

Metal Surface Technology Improvement Presentation

How Metal Surface Technology improves racing or commercial component performance and durability.



Q. What is Metal Surface Technology?

A: Metal Surface Technology increases the ability of lubricants and components to work together better.

Primary goals of lubricants:

- 1) Provide a Hydrodynamic film of protection;***
- 2) Dissipate heat from components;***
- 3) Decrease friction and increase energy.***

Therefore components will:

- Operate with cooler temperatures***
- Increase life & durability***
- Entire system functions smoother with greater efficiency.***

Q. How do we improve Metal Surface Technology?

A: Like a physical body, which has skin with pores that open and close when hot and cold – so does the metal surface.

These micron sized metal pores, act like little metal sponges having two basic functions:

- 1) During initial break-in process heat & cold operation cycles; contaminants and micron particles will be released from metal surface(s) (which should be performed).
- 2) (ON THE REVERSE) Receive and absorb mineral technology which can be applied with heat and/or friction.

Q. How do we improve Metal Surface Technology?
(CONTINUED)

Like a “Micron Metal Sponge”.

During the heat / cold operation cycles,

WHEN metal is hot - metal expands the pores are open.

Then the metal pores are available to receive, the metal surface technology (Ceramic, Boron, Diamond Carbonates, Teflon, Moly etc.).

After the metal is cooled and contracts, the pores close and the improved metal technology stays upon (within) the surface.

After a couple of these cycles times the metal surface technology becomes one with the metal surface.

Further within the lubricant to provide continual treatments.

Q. What are the ways you can improve Metal Surface Technology?

A: There are (2) two ways you can improve Metal Surface Technology:

1) Engineering: (Costly) You can from the start, have the surface(s) treated with a type of aerospace level coating.

These quality processes include impingement or coating of the metal surfaces such as; Ceramic, Boron, Teflon, Moly, Graphite, Diamond / Carbon (DLC), Solid Film Lubricant and others.

Caution: One engineering process will not cover all applications – you need to have the correct process for the exact application.

(example: rolling surface is different than a sliding surface).

Q. What are the ways you can improve Metal Surface Technology?
(CONTINUED)

Process applications must be prepared and applied at the highest form of engineering (aerospace level of perfection), if not all shall fail.

Also creating a harder surface is not always the answer as the metal surface expands and contracts.

If the improved surface technology (harder) does not expand and contract with the metal surface – Surface technology can literally break off, floating within the oil becoming an abrasive and causing additional problems.

The key is to provide an improved surface that will flow and change with the expansion and contraction of the component(s) from heat, friction and cooling cycles.

Q. What are the ways you can improve Metal Surface Technology?
(CONTINUED)

2) Lubrication: (affordable) Metal Surface Technology can increase through additive package(s) selection used within premium oil products.

Current advancements nano -dimensional technology for lubricants has without question increased Metal Surface Technology. By using variable compounds of moly, boron and other aerospace technologies (the future is today).

Additives can attach and continually reapply itself upon the metal surface(s) through friction and heat of operation use.

Providing very close to the same results of the expensive aerospace coatings.

Q. What are the ways you can improve Metal Surface Technology?
(CONTINUED)

Lubrication Benefit: universal application on both rolling and sliding surface application(s) upon the:

- engine
- transmission
- differential
- bearings etc.



Q: Is direct application one of the principals for improved Metal Surface Technology?

Yes, the main goal is to get the advanced “anti-friction technology” to stay applied upon the surface during the component life.

This is the primary advantage of aerospace coatings.

Remember: you still need a premium lubricant that will work in co-operation with the coating to absorb the lubricant upon the surface.

Problem is when you go to a great expense in aerospace coating(s), then choose a regular lubricant (synthetic or non synthetic) for the application.

Lubricant must be of equal performance of the coating technology.

If not, in time, all of your aerospace advantages are damaged and gone.

Metal Surface Technology Improvement Presentation – END.



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