

Correction formula in par. 4.5.5 for road load determination by coastdown:

$$F^* = ((f_0(1 - K_1) - w_1) + f_1v) \times (1 + K_0(T - 20)) + K_2f_2v^2$$



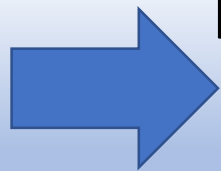
$$K_0 = 8.6 \times 10^{-3} \text{ } ^\circ\text{C}^{-1}$$

Correction 20 to -7 °C:
 f_0 increase by 23.2%



$$K_2 = \frac{T}{293 \text{ K}} \times \frac{100 \text{ kPa}}{P}$$

Correction 20 to -7 °C:
 f_2 increase by 10.2%

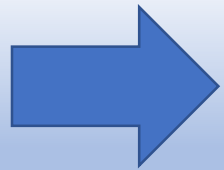


First proposal for road load at the Low Temperature Test:

$$F_{LowTemp} = 1.23 \cdot f_0 + f_1 + 1.10 \cdot f_2$$

Alternative proposal:

1. Set the chassis dynamometer at 23°C, record the dyno settings
 2. Soak the vehicle and the test cell to -7 °C
 3. Apply the dyno settings and correct the f_2 by a 10% increase for the air density
- The increase of rolling resistance due to the low temperature is implicitly included



Proposal for follow-up:

Organise a meeting with road-load experts to discuss and agree on a suitable approach