



ELF PERFO RALLYE

“Unleaded competition fuel for naturally-aspirated 4-stroke engine”



Using pure bases, our formulas guarantee naturally stable, long-lasting properties, consistent from one production batch to another. This search for constant and optimum quality gives you first class performance, in conformity with official regulations.

“Definitely the unleaded fuel that gives naturally-aspirated engines the highest spontaneous power gains”

Use

- **ELF PERFO RALLYE** unleaded fuel has been designed exclusively for naturally-aspirated 4-stroke engines.
- Does not comply with FIA Annex J regulations.
- The result of a formulation using atypical molecules, **ELF PERFO RALLYE** gives exceptional spontaneous power gains.
- Suited to any use of naturally-aspirated 4-stroke engines:
 - Circuit
 - Rally & Rallycross
 - Acceleration
 - Hill climb race

Characteristics

		Typical data
OCTANE NUMBER	RON	100.7
	MON	85.7
DENSITY	kg/l at 15°C	0.754
OXYGEN	% m/m	2.5
VAPOUR PRESSURE	Bar at 37.8°C	0.670
DISTILLATION (°C)	% vol. at 70°C	50
	% vol. at 100°C	70
SULPHUR	mg/kg	<50
LEAD	g/litre	<0.005



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Properties

Fuel characteristics	→	Technical gains	→	Engine benefits
High oxygen content	→	Natural booster effect High latent heat of evaporation helps cool mix before combustion Greater filling capacity through air/fuel mixture cooling	→	Spontaneous power gains (without special tuning) over full engine speed range Power gains after optimisation of ignition advance Excellent engine response in transient phase
Selection of best energy bases and atypical oxygenated compound	→	High combustion speed for optimised cycle yield	→	Knocking control for perfect mechanical resistance of moving parts Better engine speeds
Strong density	→	High energy content of fuel	→	Significant improvement in filling compared to traditional fuel
Very low benzene and sulphur content	→	Harmless	→	No special precautions for use ELF PERFO RALLYE respects both the environment and health

Recommendation

- **ELF PERFO RALLYE** provides exceptional gains in power and reliability, with no fine-tuning.



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- To get the full benefit of this product, the engine mapping must be optimised (Air/Fuel ratio, ignition sequence).
- For any use reserved for naturally-aspirated engines, ELF also proposes the leaded fuel **ELF ATMO BOOST**, for competitions outside official technical regulations, and the fuel **ELF ATMO RALLYE**, complying with FIA Annex J regulations.
- It is highly inadvisable to use **ELF PERFO RALLYE** for engines with a high compression ratio, or 2-stroke or turbo-compressed engines.

Storage

To preserve its original properties and comply with the Health and Safety rules pertaining to fuels, **ELF PERFO RALLYE** must be handled and stored away from sunlight and bad weather and properly resealed in its drum after each use, to avoid loss of the lightest particles.

Glossary

RON & MON: The RON & MON characterize the resistance to knocking (see definition) of a fuel used in a spark-ignition engine. The RON is representative of the functioning of an engine running in cold and low speed condition, while the MON is representative of an engine running in warm and high speed condition.

For competition use, the MON is commonly used to describe a fuel's anti-knocking capacity.

Higher octane levels give the fuel greater capacity to allow the engine to function under severe conditions that raise speeds (high rotation speed, high compression ratio).

COMBUSTION SPEED: It characterizes the fuel's reactivity in the combustion process. The higher the combustion speed, the more effective it is, and the greater the power produced by the engine, via a better cycle yield.

KNOCKING: Knocking is the result of un-controlled combustion of the fuel in the engine. Sometimes revealed by a characteristic 'pinking' noise, these detonation phenomena are often damaging to the engine.

There are two ways to prevent knocking: tuning the ignition timing and/or using a fuel with better anti-knocking characteristics (RON/MON and combustion speed).

OXYGEN CONTENT: Oxygenated compounds naturally contain high levels of octane and generally improve engine filling capacities thanks to the cooling effect on the admitted air flow (see definition). Others also have remarkable combustion speeds.

DENSITY (or dimensional weight): Usually measured at 15°C and under 1 bar, given in kg/litre (or in kg/m³), this is the density of one litre (or 1000 litres) of fuel.

A fuel's density increases as its temperature drops.