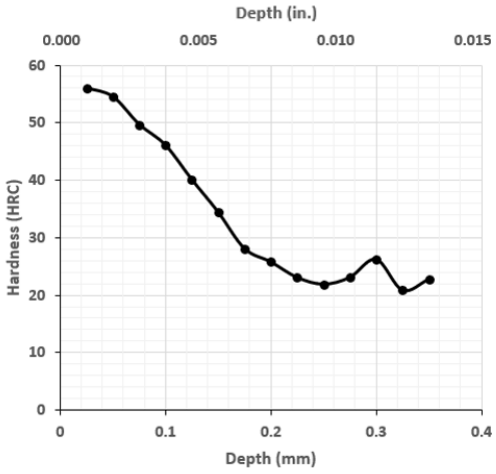
NAISS™ Nitriding for Sour Service

ALBERTA INDUSTRIAL HEAT TREATING

PROCESS

Thin-case gas nitriding recipe designed to replace liquid nitriding for applications where only minimal surface hardening is permissible.

CASE DEPTHS



Case depths controlled to ensure they are less than **0.006”** to conform to even the most stringent specifications. Process parameters are computer-controlled to ensure base material hardness is kept below **22HRC**.

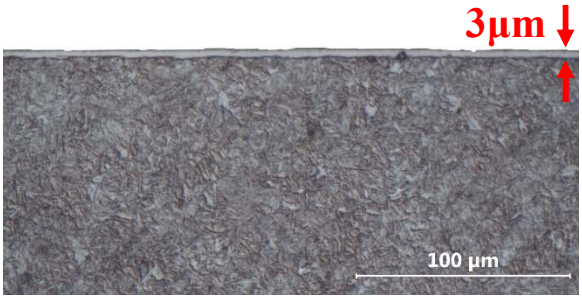
DISTORTION

Radial Growth of Part

Material	Liquid ($x10^{-3}$ in.)	NAISS™ ($x10^{-3}$ in.)
4330	0.37	0.17
4145	0.35	0.07

Relatively low process temperatures ensure minimal distortion due to nitriding. **Let us handle your tightest tolerances.**

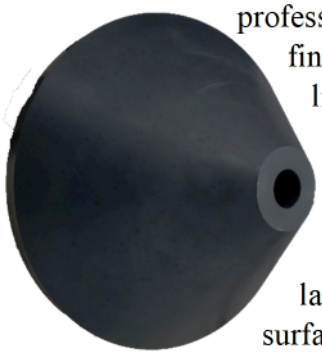
WHITE LAYER CONTROL



NAISS™ has been designed to keep the thickness of the compound layer to a minimum to avoid an overly brittle surface which could initiate surface cracking. Nitride networks are suppressed through careful recipe design in order to avoid crack propagation highways. Maintaining a thin white layer helps protect from chipping at sharp corners where nitriding occurs from 2 or more directions.

POST-REACTION OXIDATION (PRO™)

For a sleek black finish, we recommend our PRO™ surface finish. Following nitriding a secondary process is used to produce a professional black surface finish. Those familiar with liquid nitriding will recognize this as an Fe_3O_4 oxide coating, but unlike liquid nitriding, this oxide layer doesn’t change the surface finish of the part (no polishing required).



TYPICAL MATERIALS

- 41XX
- 43XX
- QT-100

780-988-7789

www.aiheattreating.com