



## DESCRIPTION

Diesel fuels (medium distillates) are a fraction of crude oil with a boiling point between 190 and 390°C. Among these are jet fuel, or kerosene, EN590 standard Diesel fuel, and light and extra light Diesel fuel.

At low temperatures the behavior of these distillates depends mainly on the origin of the crude oil. What mostly affects their behavior at low temperatures is the way in which paraffin crystallization occurs.

The temperature at which paraffin starts to separate into a medium distillate is its Cloud Point. Paraffin crystallizes in the form of thin flakes.

Diesel fuel can stop flowing even if only 3% of the paraffin contained in it crystallizes. As a matter of fact, the crystals tend to form clusters that block filters, thus jeopardizing the fuel system. This phenomenon intensifies in the presence of biodiesel, which is unlikely to interact with the fluidifying additives normally available on the market.

## PROPERTIES

**SYNECO DIESEL FLUSH** formulation improves cold Diesel fuel fluidity, not by acting on the paraffin wax's solubility or on its Cloud Point, but, instead, by modifying the size and shape of the crystals, which, although they continue to form, they remain extremely small and distinct. This prevents the formation of large clusters that can reduce or block the flow of Diesel fuel through passages and filters.

In Europe, the behavior of Diesel fuels at low temperatures is evaluated by measuring the CFPP (Cold Filter Plugging Point).

Diesel fuel	Filterability limit (CFPP)	UNI STANDARD
Pure Diesel fuel	-8°C	UNI EN 116:2001
Diesel fuel + 1,5 x 1000 Diesel Flush	-16°C	UNI EN 116:2001
Diesel fuel + 3,0 x 1000 Diesel Flush	-18°C	UNI EN 116:2001
Diesel fuel + 5,0 x 1000 Diesel Flush	-22°C	UNI EN 116:2001

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Diesel fuel antifreeze additives are usually effective only if they are mixed with a Diesel fuel having a temperature at least 5°C above Cloud Point.

**DIESEL FLUSH**, instead, can be added to Diesel fuel even at Cloud Point without altering its functionality in the least.

Furthermore, the new formulation contains special additives that facilitate Diesel fuel ignition at temperatures close to zero.

The best cold start is one that allows, also, to trigger the return of the Diesel fuel back to the tank, which helps to rebalance more quickly the temperature of the Diesel fuel in the tank.

It's impossible to theoretically establish what temperature a specific Diesel fuel can be brought to with an addition of **DIESEL FLUSH**, since elements such as the raw oil's origin, the refinement method, the quantity of paraffin present, the percentage of additivation it has been subject to in the oil refining plant to bring it up to standard, etc. all interact, giving results that differ too greatly to be standardized. Generally speaking, it is safe to say that an addition of 5‰ **DIESEL FLUSH**, brings the CFPP down to about 15°C (see table on page 1 for reference values).

## APPLICATIONS

**DIESEL FLUSH** is used in proportions that vary from 1,5‰ to 3‰, that is 1,5 to 3 liters for every 1000 liters of gasoline.

In this amount, considering the parameters mentioned, Diesel fuel should reach optimal efficiency even when facing temperatures as low as -25°C.

## TECHNICAL CHARACTERISTICS

CHARACTERISTIC	UNIT	VALUE	METHOD
Density at 15°C	Kg/l	0,880-0,920	ASTM-D-1298
Color		Dark amber	Visual
Flash point	°C	40	ASTM-D-92

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