The vacuum arc interrupting performance is based on the arcing in metal vapour that is derived from the contact material and this process is not affected by low temperatures.

The vacuum interrupter is made from metals and ceramics and is brazed at around 800 degrees C. The material properties of metal and ceramic and the brazed joints between them are not affected by low temperatures.

Sliding guides are used to guide the moving electrode assembly of VI. Guides made of metal are not affected by low temperature. Guides made of plastics can tolerate the required low temperatures.

VCB mechanisms are low energy mechanisms traditionally consisting of springs and linkages. These can be design so they are not affected by low temperatures. Newer mechanism designs using stored magnetic energy from permanent magnets are also

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Low temperature ambient effect for outdoor vacuum circuit breaker (VCB) operation

...designed by making component choices that can tolerate the required low temperatures. Also mechanism operation can improve by installing heathers. Vacuum circuit breaker can be designed to operate at low temperatures of -30 to -50°C.

Photo shows a 36 kv VCB in test chamber for low & high temperature test.