and can subsequently initiate deterioration. Deterioration may occur in visibly dry timber. In ZOG® Steel frames & trusses, any leaks can be fixed. Once the location dries there is no deterioration.

In timber deterioration can continue once the leak is fixed and the location has dried.



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