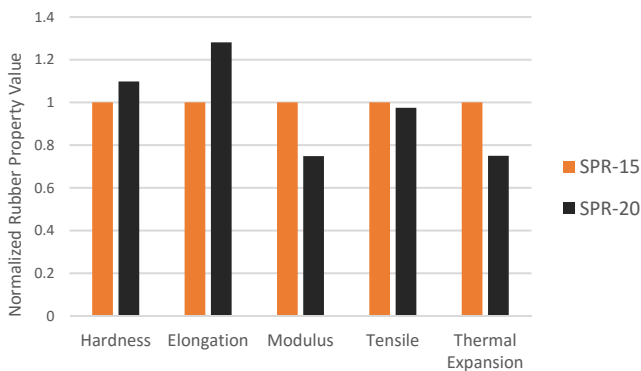




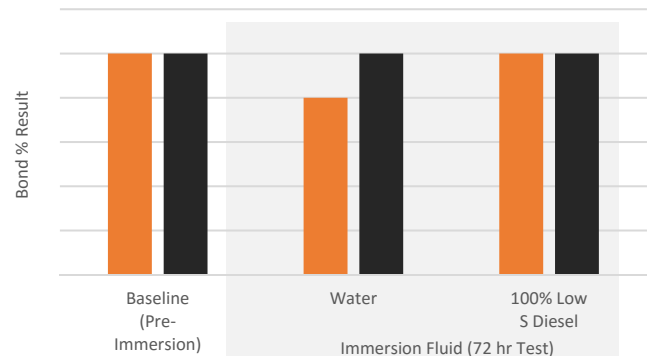
THE SOLUTION TO THE HOT FLUID CHALLENGE

SPR-20 is Spira Systems' latest new hard elastomer for power sections. SPR-20 has improved mechanical properties at elevated temperatures and experiences 25% less swell due to temperature compared to its predecessor SPR-15 HRD. Stators lined with SPR-20 rubber sized correctly for the application can handle downhole drilling temperatures up to 320°F (160°C).

Extended life at high temperatures continues to be a challenge for operators. We put our rubber under a microscope (literally) to address today's drilling challenges. Hundreds of tests were conducted and SPR-20 was refined over 45 iterations. The result is a well-rounded, uncompromising elastomer that is harder, survives hotter temperatures, and demonstrates improved resistance in various drilling fluids. Spira customers have had multiple successful runs with SPR-20 rubber in tough drilling applications in water and oil-based fluids at elevated temperatures.

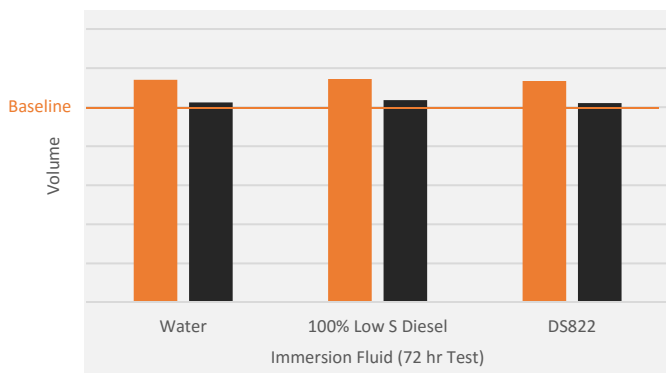


High Shear* Destructive Bond Testing after Hot Fluid Immersion



*Note that high shear destructive lab tests exceed forces normally experienced downhole

Volumetric Change after Hot Fluid Immersion



Hardness Retention after Hot Fluid Immersion

