



Dymet Case Studies: Oil and Gas Industry

Thread Protection of Drilling Pipes

Oil and Gas Industry



A typical life of the oil-well tubing is about 10 round-trips. The major cause of the oil-well tubing failure is lack or loss of the thread tightness (hermeticity) due to its damage and caving at the points of maximum loading.



Score-resistant coatings of ductile metals can significantly reduce frictional seizure of the joining elements and prevent stress cracking.



The thread of drilling pipes can be easily sprayed with Dymet even in the field conditions.

Zinc and copper powders or their combination can be used as soft / ductile metals. It is sufficient to spray coating on the most loaded side of the thread.

The coatings can be applied multiple times as required to ensure the tightness of the thread.



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Dymet Case Studies

Clearance Restoration in Gas Turbine Compressors



The radial clearance on the stators of axial-flow gas-turbine compressor can be restored by depositing an aluminium coating. It can be done in semi-automatic mode in a special rig.



After 6700 hours the required clearance is still maintained. The stator material is cast iron, coating – aluminium.

Repair Of Power Cylinder Components Of Gas-Engine Compressor



Plunger of power cylinder (D=435mm) had microcracks and worn volume. It was restored with Dymet and grinded. Then a nickel coating was deposited to level the surface, reduce thermal stresses and protect the repaired areas.



Bush of power cylinder (D=435mm) had a burn-out crack. After abrasive blasting a nickel coating was deposited and then machined to the required size. By now the bush has worked 2500 hours without failure

Testimonial from Director of Gas Compression Station

Since the Dymet was purchased we've conducted a lot of works related to repair and restoration of equipment of gas compression station. Here are some particular jobs:

- The seats of eight gas separators were restored with aluminium powder. It could not be done by welding due to presence of gas.
- The defects of three aluminium inserts in turbine compressor were repaired
- 14 inserts of connecting rod were sprayed with babbitt powder and machined. Worked for 2500 hours without failure.
- Plunger and bush of power cylinder (D=435mm) were fixed with nickel powder and showed good results