

Improves low temperature performance of diesel fuels

WAXBREAKER GOLD PROVIDES:

- * SECURITY DURING THE COLDEST WINTER MONTHS.
- * PLANT OPERABILITY DOWN TO EXTREMES OF LOW TEMPERATURE.
- * INSURANCE AGAINST STRANDED VEHICLES AND LOST REVENUE.
- * IMPROVED IGNITION CHARACTERISTICS AND COMBUSTION.
- * REDUCED SMOKE AND EMISSIONS.
- * IMPROVED FUEL EFFICIENCY AND SMOOTHNESS.



- * REDUCED WEAR ON BATTERIES AND STARTERS.
- * ECONOMY IN USE : 1 LITRE PER 1000 LITRES OF FUEL.

Fuel Waxing Problems



The temperature at which a given fuel will give rise to problems (the operability limit) is indicated by the Cold Filter Plugging Point (CFPP) test.

Generally, the lower the CFPP, the better the low temperature characteristics of a fuel.

B.S. 2869 requires oil companies to supply diesel fuel with a CFPP of at least -15°C from October to March (-12°C for gas oil/"red" diesel), but only 0°C during the summer months. Often it is well into the winter before diesel operators can be sure that their fuel is 'protected' to -15°C , as a result of adding winter grade fuel into tanks still containing summer grade fuel.

Although diesel fuels are formulated to provide "acceptable performance under typical winter conditions", diesel fuel treated to the British Standard can be inadequate, particularly for mobile applications, which are subject to a "chill factor". Additionally, changed operating practices at refineries, to produce fuels with a lower cloud point, has resulted in lower cetane number fuels,

with worse cold weather starting performance, and fuels with lower viscosity and lubricity. Fuel injection systems rely on the wax content of the fuel to provide lubrication and hence prevent fuel pump wear.

The solution - Waxbreaker Gold

Waxbreaker is a mobile liquid which mixes easily with fuel, and prevents the formation of filter clogging wax crystals at low temperatures.

It is effective with hydrocarbon diesel fuels currently on the U.K. market. The product is safe to use, will not harm engines or injection equipment, and is available in several pack sizes, including a convenient "diesel doser" pack for treating individual vehicles.

It is extremely cost effective, giving protection against immobilised, unproductive vehicles, and the expense of retrieving them, for only a fraction of a penny per litre of fuel.

The product is suitable for all diesel engines, whether lorry, tractor or car, also for contractors plant, fork lift trucks, and diesel powered generating sets.

Fuel filter blocked with precipitated wax

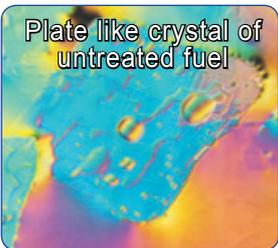


Waxbreaker Gold diesel additive

HOW WAXBREAKER GOLD WORKS:

WAXBREAKER GOLD is a hydrocarbon based liquid, which is added, in advance, to diesel fuels during the winter months, at dosage rates as low as 1:1000. Higher dosage rates can extend protection below -22°C , should this be required.

WAXBREAKER does not prevent the formation of wax crystals, and the cloud point of fuel is not lowered.



WAXBREAKER actually encourages the initial formation of wax crystals as the cloud point temperature is reached, controlling their formation so that the resultant crystals are much smaller in size than those in untreated fuel.

DOSAGE RATE:

With commercially available fuels, a dosage rate of 1:1000 will lower the operability limit to around -22°C . For extended protection below -22°C , dosage should be increased to 1:500.

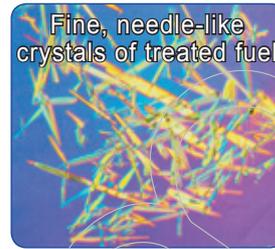
APPLICATION:

WAXBREAKER GOLD is effective with diesel fuel and 35 second fuel oil (gas oil) and will give similar results with both. Addition must be made at temperatures above the cloud point of the fuel (as a general guide, above -2°C), BEFORE any wax formation occurs.

WAXBREAKER GOLD, at normal dosage rates, will not re-dissolve wax which has already separated out.

WAXBREAKER may be added either to vehicle fuel tanks or to bulk storage tanks. Ideally it should be added before filling / topping up the tank, to ensure rapid, complete mixing with the fuel. Alternatively, manual agitation of the fuel, re-circulation, or the

Other components in WAXBREAKER GOLD inhibit the further growth of the wax crystals, which remain as long needle-like crystals which can pass through fuel filters. The viscosity of treated fuel does not increase substantially, unlike untreated fuel, another factor leading to fuel starvation at low temperatures.



Dispersants in WAXBREAKER GOLD maintain the fine wax crystals in suspension throughout the fuel, preventing separation and settling which can block outflow pipes and filters. Fuel treated with WAXBREAKER

GOLD will continue to flow through fuel lines and filters down to temperatures below -22°C .

use of a compressed air lance, may be used to ensure complete blending of the additive with the fuel.

IMPORTANT:

Check all fuel tanks for the presence of water on a regular basis, and drain any water off well before the onset of winter.

PACKS:

Cartons of 25 x 1 litre dispenser measuring packs.
cartons of 5 x 5 litre cans.
25 litre steel drums.
200 litre steel barrels.

