

# ENDURALLOY™ TUBING

## PRODUCT INFORMATION

### Common Applications

- Installed above rod pumps, PCP pumps and ESP pumps
- Multiple joints in deviated sections of the well-bore where excessive and repetitive wear occurs
- Slant wells, directionally drilled wells and horizontal wells
- At Corod / Pro-Rod Connectors
- Severe corrosion environments
- Only necessary to run EndurAlloy tubing in the "problem" sections



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### Customer Benefits

- Eliminates workovers and lost production
- Reduces operating costs
- Only necessary to run EndurAlloy tubing in the "problem" sections
- Succeeds where coatings, liners and exotic metals fail
- Proven track record in the oil and gas industry
- Excellent Return On Investment
- High performance in severe environments
- Full Bore Production

### Other EndurAlloy Products

Endurance Technologies processes a wide variety of steels and types of equipment used in the oil and gas industry. Other EndurAlloy products

- Pup joints
- Chokes, valves, fittings
- Casing
- Pump (impellers, cases, stuffing boxes)
- Blast joints
- Sucker rod couplings
- Seal nipples
- Spool pieces
- Frac nipples
- ESP stages
- Down-hole tools



### EndurAlloy Process

EndurAlloy is an alloyed surface created by diffusing boron into the substrate of carbon steel. Our boronizing process uses a chemical vapour deposition (CVD) packed cementation system.

EndurAlloy is not a coating. EndurAlloy deposits boron molecules directly into the substrate of the steel.

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### Excellent Protection

EndurAlloy Tubing provides excellent protection against rotating or stroking rod wear, erosion caused by abrasive fluids, corrosion, and other factors that cause premature tubing failure.

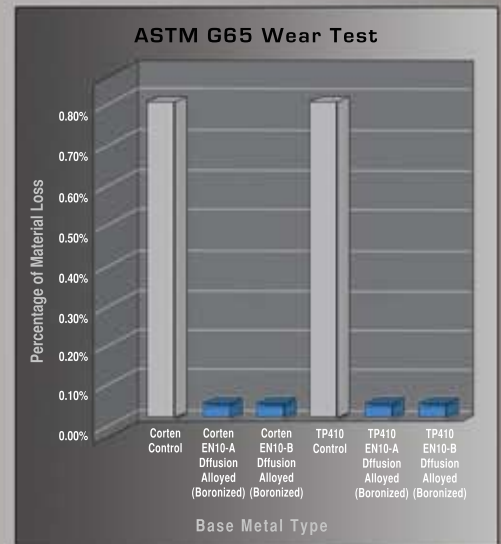
Preventing this wear and eliminating extra workovers, lost production, and high maintenance costs, will greatly affect your company's bottom line.



## Technical Benefits

- Hardness of 73 to 90 Rockwell C (regular J55 <20HRC)
- High corrosion-resistance due to dense surface (H<sub>2</sub>S, CO<sub>2</sub>, produced water)
- No loss of inside diameter as with coated or lined tubing
- Reduced co-efficient of friction
- Operates in up to 450 degrees C
- No corrosion caused by dissimilar metals
- Wire-lining, swabbing, pulling the pump and other down-hole operations will not damage the alloyed surface and create holidays in the surface, where corrosive elements can accelerate attack
- Base tubing is standard J55 joint, so no special handling is required for ID-processed product
- Available in 2-3/8"[60mm], 2-7/8"[73mm] and 3-1/2"[89mm]
- 4-1/2"[114mm] and larger available by special order

## ASTM G65 Wear Test



*The ASTM G65 Wear Test allows comparison of wear resistant materials by their volume loss in cubic millimeters.*

*Materials of higher wear resistance, such as metals treated with the EndurAlloy process, have much lower material loss than untreated metals or the control substances.*

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