Application Profile

DuPont™ Vespel® Pump Reliability Technology

Vespel® CR-6100 wear components for fire water pumps in offshore oil recovery platforms

Offshore Platform Fire Water, Jockey, and Sea Water Lift Pumps

Safety and reliability are critical considerations for all offshore oil production facilities, and an important part of the safety systems are the firewater pumps. After long standby periods, fire pumps must be ready to immediately start and run up to full load as soon as an alarm is triggered. Pumps must maintain continuous operation under the most difficult conditions. Fire pumps deliver seawater under pressure to the platform fire sprinkler and hose systems.

Challenges

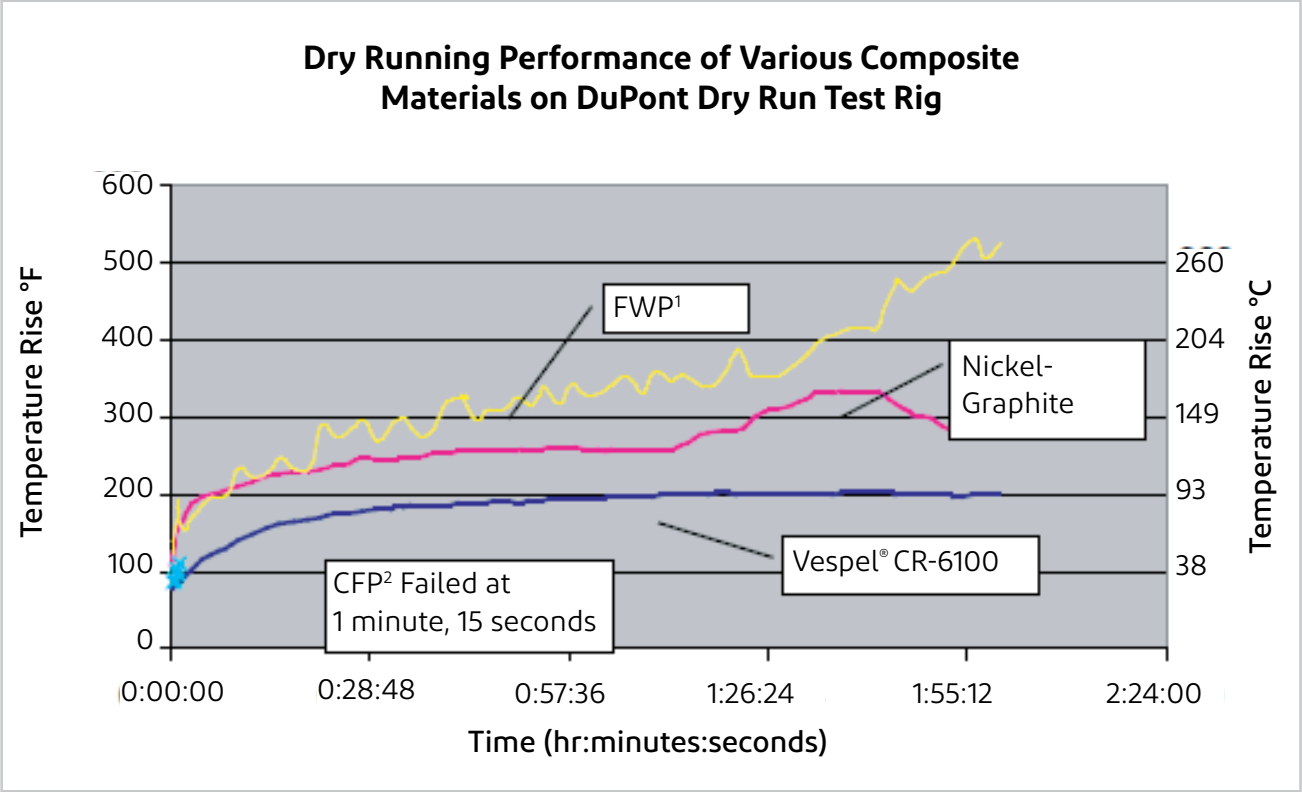
Extended stationary or standby periods can cause corrosion of metallic wear components by sea water. Short periods of run-dry as the pump starts can provoke seizures. These issues decrease reliability of the pumps and increase repair and preventive maintenance costs.

Solution

DuPont™ Vespel® CR-6100 bowl wear rings and column bushings for fire pumps have been proven to provide reliable performance that platform engineers can trust. Because of its composite nature, low coefficient of friction and low wear, Vespel® CR-6100 components can withstand run dry operations which increases reliability and reduce maintenance costs. Vespel® CR-6100 also has an excellent chemical and corrosion resistance because of its DuPont™ Teflon® PFA fluoropolymer resin and carbon fiber composition.

Offshore oil platform

Pump column sections



DuPont internal test method and equipment. Tested at 1725 rpm vs. 17-4 PH, 35 R_c with micro-in. (0.4 micro-m) finish, room temperature, 2.7.1 (68.8 mm) diameter shaft.

Temperature Trend:
2-Hour Endurance Test, 40 lb (18.1 kg) Load

[1] FWP – Filament Wound PEEK
[2] CFP – Chopped Fiber PEEK

DuPont™ Vespel® CR-6100 parts and shapes are polymeric composite articles consisting of PFA/CF reinforced composite, 20 % mass fraction random X-Y oriented carbon-fibre.

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