

4.2 Insulation

ABB uses class F insulation, which, with temperature rise class B, is the most commonly required insulation system for industrial motors.

Class F insulation system

- Max. ambient temperature 40 °C
- Max. permissible temperature rise 105 K
- Hotspot temperature margin +10 K

Class B temperature rise

- Max. ambient temperature 40 °C
- Max. permissible temperature rise 80 K
- Hotspot temperature margin +10 K

The use of class F insulation with class B temperature rise gives ABB products a 25 °C safety margin. This can be exploited to increase the loading of the motor for limited periods, to operate at higher ambient temperatures or altitudes or with greater voltage and frequency tolerances. It can also be exploited to extend insulation life. For instance, already a 10 K temperature reduction has a relevant effect on insulation lifetime.

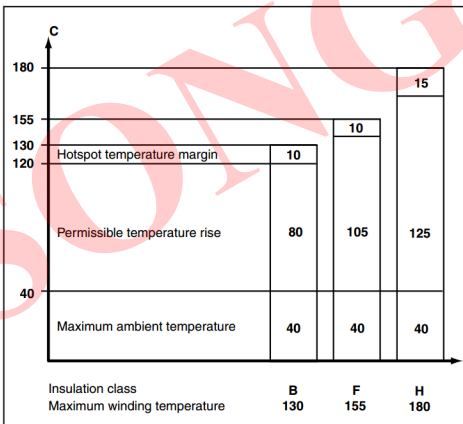


Figure 4.1 Safety margins per insulation class