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Title: Carbide coatings: use on reciprocating compressor piston rods and hyper compressor plungers

The use of coatings on piston rods and plungers in reciprocating compressors has become common practice not only in order to increase the life time of the piston rod itself, but even more in order to avoid unscheduled shut downs by increasing the life time of the pressure packing rings. Except for its wear and corrosion resistance the coating also has to be adapted to the packing ring material, process gas and lubrication. This can be obtained by applying the correct surface roughness and profile.

An other important issue when using coatings on piston rods is the lack of specifications and non-destructive tests. This creates an uncertainty for maintenance and production engineers who therefore sometimes prefer not to use coatings.

Different types of coatings that are actually available on the market are discussed with their pros and cons including failure analyses.

Properties and surface finishing techniques of RAM[®] carbide coatings used on piston rods and hyper compressor plungers are treated more in detail including practical tests and minimum property requirements to guarantee a reliable coating.