



Tech Bulletin

World Leader in Race Fuel Technology™

Tech Bulletin prepared by Vince Colagiuri

The all new MA approved Roo100!

Roo100 -- VP Racing Fuels have formulated a new fuel called Roo100, designed for competition use in 2 and 4 stroke motorcycle racing applications. We are also proud to say that Roo100 has been homologated by Motorcycling Australia for use in all disciplines of competition, as outlined in GCR 12.9.5 of the 2010 edition of the Manual of Motorcycle Sport. Roo100 is an oxygenated unleaded racing fuel with a MON of 91+ and a RON of 99+ that also meets the Australian Petrol Fuel Quality Standard making it street legal. Roo100 offers better protection against detonation in harsh racing conditions, makes up to 3% more Horsepower and Torque than pump fuel and gives you exact consistency so you don't have to alter you tune up from drum to drum. Due to Roo100's specific gravity (.711 @ 60F) and oxygen content it requires a 4% to 6% increase in fuel volume over most premium unleaded (non oxygenated) fuels.

Roo100 is available in 19litre and 200litre drums.

To purchase or for more information on Roo100 Contact:

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Or visit: www.vpracingfuels.com.au

Property/ Typical Values	Roo100
Specific Gravity @ 60F°	.711
OXYGENATED	YES
Color	FLURO YELLOW
RESEARCH OCTANE	99.0 +
MOTOR OCTANE	91.0 +
UNLEADED	YES

The four most important properties of racing fuel

You can't make a racing fuel that has the best of everything, but you can produce one that will give your particular engine the most power. This is why we produce different fuels for different applications. The key to getting the best racing gasoline is not necessarily buying the fuel with the highest octane, but getting one that is best suited for your engine.

1. OCTANE – This is simply the rating of a fuel's ability to resist detonation and/or preignition. Octane is rated in Research Octane Numbers (RON), Motor Octane Numbers (MON), and Pump Octane Numbers (R+M/2). Pump Octane Numbers are what you see on the yellow decal at the gas stations and represents an average of RON and MON. VP reports MON ratings because this method tests a fuel's performance under a heavier load than the RON method, thus better simulates racing conditions. Most other companies use RON because it sounds better in marketing messages. Don't be fooled by high RON numbers or an average—MON is the most relevant for a racing application. However, a fuel's ability to resist preignition is more than just a function of octane.

2. BURNING SPEED - The speed at which fuel releases its energy. In a high-speed internal combustion engine, there is very little time (real time - not crank rotation) for the fuel to release its energy. Peak cylinder pressure should occur around 20° ATDC. If the fuel is still burning after this, it is not contributing to peak cylinder pressure, which is what the rear wheels see.
3. ENERGY VALUE - An expression of the potential in the fuel. The energy value is measured in BTUs per pound, not per gallon. The difference is important. The air:fuel ratio is in weight, not volume. Remember, this is the potential energy value of the fuel. This difference will show up at any compression ratio or engine speed.
4. COOLING EFFECT: The cooling effect on fuel is related to the heat of vaporization. The higher the heat of vaporization, the better its effect on cooling the intake mixture. This is of some benefit in a four-stroke engine, but can be a big gain in two-stroke engines.