



Clean Emissions Products Inc.

“Every Engine Deserves Clean Emissions”

Catalyst Loading Process “The Key to Success”

What is Catalyst Loading?

A catalyst is made up of three (3) important factors...

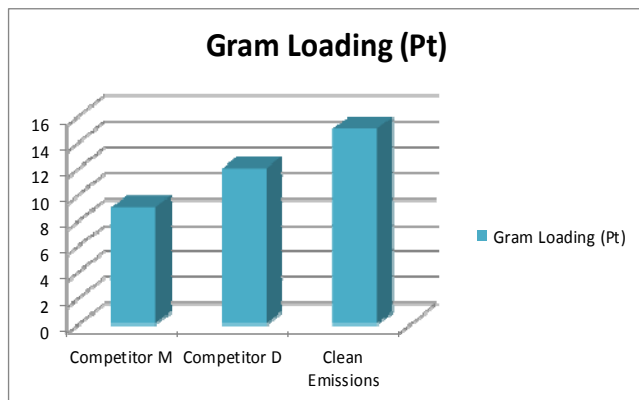
- A) Substrate (material that catalyst coating is applied to)
- B) Substrate Wash coating (this is the “primer” that holds the final catalyst coating).
- C) Catalyst Load (this is the precious metal in the form of Pt/Rh that we use to create necessary reactivity).

Catalyst Loading Ratios:

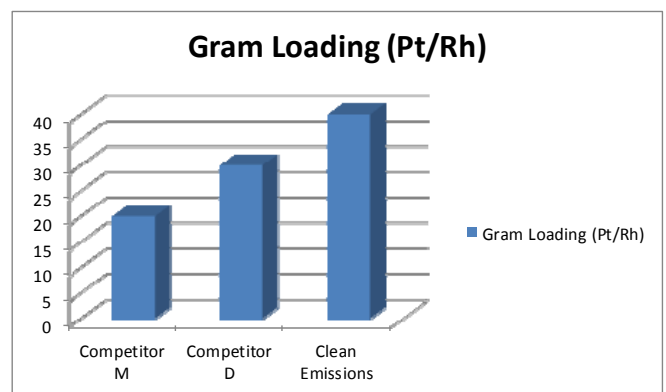
Catalyst loading ratios vary between different manufacturers. The higher the catalyst loading the more effective the catalyst reaction and the more harmful pollutants can be removed from the exhaust stream.

Clean Emissions Products Inc. utilizes the highest Pt (platinum) and Rh (rhodium) loading in the industry vs our competitors.

Oxidation Reaction (Pt Loading)



NSCR Reaction (Pt/Rh Loading)





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The Use of Palladium (Pd):

Most of our competitors use a Platinum/Palladium mix (Pt/Pd). Palladium is a very cheap precious metal substitute (filler) and is primarily used to lower the coating costs. An example of this would be the use of sand/rocks in fertilizer to fill up bag without using more expensive fertilizer (Potash) material. Clean Emissions Products Inc. doesn't use Palladium in our Oxidation coatings.

The Catalyst Loading Process:

Our catalyst goes through a unique very thorough wash coating and catalyst loading process (see figure 1 below). The result of this process is a coated foil that has 100% coverage vs our competition that uses a “spray on” or “dipping” process whereby catalyst coverage is limited to 60-80% at best.

The benefit of our process is more catalyst reactivity material can be applied resulting in increased emission reductions over longer periods of time.

Clean Emissions Products Inc. Wash coating/Precious Metal Application Process (figure 1)

