

4.1 Insulation

ABB uses class F insulation systems for motors, which, with temperature rise B, is the most common requirement among industry today.

Class F insulation system

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

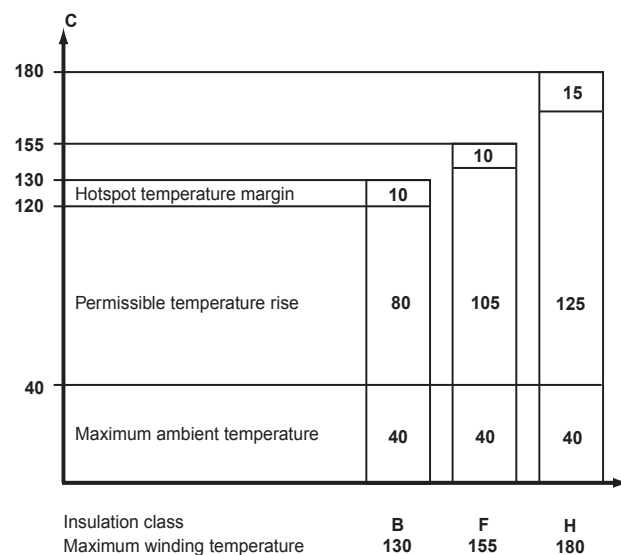
Class B rise

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

Insulation system temperature class

- Class F 155° C
- Class B 130° C
- Class H 180° C

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



Safety margins per insulation class