



# GORE™ Magnet Wires

For Downhole  
Motors in Oil & Gas  
Applications

## Extend motor life and increase tool reliability with durable magnet wires

The oil and gas industry faces many challenges when drilling deep into the Earth. GORE™ Magnet Wires are designed specifically to operate reliably in extreme environments, minimizing the risk of catastrophic failures for maximum tool run-times. With a unique engineered fluoropolymer insulation, these robust magnet wires provide the highest voltage endurance in a wide range of conditions, including up to high pressure, high temperature, harsh fluids and hydrolysis (Figure 1 and Table 1).

### SUPERIOR PERFORMANCE THROUGH ENDURANCE TESTING

Using ASTM/NEMA MW 1000 test method, Gore evaluated the performance of its magnet wire compared to a polyimide enameled wire. Results proved that GORE™ Magnet Wires maintained maximum voltage endurance after continuous exposure to harsh fluids at elevated temperatures which can cause hydrolysis in other materials. In contrast, the polyimide enameled wire became brittle and cracked immediately under mechanical stress, showing a substantial loss of insulation resistance and voltage breakdown performance.

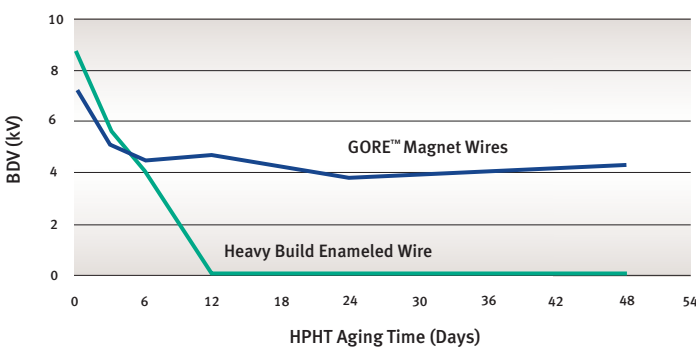
GORE™ Magnet Wires provide superior performance continuously in extreme downhole environments, extending motor life and increasing tool reliability.



### Benefits of GORE™ Magnet Wires

- Exceptional resistance to chemicals and hydrolysis due to specialized insulation materials
- Superior electrical performance in a wide range of temperatures up to 260°C
- Highest voltage endurance in the harshest downhole environments
- Longer motor life and increased tool reliability, reducing risk of unexpected failures

FIGURE 1: DIELECTRIC BREAKDOWN VOLTAGE\*



\* DBV tested on size AWG 28 with comparable insulation thicknesses. Performance results after 12 days exposure to hydrolysis in 0.3% H<sub>2</sub>O and synthetic oil at 280°C (536°F).

TABLE 1: WIRE PROPERTIES

Property		Value
Elec / Mech / Env	Dielectric Breakdown Voltage (kV) tested per ANSI/NEMA MW 1000 <sup>a</sup>	4.4
	Wire Insulation	Engineered Fluoropolymer
	Conductor	Bare Copper
	RoHS	Compliant

<sup>a</sup> Testing based on size AWG 2801.

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