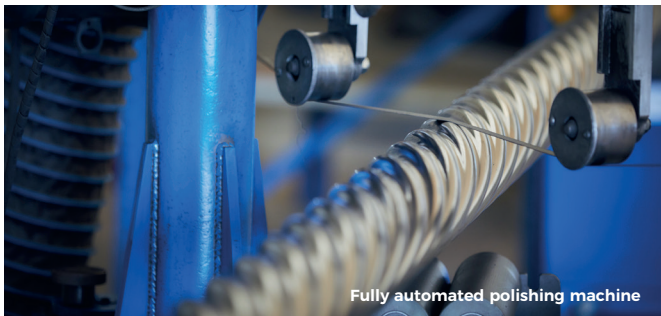


## SURFACE TECHNOLOGY: DRILLING MOTORS

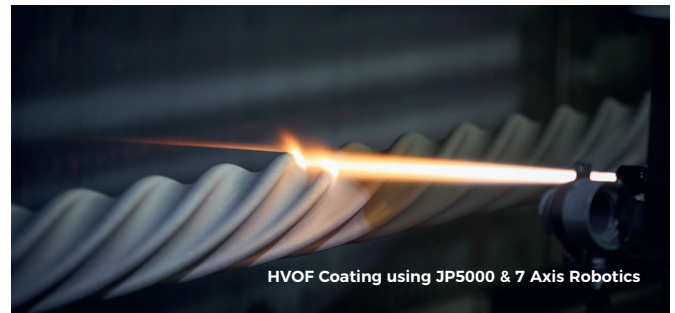
DRILL FURTHER AND LONGER...GET THE JOB DONE

### ASCO provides:

- Highly skilled and experienced team
- State of the art 7 axis robot and HVOF setup for ensuring uniform coating thickness on the rotor
- Automated polishing machine for a superior and consistent surface finish on both the base material and coating resulting in an even coating on the majors, minors and flanks



- Onsite Laboratory; Metallurgical tests and hardness reports can be provided on request and are carried out every 24 hours gun time irrespective of customer requirements
- Corrosion tests are regularly carried out internally and externally to ensure optimal coating quality
- Innovative HCP replacement technology
- Chrome to carbide conversion with size and roughness values validated by OEM
- Superior coating technology for High Chloride environments



- End to end solution for logistics support, packing and complete rotor repair

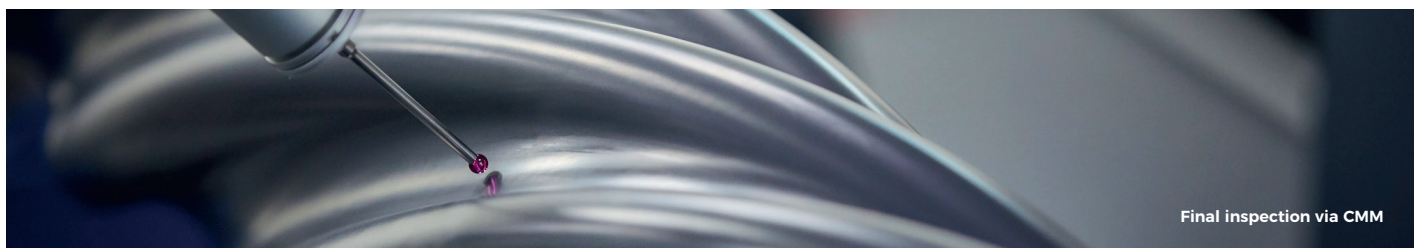
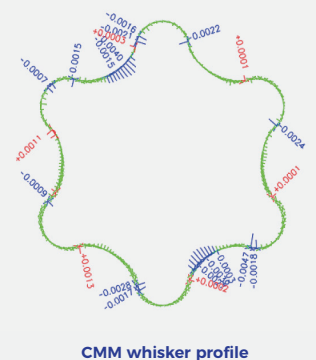
### Resulting in:

- Longer rotor life resulting in more time downhole
- Higher efficiency
- Longer stator life
- Less administration and transport costs
- Lower inventory requirements

**Abaco**  
DRILLING TECHNOLOGIES

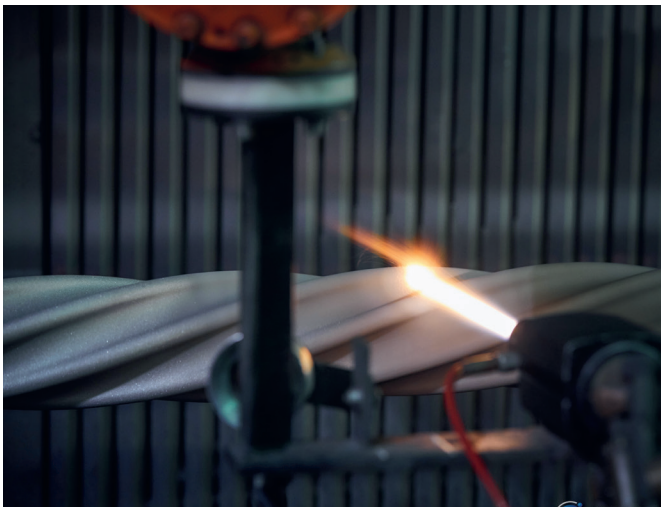
### Advantages of choosing ASCO:

We are the worlds first Surface Technology company to offer OEM Recertification/OEM Validation provided by Asco and Abaco Drilling Technologies using CMM Inspection.



## SURFACE TECHNOLOGY: DRILLING MOTORS

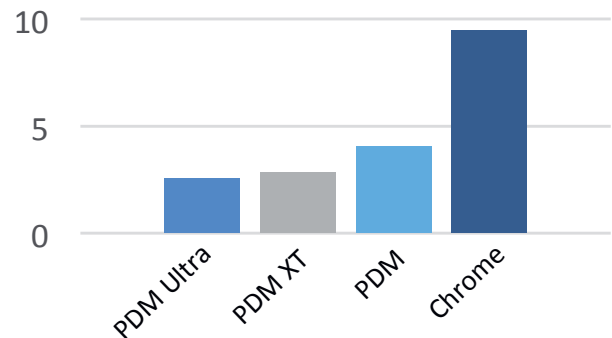
**DRILL FURTHER AND LONGER...GET THE JOB DONE**



Mud motors are critical to directional drilling operations. The mud motor rotor is exposed to abrasion, slurry erosion and corrosion, especially when the drill mud is brackish, acidic or alkaline.

Chlorides, sour gas and hard rock formations cause the biggest problems to hard chrome plated mud rotors. Failure of the mud motor rotor results in an expensive and time-consuming drill-string trip for replacement.

Volume Loss ASTM G65 mm<sup>3</sup>



Drilling companies are changing over to carbide because of its distinct advantages over chrome, they last longer, drill further and can be repaired quicker.

REACH regulations also means that the use of Hard Chrome Plate will be severely restricted.

Asco and Abaco Drilling Technologies PDM solutions have been developed for Drilling Motors to combat the different conditions experienced downhole and tailored to suit the main failure modes of erosion and corrosion.

Field results and customer testimonials ensure that Drilling companies and OEM's can take confidence in Asco PDM range to **...get the job done!**

PERFORMANCE*	LIFE, HOURS	
	SALT SATURATED MUD	SOUR SERVICE
Hard Chrome Plate	70	30
<b>ASCO PDM</b> + Asco-Seal or Asco-Seal CD	500 - 1,000	
<b>ASCO PDM XT</b> + Asco-Seal or Asco-Seal CD	800 - 1,500	
<b>ASCO PDM ULTRA</b> + Asco-Seal or Asco-Seal CD	1000 - 1,500	