



MATURE FIELDS



UNCONVENTIONALS



## DuraHard® Coatings

**REDUCE FRICTION, RESIST CORROSION,  
MITIGATE ABRASIVES**



A HALLIBURTON SERVICE

# DuraHard® Coatings



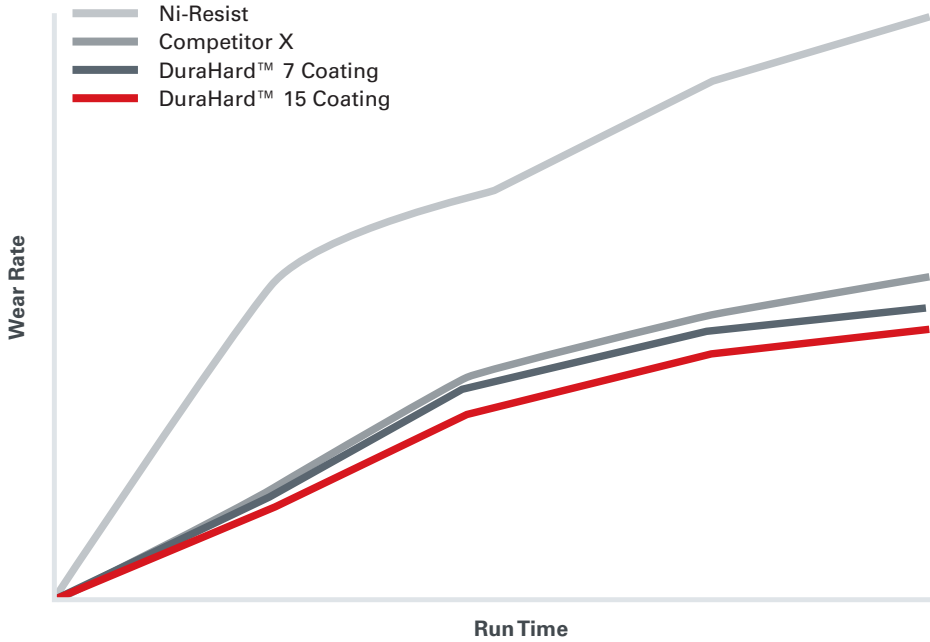
DuraHard® 3 Coating	DuraHard® 7 Coating	DuraHard® 15 Coating
<b>Basic Reduced Friction and Corrosion Resistance</b>	<b>Enhanced Abrasion and Corrosion Resistance</b>	<b>Extreme Abrasion and Corrosion Resistance</b>
<p>Summit ESP® – A Halliburton Service offers a multilayer slick, non-stick coating that has enhanced bonding over traditional Teflon coating. DuraHard 3 coating reduces friction on running surfaces, which minimizes the formation of scale and pump plugging.</p>	<p>DuraHard 7 high-phosphorous nickel coating provides additional, non-molecular surface hardness to stage materials (impeller and diffuser surfaces). Heat treatment provides uniform coating to all surfaces. DuraHard 7 coating is recommended in applications with a significant presence of heat, abrasives, and/or corrosion. An analysis of well fluid or sand particles is recommended to determine the ideal solution.</p>	<p>Premium DuraHard 15 molecular bond coating provides hardness comparable to carbide materials, but has added ductility and can be used to coat and bond steel components. DuraHard 15 coating is recommended in applications with a severe presence of heat, abrasives, and/or corrosion. An analysis of well fluid or sand particles is recommended to determine the ideal solution.</p>
<b>Applications</b>	<b>Applications</b>	<b>Applications</b>
<div>» Wellbore fluids with scaling and/or asphaltene tendencies</div> <div>» Temperature resistant up to 500°F (260°C)</div>	<div>» Corrosive environments</div> <div>» Recently fractured wells with uniform sand particles</div> <div>» Cased-hole applications where sand control is not 100 percent effective</div> <div>» Temperature resistant up to 500°F (260°C)</div>	<div>» Highly corrosive well fluids</div> <div>» Recently fractured wells with uniform or non-uniform sand particulates</div> <div>» Wells with very high angular abrasive sand and formation fines</div> <div>» Wells with quartz sand</div> <div>» Openhole wellbores or wellbores with no sand control</div> <div>» Temperature resistant to over 500°F (260°C)</div>
<b>Turnaround: 2–5 days</b>	<b>Turnaround: 2–5 days</b>	<b>Turnaround: 2 weeks</b>

Left » Slick, non-stick coating

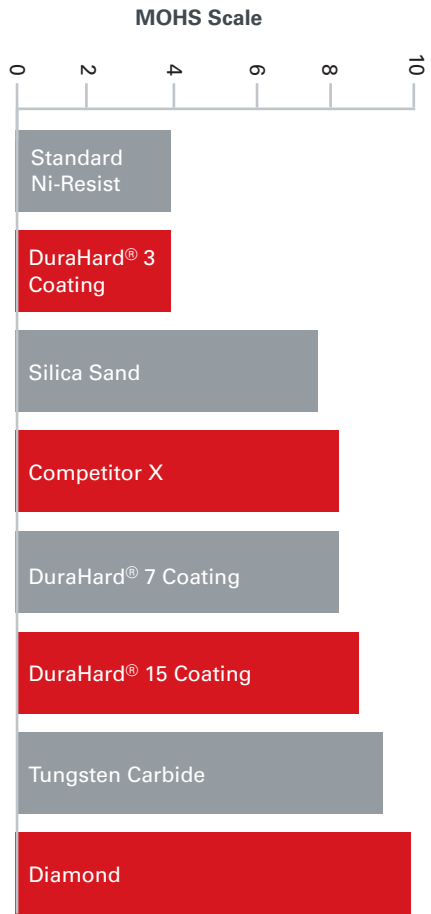
Middle » Nickel coating

Right » Molecular bond coating

Material Loss vs. Run Time



Relative Hardness



Sales of Halliburton products and services will be in accord solely with the terms and conditions contained in the contract between Halliburton and the customer that is applicable to the sale.

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