

# ELF TURBO REF

FIA TURBO RACING FUEL



## TECHNICAL DATA SHEET

« Our formula use pure bases to guarantee naturally stable, long-lasting properties, consistent from one production batch to another. This search for constant and optimum quality ensures you obtain first class performance, in conformity with racing requirements. »

### USES

**ELF TURBO REF**, complying with the **FIA Appendix J regulations**, has been specifically developed for turbocharged 4-stroke engines.

**ELF TURBO REF** is an unleaded racing fuel specially designed for turbocharged 4-stroke engines. **ELF TURBO REF** ensures utmost engine power thanks to a wider selection of specific compounds, whilst ensuring engine reliability.

Performance gains can reach as much as **4,5% power at 5300 rpm** on turbo R5-class, compared to ELF TURBO ADV-R.

**ELF TURBO REF** presents optimum properties of energy content, knocking resistance, charge cooling and combustion speed ensuring power improvement at low and high engine revs.

### PROPERTIES

		Typical data	FIA / Annex J regulation
Octane number	RON	101,4	95,0 - 102,0
	MON	86,0	85,0 - 90,0
Density at 15°C	kg/L	0,776	0,720 - 0,785
Vapour Pressure at 37,8°C	Bar	0,569	<0,800
Distillation	FBP (°C)	162	<210
	% v/v, at 100°C	61	30 - 72
Air Fuel Ratio at stœchiometry		13,81	
Oxygen content	% m/m	3,60	<3,70
Sulphur content	mg/kg	<5	<10
Lead content	g/L	<0,005	<0,005
Benzene content	% v/v	<0,1	<1,0

# ELF TURBO REF

FIA TURBO RACING FUEL



## CHARACTERISTICS

CHARACTERISTICS	→	TECHNICAL ADVANTAGES	→	ENGINE BENEFITS
<b>Octane numbers</b> in the upper limit of the maximum authorized by the FIA regulation	→	Excellent resistance to <b>knocking</b> for controlled combustion	→	<b>Exceptional reliability under severe conditions (heat / humidity) tested and validated on engine test bench</b>  Allows optimizing ignition timing for greater power
<b>Sensitivity</b> adjustment	→			
Maximized <b>Oxygen content</b>	→	High latent vaporization heat that facilitates mixture <b>cooling</b> before combustion	→	<b>Increased power by optimization before ignition</b>  Remarkable engine response in transient phase
	→	Effect of natural <b>supercharging</b>	→	
Selection of <b>high molecules energy content</b>	→	Energy maximization introduced into engine	→	<b>Significant engine power improvement</b>
Wider selection of the <b>best compounds</b> in each <b>oxygenated, olefins</b> and <b>aromatics</b> family	→	<b>High combustion speeds</b> for optimized cycle efficiency	→	<b>Improves engine revving up</b> <b>Better use of power at low and high revs</b>

## RECOMMANDATIONS

With suitable settings, **ELF TURBO REF** provides significant power gains, whilst maintaining reliability. To get the greatest benefits from this product, engine mapping must be optimized (Air/Fuel ratio, Ignition Timing).

For an increased performance on turbocharged engines (without air intake restrictor), ELF also offers **ELF PERFO 105** unleaded fuel for racing without FIA regulations constraint.

**Conservation** : to maintain its original properties, in accordance with the Fuel Health and Safety regulations, **ELF TURBO REF** should be handled and stored in the shade and sheltered from adverse weather conditions and must be perfectly sealed in its drum after each use, in order to avoid losing the lightest fractions.