



rail

Kilfrost Rail Plus

Kilfrost Rail Plus is an anti-icing fluid for use on electrified third rails of metro and urban rail systems. Frost and snow cause major problems to third rail systems, where poor contact between the current collecting device and the rail can lead to damaging electrical arcing and loss of power to the train.

High Performance

The enhanced-viscosity formulation of Kilfrost Rail Plus offers protection from frost and freezing precipitation on the rail for extended periods

Safe to use

Kilfrost Rail Plus is a robust fluid that offers excellent shear and storage properties. The fluid is sprayable with minimum foaming and is usually applied by maintenance vehicles

Excellent Ice protection

Kilfrost Rail Plus prevents ice from forming on the rail, and the fluid offers excellent resistance to snow, hail and rain. The product also actively protects the track and other metal infrastructure from corrosion

Reliability

Use of Kilfrost Rail Plus during winter conditions helps trains to run uninterrupted and safely in temperatures of -25°C and below

Environmentally friendly

Kilfrost Rail Plus is water-based, biodegradable and non-toxic

Logistics

Our global coverage means we can be where you need us when you need us, delivering on time even against the odds

Customer support

Kilfrost's 75 years of experience can support you with our technical expertise to offer you the right product

Quality you can trust

Five-star products are at our heart and we are proud of our reputation for continually raising the benchmark through innovation

For ordering information and technical assistance regarding this product, please contact a member of our Customer Service team on +44 (0)1434 321500 or email info@kilfrost.com

Full technical information is available on request.



rail

Kilfrost Rail Plus Technical information

Product details

Kilfrost Rail Plus is a monopropylene glycol based fluid designed for use as an anti-icer for electric third rails used in urban rail and mass transit systems. The product's enhanced non-Newtonian rheology means that it is sprayable, yet regains viscosity and adheres strongly to the rail surface. The product is available as a colourless fluid, or dyed (green) for visibility.

Product usage

The most common use of the product is overnight application to the third rail (by spraying from a maintenance vehicle) to protect the rail from icing, from frost deposits and from freezing precipitation (snow, hail, etc). During peak operating hours the volume of trains generally keeps the rail clear, however during especially severe condition it may be necessary to apply fluid during these times. Application rates are dependent upon nature and position of rail and prevailing conditions.

Holdover

Kilfrost Rail Plus has been assessed to the same stringent standards as used by the aviation industry fluid certification scheme as operated by the Anti-Icing Materials Laboratory at the University of Quebec. This assessment shows a minimum of 12 hours of holdover (protection from ice deposition) in active frost conditions at -5°C.

Ice parting ability

Ice parting ability is an indicator of a fluid's ability to prevent ice from bonding to the rail in freezing conditions. It is measured as the force required to shear ice from a rail treated with fluid, with the test mimicking a collector shoe travelling along a third rail.

Rain resistance

A rain resistance test was also performed using water spray for a fixed period of time to assess the product's ability to persist on the rail. Both tests were performed alongside a leading competitor's product for comparison (Ove Arup & Partners, 2007, 123588). These tests showed significantly less force was required to remove ice from the rail when Kilfrost Rail Plus was used.

Product	Ice parting force (N)	IPF after rain res test (N)	Temp (°C)
Kilfrost Rail Plus	2.2	5.6	-3
Competitor	5.1	11.7	-3
Kilfrost Rail Plus	2.6	3.9	-7
Competitor	3.3	8.8	-7

Corrosion Resistance

Kilfrost Rail Plus passes metal corrosion tests to SAE AMS 1428E, and has been further investigated for conformance by Scientifics Ltd (Report LR DON 1881, 2007). These tests include weight loss corrosion tests for metals including steel, aluminium, brass and copper.

For ordering information and technical assistance regarding this product, please contact a member of our Customer Service team on +44 (0)1434 321500 or email info@kilfrost.com

Full technical information is available on request.