

Effect of Natural Gas purity on HVOF coatings using a commercial powder of D1008 (Iron based) on a Forged low alloy steel (AISI 8740)

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Abstract:

There are different fuel options for High Velocity Oxy fuel – the coating quality has a strong relationship with the impurities that are present on the fuel. A fuel with a high purity level will result in certain performance coating quality, by changing only the purity level, what will be the coating performance impact? The coating quality is one of the initial indicators to choose the right fuel, never the less the safety implications are different, for example it is not the same risk to have 125m³ methane stored vs use 125m³ of natural on demand (no stored required). Best case scenario is to produce or supply the fuel on demand. The following document presents two supply options of Methane, Methane in cylinders (99.0%) vs Methane or natural gas provided on demand by PEMEX, it is presented the chemical composition of each fuel focused on impurities present on each and the effect when it is used to apply a HVOF coating.

Biography:

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Publication of speakers:

- Design for additive manufacturing process for a light-weight hydraulic manifold, Jul 2020
- Adoption and Diffusion of Disruptive Technologies: The Case of Additive Manufacturing in Medical Technology Industry in Australia, Apr 2020



- Introduction to Additive Manufacturing May 2019
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