

## A Proven Metal-Enhancing Technology



In more than 300 installations worldwide, **Nitreg®** nitriding and nitrocarburizing technology is exceeding the metallurgical specifications written originally for salt bath, plasma and traditional gas nitriding. A leading technology of choice, Nitreg® enhances the performance of applications in diverse industries such as aerospace, automotive, tooling and die, machinery, gears, mining and more.

No skills required: The technology empowers users with the ability to obtain predictable, uniform case properties that are repeatedly exact load-for-load and that are tailored to the requirements of the application and material. It offers the right mix of performance, operating flexibility, ease and economy, while being ecology-friendly.

PROPERTIES / FEATURES	Conventional Gas	Salt Bath	Plasma (Ion)	NITREG® Controlled Nitriding
Cleaning (Before)	Clean	Relatively Clean	Very Clean	<b>CLEAN</b>
Cleaning (After)	Not required	Strongly Required	Not Required	<b>NOT REQUIRED</b>
Heating Time	Short	Very Short	Long	<b>SHORT</b>
Positioning of Parts	Simple	Simple	Very Complex / Requires Skill & Experience	<b>SIMPLE</b>
Nitriding of Stainless Steel	Not Possible	Possible	Possible	<b>POSSIBLE</b>
Operation of Equipment	Relatively Simple	Simple	Very Complex / Requires Advanced Skills	<b>VERY SIMPLE / FULLY AUTOMATED</b>
Temperature Control & Uniformity	Good	Good	Difficult / Insufficient / Overheat Possible	<b>EXCELLENT</b>
Control of Nitriding Potential	No	No	No	<b>YES</b>
Control of % of ε and γ'	No	No	Possible	<b>POSSIBLE</b>
Nitriding with No White Layer	No	No	Possible	<b>POSSIBLE</b>
Porosity Control	No	No	Possible	<b>POSSIBLE</b>
Repeatability of Results	Possible (repetitive loads only)	Possible (repetitive loads only)	Possible (repetitive loads only)	<b>EXCELLENT (regardless of load)</b>
Equipment Maintenance	Relatively Complex	Complex	Very Complex	<b>SIMPLE</b>
Degree of Pollution	High	Extremely High	Very Low	<b>VERY LOW</b>