

High Performance Ceramic & Powder Coatings



(702) 396-4500

RAMPROLINE.COM

CERAMIC COATINGS

**INCREASES HORSEPOWER
INCREASES TORQUE
REDUCES TEMPERATURES
REDUCES FRICTION
INCREASES PART LIFE
STOPS CORROSION
STOPS THERMAL FATIGUE
LOWERS UNDER HOOD TEMPS
REDUCES DETONATION**

CERMA CHROME COATINGS

This is the most popular kind of coating on the market today. This type of coating (metallic ceramic) is used by more companies and manufacturers than any other material. It is extremely popular on exhaust systems, where the high luster finish provides a very attractive, durable surface. The high temperature coating can withstand exhaust temperatures in excess of 1300 degrees F. and provides 5000 hr. salt spray protection. This is a truly unique coating that is based on a water/solvent system, & may be applied to a variety of surfaces and metals that can withstand the 500 degrees F. cure temperatures. Polishes to a high luster, stainless/chrome appearance that will not rust.

EXHAUST PORT COATINGS

Exhaust port coating is a barrier coating that doesn't allow high exhaust gas temperatures get to the cylinder from the exit port. The cooling system then doesn't have to cool those higher temperatures. (usually around 800f. to 1300f.)

DRY FILM COATING

Dry Film Coating is a molly based lubricant capable of providing lubrication at levels as high as 350,000 psi. The lubrication aids in preventing scuffing and galling, increasing part life. It also reduces friction, freeing more useable power. This lubricant provides extra protection by preventing damage from oil film failure. Dry Film Coating is actually impregnated into the metal surface so no dimensional changes are realized. In addition to lubrication, Dry Film Lubricants also help distribute heat so less metal fatigue is caused, thus reducing the chance of part failure.

PISTONS & PINS

HORSEPOWER AND INCREASED LIFE ARE ACHIEVED IN 2 WAYS: First, by impregnation of the skirts, with a dry film coating, this reduces the effects of piston scuffing, piston rock and other friction induced problems. It reduces friction and helps carry oil for better lubrication. Second, the piston dome is coated with a Powerkote thermal barrier to distribute heat evenly across the piston dome and increase combustion temperatures. It dramatically reduces the chances of damage caused by detonation. This coating keeps the heat in the combustion chamber and then out the exhaust.

VALVES SPRING & ROCKERS

Dry film impregnation of valve stems/seats will greatly reduce stem and seat angle wear. Valve faces receive a coating of Powerkote to provide heat protection. Both coatings aid in shedding carbon, resulting in higher flow rates over the engine. Valve springs usually fail because of heat related problems. Through the application of a heat dispersing coating, we can substantially increase spring durability while maintaining spring rates longer.

WHAT ELSE CAN BE COATED?

PISTONS	CYLINDER HEADS
WRIST PINS	CYLINDER HEAD PORTS
CAMS	INTAKE MANIFOLDS
LIFTERS	VALVE COVERS
VALVE SPRINGS	CARBS
VALVES	RING & PINION GEARS
RETAINERS	TRANS GEARS
ROCKER ARMS	HINGES
OIL PUMPS	PULLEYS
TIMING GEARS	A ARMS
GEAR DRIVES	ALTERNATOR HOUSINGS
CRANK SHAFTS	REAR END HOUSINGS
ROD & MAIN BRGS	TURBO CHARGERS
HEADERS	STOCK MANIFOLDS

COMPETITION CAMS TEST RESULTS (MARCH 1991)

What do the numbers say?

Exhaust Gas Temp	Header Surface Temp	Radiated Heat (uncoated)	Radiated Heat (coated)	Temp Drop (Deg. F.)
1330	810	170	60	110
1340	810	170	60	110
1350	820	180	70	110
1380	830	180	70	110
1410	840	180	70	110
1420	8400	180	70	110
1440	860	190	70	120
1510	890	190	70	120
1530	930	200	80	120

OK, so now you can easily see that in the case of Ram Pro-Line's Ceramic coating, you have a temperature drop of between 110 and 120 deg. through a normal operating range. How does that translate to your benefit? How about a massive drop in under hood air temps, increased exhaust gas velocity, and as the man said, more real world horsepower at any given RPM range. That last one is the kicker. More power at a given RPM equates to less of the go-pedal to maintain a given speed. In other words, if you keep your foot out of the four barrels long enough to take advantage of it, you'll likely see a significant gain in fuel economy to boot.



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FREQUENTLY ASKED QUESTIONS

IS THIS POWDERCOATING?

NO!! This process is ceramic based and is designed for thermal management and friction management. Although it can be decorative in nature, it is primarily a functional coating designed to increase performance and durability of the part.

WHAT IS YOUR TURNAROUND TIME?

We generally can turn parts in 5 working days. If you have a special situation we would be happy to work with you to get the parts back to you as fast as possible.

WHAT PARTS SHOULD BE TREATED?

Any part subject to friction, loss of lubricating film, heat damage, corrosion or abrasion can be coated. In addition, enhanced appearance is possible for parts such as headers, brackets, engine accessories and suspension pieces.

HOW MUCH POWER WILL I GAIN?

This will depend upon many factors that will vary from application to application. Testing has shown significant power increases on a dyno. Certain changes can be made in areas such as tolerances, timing & jetting.

HOW LONG WILL COATINGS LAST?

Depending on the coating, part life increases from two (2) to ten (10) times normal! In addition, coatings such as "Cermachrome" tm can provide virtual lifetime protection against rust. The dry film lubricants may be burnished in use until they are no longer visible, however, the active materials are bonded into the pores of the part and continue to provide protection.

WHAT ABOUT CLEARANCES?

The dry film lubricants will burnish as they run until they are no longer visible. They are applied at thickness' ranging from .0005" -.0015". However, before assembly, the coating may be burnished back to less than .0002" with gentle buffing using very fine steel wool or similar material. NO DIMENSIONAL CHANGES are needed because the coating is actually impregnated into the surface of the metal. In many instances, reduced part temperature and increased lubrication allow tighter clearances to be run.