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Proper fixture selection can prevent costly premature ballast failures.

The case temperature rating for most standard electronic ballasts, including T5HO ballasts, is 70C (158F). Premium versions are available through Advance Transformer, and soon Osram Sylvania, with 90C case temperature ratings (194F).

When the ballasts are operated at or below the maximum case temperature rating the ballast warranty remains intact. If the ballast is frequently or continually operated in excess of the maximum case temperature rating, ballast life will be significantly reduced. It is said that for every 10C increase in case temperature, ballast life is reduced by 50%. Conversely, it is said that for every 10C reduction in case temperature, ballast life is increased by 50%.

It is important to remember that the floor level ambient temperature is only one factor that dictates the ballast case temperature. Others include:

- Stratification. Temperatures at 30' ceiling heights can be 15-25F higher than at the floor level.
- Convection. Where high temperatures are a concern the heat produced by the lamps and ballasts should have a means of evacuating the ballast compartment. A well ventilated fixture will have a positive effect on ballast life.
- Reciprocal Heating. Heat producing components (the lamps and ballasts) should be spaced as far apart as possible. T5HO lamps generate a great deal of heat in a small area. A large fixture housing will allow better spacing and air flow to minimize heat build-up.
- Radiation. The material that the ballast is mounted to can have a positive or negative effect on the ballast case temperature. As an example, steel is very slow to radiate/dissipate heat, while aluminum will dissipate heat at roughly four times the rate of steel.

Conclusion

When installing fluorescent Hi-Bays in non-conditioned warehouse spaces always select a well ventilated fixture, with a large housing and well spaced ballasts, an aluminum body, and consider 90C case temperature rated ballast product.